

**PROCEEDINGS OF THE SIXTH INTERNATIONAL CONFERENCE ON  
SUSTAINABLE ECONOMIC DEVELOPMENT  
AND BUSINESS MANAGEMENT  
IN THE CONTEXT OF GLOBALISATION  
(SEDBM 6)**





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**FINANCIAL PUBLISHING HOUSE**





## WELCOME NOTES

Dear Friends and Colleagues,

We are glad to welcome you to the sixth International Conference on “**Sustainable economic development and business management in the context of globalisation**” (SEDBM 6), which is jointly organized by *Academy of Finance, University of Greenwich, Institute of Economics – Ho Chi Minh National Academy of Politics, Institute of Economics and World Politics – Vietnam National Academy of Social Sciences, University of Economics and Law – Vietnam National University, Ho Chi Minh City.*

As a result of the close collaboration between the Academy of Finance, University of Greenwich, Institute of Economics – Ho Chi Minh National Academy of Politics, Institute of Economics and World Politics – Vietnam National Academy of Social Sciences, University of Economics and Law – Vietnam National University, Ho Chi Minh City, the International Conference SEDBM 6 is organised with the participation of world-leading experts in finance, accounting, audit, economic and business administration, serving as a point of convergence for researchers, practitioners and policy-makers to meet, share and exchange their ideas. The International Conference SEDBM 6 will strive to offer not only plenty of networking opportunities, providing you with the opportunity to interact with the leading researchers from both academia and universities, but also an environment to engage in stimulating discussions about research topics and practices. We are especially honoured to have reputable attendances of:

**Nicholas Hand** - *ACCA, MSc, BComm, Director of International Affairs Principal Lecturer in Finance, University of Greenwich Business School*

**Prof. Robert Durand** - *Professor of Finance, Curtin University*

We are indebted to members of the Organizing Committee, particularly **Assoc. Prof. Trong Co Nguyen** (*President of Academy of Finance, Vietnam*), for their support to make this International Conference a great success.

We wish you all an intellectually stimulating and productive conference!

**On behalf of the Organizing Committee,**

**National Teacher. Assoc. Prof. Trong Co Nguyen**



## ACADEMY OF FINANCE



The Academy of Finance (AOF) is a public and research-oriented university, affiliated to the Ministry of Finance, Vietnam. The AOF was officially established under the Decision No 120/2001/QĐ-TTg dated August 17th, 2001 of the Prime Minister by integrating the Hanoi University of Finance and Accounting (founded in 1963), the Finance Research Institution (founded in 1961) and the Financial Training Center (founded in 1995). The main campus of the Academy of Finance is located in Hanoi.

The mission of Academy of Finance is to provide expertise in research and training of professional finance and accounting to the society, the mission has been defined for our 55-year history with outstanding achievements and contributions branded by our lecturers, researchers and students. The AOF established self-evaluation council since 2006 according to regulations of MOET Vietnam. This council significantly helped improve the academic performance, and in April 2016, AOF was accredited by Center for Education Accreditation (CEA) – Association of Vietnam Universities and Colleges (AVUC). The accreditation result was published according to the Decision 10/QĐ-KDCLGD dated February 20th, 2017 of AVUC ranking AOF in top 5 best universities in Vietnam. The Academy of Finance offer a high quality of training and research through 14 faculties: Fundamental Sciences, Political theories, Public Finance, Tax and Customs, Corporate Finance, Banking and Insurance, International Finance, Accounting, Business administration, economic Information. Languages, Economics, Master and Doctoral training, Part-time training, two centers: Center for Languages and Informatics Training, Information Technology Center, 2 research institutes: Institute for International Finance Education (IIFE) and Institute of Economics and Finance and 13 support divisions. AOF offers a rich training programs included ordinary undergraduate/graduate programs spread in 06 academic majors: Finance and Banking, Accounting and Auditing, Business Administration, Management Information, Economic and Financial English, Economics. The AOF also offer to international and Vietnamese students with different choices partially/totally taught in English such as High Advanced Program or Dual Degree Programme (DDP - a Joint Training Programme between the Academy of Finance (Institute of International Finance Education) and the University of Greenwich (UK). Throughout its history, AOF's qualified scientists and lecturers have been supporting more than 85,000 students including 5,000 masters and 300 doctors and additionally 500 international students for Laos and Cambodia in the last 55 years. Significantly, a large number of AOF's graduates are leaders of the Government, ministries, local authorities and businesses. The academy has also been recognized for conducting thousands of valuable research projects for the policy makers in economic development of the State. The rich tradition and custom makes AOF unique among the other universities and colleges in Vietnam and attracts thousands of learners to study at the academy annually. The valuable contributions of AOF to the development of the State in training and doing research has been respected publicly,

the academy has been recognized with national unique awards. Many AOF alumni are key people in the Government and Local Administrations. In the process of globalization and the advent of the Industry 4.0, the AOF Management Board sets out following major development directions:

- Intensively develop training and research performance, maximize the core values to adapt to the emerging demands of the intellectual economy and the Industry 4.0.

- Diversify training courses, renovate academic management measures, improve the professional capacity, and improve self-study spirit with creativity and experience.

- Improve the research capacity in the manner that harmonizes fundamental studies with applied studies. Actively and comprehensively integrate into regionalization and globalization process regarding training, capacity building and research activities.

- Conduct academic management reform in close relation with financial autonomy and social accountability, create a new academic environment with high openness, creativity and internationalism, continuously attract excellent staffs and scholars to work and do research at AOF.

## UNIVERSITY OF GREENWICH



The University of Greenwich is a public and research-oriented university located in London, in the United Kingdom. It has three campuses in London and Kent, England. These are located at Greenwich, in the grounds of the Old Royal Naval College, and in Avery Hill and Medway. Previous names include Woolwich Polytechnic and Thames Polytechnic. The university's range of subjects includes architecture, business, computing, mathematics, education, engineering, humanities, maritime studies, natural sciences, pharmacy and social sciences.

The university dates back to November 1891, when Woolwich Polytechnic, the second-oldest polytechnic in the United Kingdom, opened in Woolwich. In 1970, Woolwich Polytechnic merged with part of Hammersmith College of Art and Building to form Thames Polytechnic. In the following years, Dartford College (1976), Avery Hill College (1985), Garnett College (1987) and parts of Goldsmiths College and the City of London College (1988) were incorporated.

In 1992, Thames Polytechnic was granted university status by the UK government (together with various other polytechnics) and renamed University of Greenwich in 1993. In 2001, the university gave up its historic main campus in the Bathway Quarter in Woolwich, relocating to its current main campus in Greenwich, a UNESCO World Heritage site on the banks of the River Thames, and close to the financial centres of the City and Canary Wharf. The location is genuinely unique combining the advantages of such a beautiful and historic setting with being 15 minutes by light rail from the centre of London.

The campus is home to the Business School and the Faculty of Liberal Arts and Sciences. The campus also includes university's Greenwich Maritime Institute, a specialist maritime management, policy and history teaching and research institute.

The Business School at the University of Greenwich combines strengths in teaching and research with an emphasis on equipping our students with the practical knowledge and skills sought by employers. It offers a comprehensive range of high-quality undergraduate degrees through five departments: Accounting & Finance; International Business & Economics; Human Resources & Organisational Behaviour; Marketing, Events & Tourism; Systems Management & Strategy. Many of the programmes are accredited by key UK professional bodies and course content is constantly revised to reflect current business priorities and the demands of employers.

The campus has a large library at Stockwell Street in the centre of Greenwich which houses an extensive collection of books and journals, language labs and a 300-PC computing facility. Other facilities include specialist computer laboratories including one at Dreadnought centre, a TV studio and editing suites. The Stephen Lawrence Gallery at the Stockwell Street building, showcases the work of contemporary artists and is linked to the Department for Creative Arts.





## HO CHI MINH NATIONAL ACADEMY OF POLITICS



Ho Chi Minh National Academy of Politics is a national Centre for training and researching on political theories and a consultancy body of the Communist Party of Vietnam. The Academy has four Sub-academies in across Vietnam and the Academy of journalism and propaganda with nearly 2,200 employees. Since its initial foundation as a Party school under the name of Nguyen Ai Quoc, the Ho Chi Minh National Academy of Politics has gone through its 68 years of development.

As the subordinate organization of both the Central Executive Committee of the Vietnam Communist Party and the Government, subjected to ongoing and direct leadership of the Politburo and the Secretariat, Ho Chi Minh National Academy of Politics has made significant contribution to the Party's cause of cadre training and theoretical research, the revolutionary cause of national liberation and the construction and protection of the Socialist Republic of Vietnam. The development of the Academy has always been closely linked to the revolutionary cause of the Party and the People. Over the years, consistent with the strategic goals and missions, the Ho Chi Minh National Academy of Politics has always been in line with its strategic missions and goals, fulfilled the political tasks assigned by the Party, the State and the People. The Academy has always held onto and taken the lead in the political, ideological and theoretical fronts, thus protecting the core values of Marxism, Leninism, Ho Chi Minh Thought and guidelines of the Party. Generations of the Academy's graduates have well performed their job in different fields of politics, economy, society, culture, external affairs, security and national defence, etc. Many of them are holding key positions in the political system of the country. During its history, the Academy has made great contributed to the personnel training and theoretical research of the Party, served the revolution for national liberation, construction socialism and protected the Socialist Republic of Vietnam. In the 21st century - the century of globalization, information and knowledge sharing and intellectual integration has intensified the demand for training the leaders, managers and strategic cadres for the Party and State; central and local organizations and institutions. This is both the challenge and opportunity for the Academy to continue its mission in academic and scientific affairs, building on the history and traditions and contributing to the glorious cause of the Party and the nation.

Institute of Economics, Ho Chi Minh National Academy of Politics was founded in 1960 and has been in charge of providing courses of economic development and economic management to high-ranking officials in the political system of Vietnam. The Institute also has Master and Ph.D. programs in economic development and economic management. Currently, the Institute has about 38 employees, including 11 associate professors, 11 Doctors of Economics, 14 masters and 2 bachelors. The Institute and its faculties have published hundreds of books and articles in national and international journals.



## AS A MEMBER OF VIET NAM NATIONAL UNIVERSITY HO CHI MINH CITY (VNUHCM)



As a member of Viet Nam National University Ho Chi Minh City (VNUHCM), the University of Economics and Law (UEL) stands as a beacon of academic excellence and innovation in the fields of economics, law and management. Established by virtue of Prime Minister’s Decision No. 337/QĐ/TTg on March 24th, 2010, UEL has continually evolved, epitomizing VNU-HCM’s commitment to becoming a prominent center for graduate and postgraduate programs and a leading hub for multidisciplinary scientific research and technology transfer.

UEL’s comprehensive academic offerings include undergraduate and postgraduate programs, spanning Economics, Law, and Management. With a focus on academic quality, the university boasts 09 faculties with 14 study programs, including those conducted in English, equipping over 10,000 full-time undergraduate students with essential skills and knowledge. Impressively, UEL has produced more than 20,000 graduates over two decades, with an astounding 90% employability rate within one year of graduation.

UEL prides itself on international integration, with joint programs alongside esteemed institutions like Gloucestershire University (UK) and Panthéon University - Assas Paris 2, University of Lorraine, DCU, UCD, NGU, HSB, ULB, University of Krakow, SGH, Usask, University of Illinois, PKNU, Nagoya School of Business... fostering global perspectives and nurturing future leaders. Furthermore, the university’s commitment to joint training initiatives with government agencies and businesses has played a pivotal role in enhancing the region’s socio-economic development.

UEL’s pursuit of knowledge extends beyond the classroom, as evidenced by its prolific scientific research endeavors. Over the period of 2017-2022, the university embarked on 188 projects, including international collaborations, attracting over 55 billion VND in funding. UEL has also made its mark in the academic world by publishing 362 articles in prestigious international journals indexed by ISI-Scopus.



## THE INSTITUTE OF WORLD ECONOMICS AND POLITICS (IWEP)



The Institute of World Economics and Politics (IWEP) is a government research institute under the Vietnam Academy of Social Sciences (VASS). It was founded in June 2005 as a successor of the Institute of World Economy (IWE), which was existing since September 1983.

IWEP has been well-known as one of the oldest high-ranking think-tank in Vietnam devoted to the study of international economic and political issues such as trade and investment, finance and banking, world's economies, international peace and security, international relations, governance and non-traditional security.

We are proud to be ranked 18th in the Top 100 Think Tanks in South and Southeast Asia and the Pacific, and 23rd among 2019 Best Government-Affiliated Think Tanks based on Global Go To Think Tank Index 2019. The Institute is assigned mainly to conduct basic studies on world economic and political issues; to provide with scientific assessments to the Vietnamese government in designing of guidelines, policies and strategies for the sake of sustainable development projects conducted by ministries or local authorities from scientific perspective; and to promote academic exchanges with relevant domestic and international institutions. The research activities are organized in the form of research projects and programs. The research activities focus on the theoretical and practical issues of international economics and politics. The main specific topics include: International economics theories, characteristics and trends of development of the world economy and international politics; development models, experiences and policies of economic reforms in the world; improvement of investment and business environment; integration in the world and lessons for Vietnam; regional and sub-regional economic cooperation; issues of traditional and non-traditional security; world political arena and responses of Vietnam. Research directions of the institute are defined and advised by a Research Council, which comprises highly experienced researchers and is headed by the Director General. In order to broaden research network and to promote close international cooperation in research on world economics and politics, the Institute actively gets involved in the following activities:

- Conducting joint research projects with foreign counterparts.
- Organizing and participating in international seminars/conferences.
- Accepting foreign scholars under their Visiting Research Fellows Program.
- Taking part in international and regional research net workings.

To disseminate research findings and provide information on economics and politics of the world and Vietnam, the Institute publishes two periodicals:

- World Economic and Political Problems, monthly, in Vietnamese.
- Vietnam Economic Review, monthly, in English.

and a large number of books and reports.



**ASSOCIATE PROFESSOR NGUYEN TRONG CO**  
**NATIONAL TEACHER, PRESIDENT OF THE ACADEMY OF FINANCE**



Assoc. Prof. Nguyen Trong Co is the President of the Academy of Finance. He has been working for the Academy of Finance since he was young and held different positions such as lecturer, Head of Financial Analysis Department, Deputy Head of Human Resources Department, and Vice President before being nominated the President of Academy of Finance in 2014.

He is the Editor of the Journal of Finance and Accounting Research and serves the Scientific Board of Finance Research Sector as Vice President and a member of *Scientific Board of Banking Research Sector*.

He was also nominated as honour member of FCPA Australia.

Assoc. Prof. Nguyen Trong Co is the author/coauthor of more than 41 valuable text books and supplementary materials such as “Financial Analysis”, Finance Publishing House, 2017, “Auditing management and usage of mineral resources for sustainable development in Viet Nam”; Finance Publishing House, 2016; Business owner with financial statements report, finance Publishing House 2015; Autonomous mechanism of public units In City, facts and solutions, National economic university publisher 2020 and etc.

He has researched actively with more than 54 research projects spread on different fields: corporate finance and public finance, and technological markets. In the Academy of Finance, he has published more than 84 articles in both local and international journals.

**ASSOCIATE PROFESSOR BUI VAN HUYEN**  
**DIRECTOR OF THE INSTITUTE OF ECONOMICS, HO CHI MINH ACADEMY OF POLITICS**



Assoc. Prof. Bui Van Huyen is the Director of the Institute of Economics, Ho Chi Minh Academy of Politics. He serves as a member of Central Theoretical Council. He has been in the profession of lecturing and doing research in the field of economics for 25 years at the Institute of Economics and other institutions. He has expertise and experience in teaching and doing research on economic management and economic institutions. He is the author or co-author of more than ten books and textbooks and has published more than 50 articles in national and international economic journals.

**MR. NICK HAND****DIRECTOR OF PARTNERSHIPS AND INTERNATIONAL, BUSINESS SCHOOL, UNIVERSITY OF GREENWICH (UK)**

Nick Hand qualified with the ACCA in 1993, holds a Masters degree in Operational Research and is a Senior Fellow of the Higher Education Academy. Nick is Director of Partnerships and International in the University of Greenwich Business School.

He was previously the Head of Department of Accounting and subsequently spent six years posted overseas, based in China, developing the Business School's international partnerships. He has substantial experience in the development of academic programmes both at the UK campus and at partner institutions internationally and particular in the South-East/East Asia region. Nick's research interests are in the areas of efficiency measurement and his publications are mainly in this area and particularly in the area of the application of mathematical models of measuring bank efficiency.

**ASSOC. PROF HOANG CONG GIA KHANH****PRESIDENT OF ECONOMICS AND LAW, HO CHI MINH CITY VIETNAM NATIONAL UNIVERSITY**

Assoc. Prof. Hoang Cong Gia Khanh has been working as a lecturer and executive manager at the University of Economics and Law (UEL), Ho Chi Minh City Vietnam National University (VNUHCM) for more than 25 years. Before being appointed as the President of UEL since 2022, he was the former director of the Institute for Development and Research in Banking Technology, former dean of the Faculty of Finance – Banking.

With a professorship in Finance and Banking, Assoc. Prof Hoang Cong Gia Khanh has published more than 50 scientific papers and written many specialized books, earning recognition for his contributions to fiscal policy, monetary policy, and fintech. His leadership, coupled with UEL's commitment to academic excellence, makes UEL a dynamic and digital transforming institution poised to engage in impactful collaborations on both national and global scales.



**DR. PHI VINH TUONG****DIRECTOR GENERAL OF INSTITUTE OF WORLD ECONOMICS AND POLITICS**

Dr. PHI VINH TUONG currently serves as an Acting Director General of Institute of World Economics and Politics, an affiliation of Vietnam Academy of Social Sciences. Dr. Phi has a Doctorate and a Master's degree in Economics from University of Ryukoku, Japan. His area of expertise is development economics, firms and infrastructure. He has joined a variety of research projects and advisory programs to the Vietnam Communist Party, the central government and local authorities regarding enterprises reform, infrastructure development and sustainability. Additionally, Dr. Phi has been engaging in teaching post-graduates at universities and works as an independent consultant in international projects.

**KEYNOTE SPEAKER****PROFESSOR ROBERT DURAND**

Robert Durand was appointed as Professor of Finance at Curtin University in 2011. Robert's work focuses on empirical work investigating asset pricing models and behavioural finance.

Asset pricing models are central to understanding firms' cost of capital. Robert's work in this work on Australian data features amongst the most heavily cited work in this area.

Robert's work on Behavioural Finance, which utilizes psychology to model the behaviour of financial markets, has attracted international attention. For example, his work features amongst the most read and most cited articles published in the Journal of Behavioral Finance. He has published over fifty articles in scholarly journals.

Robert holds a BA (Hons.) from the University of Sydney, an MBA from the University of Edinburgh and a PhD from Murdoch University.

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## **WELCOME SPEECH THE 6<sup>TH</sup> INTERNATIONAL CONFERENCE “SUSTAINABLE ECONOMIC DEVELOPMENT AND BUSINESS MANAGEMENT IN THE CONTEXT OF GLOBALISATION” (SEDBM6)**

Due to social nature of workforce and relationships among people, international integration is an inevitable development process. Today, the speed of international integration process is faster and more extensive as of many factors, in which the market economy and the fourth industrial revolution to be profound impacts on every single country and on every field of life and society are the leading factors. Besides, a series of challenges and difficulties have recently been facing the changing world. In the context of fierce strategic competition between great powers, the fast-changing trends of international relations, the weakening world economy..., the globalization process is slowing down and making significant adjustments. For countries, globalization and regionalization have a positive impact by creating a driving force to promote economic and social growth and development; promoting market opening, as well as the liberalization of trade and investment in services... However, the negative side of globalization and regionalization is that it puts countries at risk of loss of independence, economic autonomy, and national power; fierce competition facing the domestic economic sectors when the domestic market opens.

For Vietnam, participating in the globalization and regionalization process continues to expose our country to development opportunities and increasingly severe economic, foreign affairs, cultural and security challenges. Therefore, identifying the trend related to globalization is important in order to set up the country's development strategy. In recent years, along with awareness of globalization and regionalization, Vietnam has gradually integrated internationally. The Political Report of the 13th Party Congress continued to affirm the above policy and emphasized the need to “enhance and diversify multilateral international economic relations, avoid over-dependence on one market and one partner”... And emphasize the new growth model needs to make good use of the opportunities brought by the Fourth Industrial Revolution, based on scientific - technological advance and innovation. Vietnam has also identified specific goals and important development milestones for the country in the coming decades with the highest goal of becoming a developed, high-income country by 2045.

Along with that, in the past few decades, the world economy has developed very strongly on a global scale. Many regions and countries in the world were previously underdeveloped but have accelerated reforms to become the world's leading economies. However, during this economic boom period, many countries only focus on economic development and do not really pay attention to the consequences it causes such as environmental problems and social inequality. To overcome the above situation, economists and economic policy makers have proposed a sustainable development model and now this model has become a global trend. Each country in each period

of development, with different practical requirements, will need different models of sustainable development, which will always be updated over time. In the general trend of the world, Vietnam has built and initially implemented a sustainable development model, taking advantage of favorable opportunities, overcoming many difficulties and challenges and achieving many achievements in the implementation process to achieve sustainable development goals. However, in practice, there are still many problems that need to be resolved soon: the economy is growing rapidly but mainly uses low value-added capital factors, while modern industries have not developed; the gap between rich and poor is increasing, the environment is increasingly polluted both in rural and urban areas... These problems are becoming more and more obvious as Vietnam integrates comprehensively into the world economy.

In order to create a forum for academic exchange and knowledge sharing from research works of domestic and international scholars on the issue of: Sustainable economic and business development in the context of globalization, and through five times of organization, it has affirmed the academic and practical values that the Conference brings, in 2023, Academy of Finance continues to coordinate with: Greenwich University, Institute of Economics - Ho Chi Minh National Academy of Politics, University of Economics and Law, Ho Chi Minh City National University, Institute of Economics and World Politics - Vietnam Academy of Social Sciences, continues to organize the sixth international conference: “Sustainable economic and business development in the context of globalization” (SEDBM6). The conference received over 140 articles from domestic and foreign scientists. The Conference Organizing Committee has selected 116 qualified articles that meet the Conference’s requirements for publication in the proceedings. The articles selected for publication in the proceedings clearly demonstrate the issues raised by sustainable economic and business development in the context of globalization.

On behalf of the Conference Organizing Committee, we would like to sincerely thank the scientists, experts, and managers for their intellectual contributions to the Conference, and the agencies, organizations, and units that have helped, supported and created favorable conditions for authors to attend the Conference. We wish all delegates good health, success and happiness! Wish the Conference a great success!

**THE CONFERENCE ORGANIZING COMMITTEE**

# A BEHAVIORAL PERSPECTIVE ON SELL-SIDE ANALYSTS

Robert B. Durand\*

**ABSTRACT:** *This paper discusses three papers which examine sell-side analysts from the perspective of Behavioral Finance: Limkriangkrai and Durand, forthcoming; Durand, Limkriangkrai and Fung, 2014; and Durand, Limkriangkrai and Fung, 2019. Distraction, attention, herding, and overconfidence are behavioral phenomena inextricably entangled with the information analysts produce. The paper proposes that such entanglement may be a useful concept to explain deviations from prima facie correct pricing.*

*JEL Classifications: G40, G14.*

**Keywords:** *Behavioral Finance, Sell-Side Analysts, Efficient Markets Hypothesis.*

The relationship *between* information and prices, and *how* information gets into prices, are key questions, if not *the* key question, in Finance. This paper, which accompanies the keynote address presented at the “Sustainable Economic Development and Business Management in the Context of Globalization” (SEDBM-6), considers these issues by focussing on the activities of sell-side analysts.

Sell-side analysts provide information to the buy-side (that is, investors, be they institutional or individuals). They provide forecasts of accounting outcomes such as earnings-per-share, they make recommendations to buy, sell or hold, and produce narratives about firms and their prospects (Hong, Kubik and Solomon, 2000; Bayer, Cohen, Lys, and Walther, 2010). Juergens and Lindsay (2009) found that analysts’ recommendations can generate between \$US 9 million and \$US 168 million in abnormal (unexpected) trading.

The output, and behavior, of analysts<sup>2</sup> provides an opportunity for us to design experiments that consider questions of the relationship *between* information and prices and *how* information gets into prices. The ready availability of the IBES dataset for academic use makes such experiments feasible and tractable.<sup>3</sup> In short, analysts are studied because they can be studied.

In particular, this paper is motivated by the observation that analysts are “highly motivated and intelligent individuals. Financial markets are large, complex, and fast moving, and the

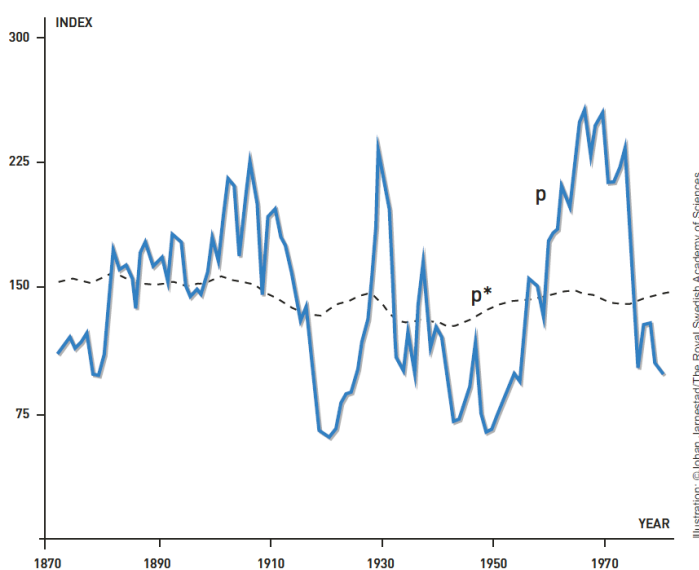
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\* Robert Durand is the Professor of Finance at Curtin University, Perth, Western Australia. This paper was presented in a keynote address at the 6th International Conference on “Sustainable Economic Development and Business Management in the Context of Globalization” (SEDBM-6), Hanoi, Vietnam, September 22<sup>nd</sup>, 2023. I am grateful to the Organizing Committee for their kind invitation to present the ideas in this paper and their generous hospitality during my stay in Vietnam. In addition, I am especially grateful to Mr. Ha Tuan Vinh; his kindness and help before, and during, my travels in Vietnam are much appreciated. The views in this paper, and any errors, are my own.

<sup>1</sup> I will use “analysts” rather than “sell-side analysts” in the interests of brevity after the following paragraph.

<sup>2</sup> “The Daily Detail Earnings Estimate History will allow you to follow any individual broker or analysts’ forecasts accuracy over time. You may follow an analyst even if he/she changes affiliations.” (I/B/E/S 1998, p. 1), quoted in note 2 of Limkriangkrai and Durand, *forthcoming*)

challenge of analyzing them is daunting. Despite their commitment and work ethic, sell-side analysts' time is limited, and their cognitive capacity is bounded" (Durand, Limkriangkrai and Fung, 2019, p. 169). Analyst's limited time and cognitive resources suggest that Behavioral Finance, if applied to the study of financial analysts, might help us understand how and why prices appear to differ from what might be their correct value.<sup>1</sup> For example, "Robert Shiller, 2013 Nobel Laureate, compared two detrended price series:  $p^*$ , the prices that should have been observed if, albeit with perfect hindsight, investors used a very simple valuation model, and  $p$ , the prices that were observed. The price series are seldom close. Observed prices are seemingly far too volatile. In this analysis, the price is almost always *wrong*" (Durand, 2022, pp. xiv to xv). Figure 1 below is taken from Shiller (1989) and depicts the difference between the prices which prices that should have been observed,  $p^*$ , and  $p$ , the prices that were observed; I will refer to it again in this paper.



**Figure1.** This is Figure 5.1 from Shiller (1989)  $p^*$ , are the prices that should have been observed if, albeit with perfect hindsight, investors used a very simple valuation model, and  $p$ , are the prices that were observed

The three papers that I will discuss – Limkriangkrai and Durand, *forthcoming*; Durand, Limkriangkrai and Fung, 2014; and Durand, Limkriangkrai and Fung, 2019 – examine analysts from the perspective of Behavioral Finance. Behavioural Finance seeks to explain financial phenomena and investor behavior by utilizing theories and evidence from Psychology. It takes issue with the paradigm of *homo economicus*, the economically rational agent, and presents evidence that people in financial markets are quasi-rational. That is, they follow rules but these rules do not necessarily result in what would be considered as economically rational outcomes. The papers show how behavioral biases are inextricably bound up with the information analysts produce. These papers do not directly address the question of analysts' forecasts change prices as that issue has been well analyzed for many decades. The consensus view is that analysts' forecasts do move prices. Durand et al. (2014) show that even the analysts they study produce forecasts that move prices. The extent that these forecasts incorporate behavioral biases means

<sup>1</sup> Durand (2022, pp. xiv to xv) refers to evidence that, in the long run, the observed price and the price which should be observed do not converge (an observation consistent with Stiglitz's (1990) definition of a bubble).



that there is more than information (however information is defined) in prices; this paper argues that information is not pure but that it is *entangled* with the behavioral biases of those who produce and act on it. I believe that this paper, and the keynote address which it accompanies, might be the first to think about *entanglement*. *Entanglement* may help us understand why Shiller finds that observed prices,  $p$ , differ from what seems to be the correct price,  $p^*$ .

I begin by reviewing the Efficient Markets Hypothesis (EMH) (Fama, 1970, 1991). The EMH informs my thoughts on information and prices and it is useful to begin here before discussing accounting information and analysts' role in getting information into prices. I then touch on now classic papers which talk about the relationship of prices to accounting information and the value added by analysts. I then conclude by discussing the three papers I highlighted in the previous paragraph. Use of the construct of *overconfidence* provides a good example of how biases are *entangled* in forecasts.

Market efficiency proposes that markets are speedy (efficient) in incorporating information in prices. Importantly, it is silent on what information might be. It seems to be a stimulus which may prompt a response. Fama writes that he "takes the market efficiency hypothesis to be the simple statement that security prices fully reflect all available information" (Fama, 1991, p. 1575). In other words, in an efficient market, everything that is known, or believed, about a security is incorporated in the price of that security. It is only surprises, that is, things that are not known or expected, that move prices. It is important to remember that market efficiency is a hypothesis, not a theory, as it cannot be tested *per se*. Tests of market efficiency require a model of expected returns, such as the Capital Asset Pricing Model. When we find a *prima facie* case where market efficiency is violated, we cannot determine whether we can reject market efficiency, or if our model of expected returns is wrong, or both market efficiency and the model of expected returns are wrong. We simply cannot know.

In Fama's classic exposition of the EMH (Fama, 1970), information is either historic (past); new and public; and known only to insiders (that is, not public). The market is weakly efficient if all historic information is in prices. The market is semi-strong efficient if public information is in prices. The market is strong-form efficient if private information is in prices.

Where does accounting information fit into the EMH schema outlined in the previous paragraph? A firm's financial statement (accounts) is the one item of information which must be produced. Accounts are produced regularly and their format is, to a large extent, standardized. Accounts are made publicly available at a specific time and, if there is any new information, such information should be reflected quickly if the market is semi-strong efficient. There should be no drift in prices after the announcement. Ball and Brown (1968), however, present one of the first analyses documenting a *prima facie* EMH anomaly. They focus on earnings. Ball and Brown document significant post-earnings drift in prices; such drift would appear to be at odds with market efficiency. Figure Two of this paper is a copy of Table 1 from Ball and Brown's (2019) replication of their 1968 paper where we see post-earnings announcement drift (and considerable *pre-earnings* announcement drift). Ball and Brown (1968; 2019) provide persuasive evidence that accounting information, in particular earnings, matters in investment; they also provide evidence that information in earnings is not incorporated quickly (efficiently) in prices.

To digress a little from the topic at hand, *historic* accounting information, including information about earnings, also form the basis of a number of important trading anomalies. Following Fama and French (1992, 1993), an important body of asset-pricing models has progressed by incorporating long-short portfolios constructed by exploiting prima facie anomalous behavior, into multi-factor models of expected returns. Fama and French's (2015) model include two factors based solely on *historic* accounting information: a profitability factor and an investment factor. The value-growth factor (Fama and French, 1993) is now routinely added to the five-factor model and this is based on accounting information (the book value of assets) and market capitalization.

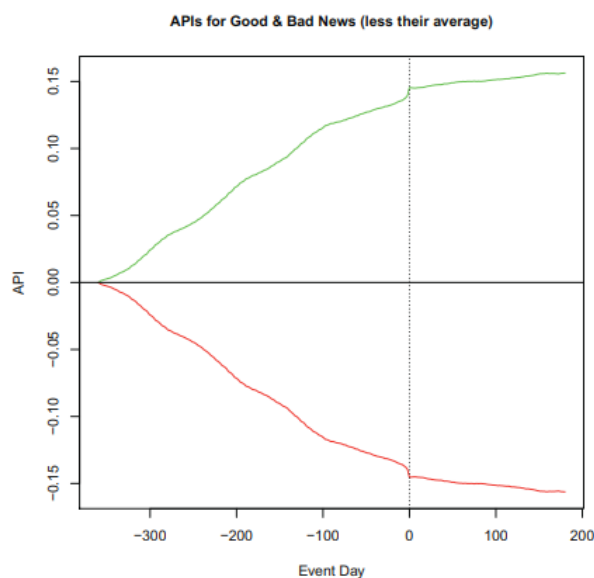
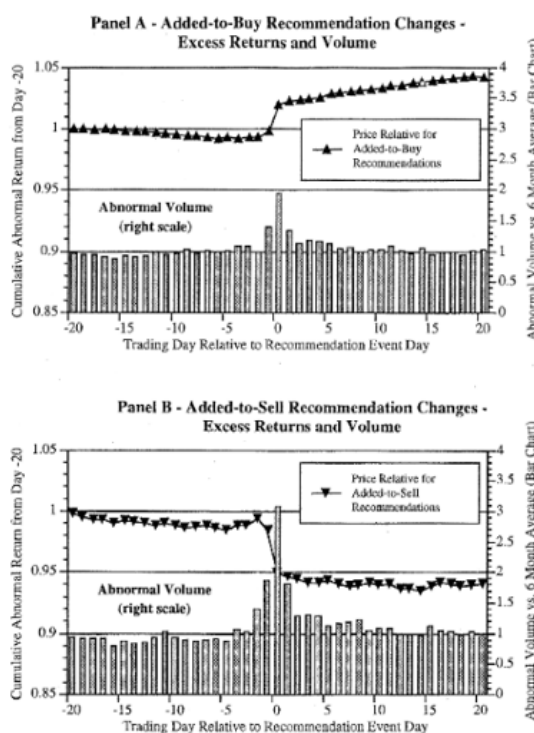


Fig. 1. Replication of BB68 Fig. 1 for USA, all years (1971-2017) pooled.

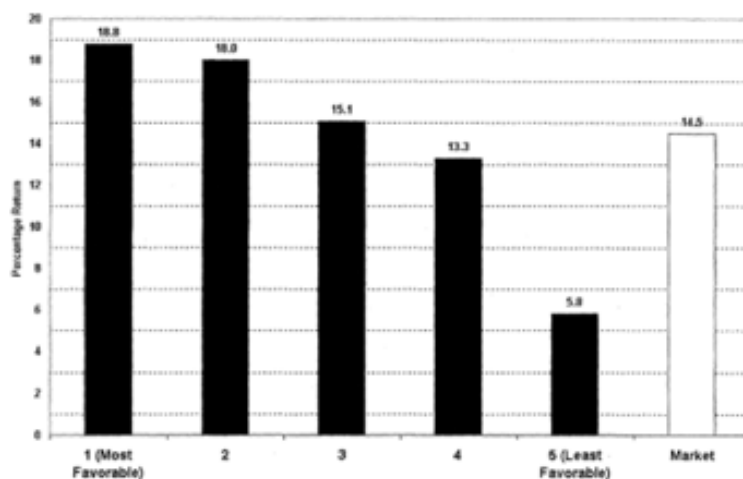
**Figure 2. This is Figure 1 from Ball and Brown (2019)**

Accounting information, especially earnings, is important for investors. Analysts provide an economically useful service by providing estimates of this information for investors. For example, Womack (1996) established that the best analysts can move the market and generate abnormal volume; Womack's Figure 1 is reproduced in Figure 3 below and we see analysts' recommendations for stocks - either moving to a buy recommending or to a sell recommendation - moving prices. Investors can profit from following analysts' recommendations although, when transaction costs are considered, net annual returns are about zero (Barber, Lehavy, McNichols and Trueman, 2001); average annual returns are reported in Figure 4 below which presents Figure 1 of Barber *et al* (2001).





**Figure 3.** This is Figure 1 from Womack (1996). It depicts market-adjusted excess returns for stocks added to buy recommendations (Panel A) and added to sell-recommendations



**Figure 1.** Annualized geometric mean percentage gross return earned by portfolios

**Figure 4.** This is Figure 1 from Barber, Lehavy, McNichols and Trueman (2001). It depicts the returns from holding a portfolio of stocks formed using analysts’ recommendations

The EMH is silent on what information itself might be. In discussing the three papers featured in the keynote address and this paper, we see that information, in all cases the earnings forecasts produced by analysts, are *entangled* with the analysts’ psychological biases. As I have noted above, the EMH silent on what information might be. Prices respond to facts, falsehood and opinions which are entangled with greed, fear and a myriad of other emotions and biases.

Limkriangkrai and Durand (*forthcoming*) focus on analysts' career longevity studying quarterly data from IBES of 15,944 analysts from 1993 to 2018. Analysts are well paid. We always congratulate our graduates, usually our best graduates, when they win such positions. Labour economics suggests that career longevity is associated with earnings and the earnings of analysts are good. It is therefore surprising that their careers are so short. Using the IBES dataset only half "survive" for more than three years and this paper utilizes survival analysis, a methodology more familiar to medical researchers than financial economists, to examine the determinants of the length of time analysts spend on the IBES database (our proxy for career longevity).

One caveat is that Limkriangkrai and Durand (*forthcoming*) do not, and cannot, observe what becomes of the analysts after they are no longer observed in the data. It might be the case that analysts go on to better jobs and the association with career length and success does not hold. The analysis, however, includes non-behavioral factors such as forecast accuracy<sup>1</sup> and the timing of forecasts; the length of analysts' careers has relationships with these variables consistent with the notion that their skills in these important areas have positive associations with the length of their careers. They find that behavioral factors such as *distraction*<sup>2</sup> and *herding* (which I will also touch on when discussing the remaining two papers) also shorten analysts' careers.

*Overconfident* people get the world, or aspects of it, wrong.<sup>3</sup> For example, they believe that certain outcomes are less risky than they actually are. Durand and Limkriangkrai (*forthcoming*) find that *overconfidence* has a positive association with the length of analysts' careers, a finding consistent with theories proposing that *overconfidence* can have evolutionary advantages (Johnson and Fowler, 2011). *Overconfidence* also plays a role in the two papers to be discussed below.

In studying so many analysts over such a long period of time, and using data which is anonymised, Durand and Limkriangkrai face a problem shared by many researchers in Behavioral Finance: they cannot measure the psychological factors directly. Rather, they must construct, and justify, them from the available data. This problem is also important in the following two papers to be discussed and the justification of these variables is a key feature of these papers. *Overconfidence*, for example, is proxied by analyst activity (greater activity is associated with greater confidence) and, while this is standard in the Finance literature, this can be strange, and controversial, to readers unacquainted with this practice.<sup>4</sup>

*Herding* is the production of earnings forecasts that are closer, rather than different, to other analysts. "Herding is an unconscious social behavior originating from the primitive

<sup>1</sup> Specifically, the accuracy of quarterly earnings forecasts. Note that Limkriangkrai and Durand flip the variable and use *inaccuracy* in their analysis.

<sup>2</sup> Measured either by the number of firms an analyst covers or the number of industries and analyst covers).

<sup>3</sup> At the beginning of Section 1.1 of their paper, Limkriangkrai and Durand (*forthcoming*) write "... Overconfidence can generally be defined in three different ways. The first variety of overconfidence is the overestimation of one's ability or chances of success; the second is overplacement, which arises when people overestimate how much better they are than others; the third variety is overprecision, when people have excessive certainty regarding the accuracy of their beliefs (Moore and Healy, 2008).

<sup>4</sup> In footnote 14 of their paper, Limkriangkrai and Durand (*forthcoming*) quote Durand, Limkriangkrai and Fung's (2014, p.180) lengthy discussion about this matter.

portion of our brain. This herding impulse is advantageous to our survival by demonstrating that we are the same as the crowd for reasons of self-preservation, to avoid rejection and to defuse an excuse to attack (Prechter, 2001) Such emotional impulses to herd are often inappropriate and potentially counterproductive to success in financial situations. However, these emotional impulses are ‘hardwired’ in the deepest, most primitive part of our brain and have a very powerful and unconscious influence on our behavior” (Durand, Limkriangkrai and Fung, 2014, p. 176-177). *Herding* is a well-studied feature in the literature studying analysts. Durand *et al.* (2014) focus on the behavioral determinants of *herding*, measured as the difference between the last analyst making a forecast for a firm in a quarter to the average forecast at this time.

Studying 29,825 quarterly earnings forecasts from the first quarter of 1993 to the last quarter of 2010, Durand *et al.* (2014) find a strong role for *overconfidence* that is consistent with Prechter (2001) (referred to in the preceding paragraph). Analysts move away from the prevailing consensus as their confidence increases and *vice versa*. Unexpectedly, analysts become more confident when firms become more difficult to analyze (that is, where forecast errors are greater); they become less confident when firms are easier to analyze. “This lower skill is associated with a reduced ability to reflect on, and learn from, success or failure in tasks; in other words, lower skills result in lower metacognitive ability (Kruger and Dunning, 1999). Metacognition is the ability to think about, or reflect on, your thoughts” (Durand *et al.*, 2014, p. 177).

Durand, Limkriangkrai and Fung (2019) return to the issue of herding and behavioral finance. In this paper, they examine the dispersion of forecasts over the reporting year, studying 29,682 cohorts of analysts studying firms with December fiscal year ends. In Figure 5, we see that forecasts are dispersed at the beginning of the fiscal year and begin to converge (that is, the analysts agree with each other more – or herd) towards the end of the year. Durand *et al.*’s dependent variable is the ratio of the dispersion of forecasts in April to the dispersion of forecasts in October.

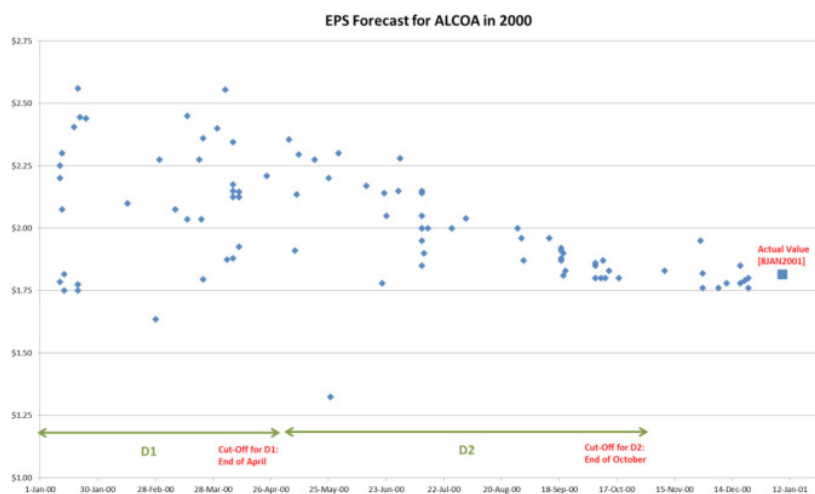


Figure 1. Forecasts for Alcoa (Ticker: AA).

This figure depicts the full-year earnings forecasts for Alcoa (ticker AA) made by the analysts following this firm in 2000.

**Figure 5.** This is Figure 1 from Durand, Limkriangkrai and Fung (2019)

Durand *et al.*'s (2019) results for overconfidence are consistent with those reported in Durand *et al.* (2014). Increased *overconfidence* is associated with diverging forecasts (greater disagreement/*anti-herding*); decreased *overconfidence* is associated with converging forecasts (greater agreement/*herding*).

The EMH assumes that market participants act to push information into prices but, to do that, market participants cannot ignore information. They must be paying attention. Durand *et al.* extend their study by considering the association of investor attention and herding. We do so by following Broadbent (1957, 1958) and using both *exogenous* and *endogenous attention* rather than using attention *per se*.<sup>1</sup> *Exogenous attention* is a shift in attention caused by external stimuli; plates crashing to the ground in a restaurant is a familiar example. *Endogenous attention* involves individuals' choices of where to concentrate their cognitive resources and is a function of the personalities, goals, and motivations. Higher (lower) *exogenous attention* reduces (increases) convergence (agreement) when returns are negative; analysts rely on their own resources rather than following others in bad and potentially stressful times. *Endogenous attention* as a positive association with the convergence of forecasts but only when returns are negative. *Distraction* leads to convergence when returns are falling.

The three papers discussed above provide evidence that *distraction*, *attention*, *herding*, and *overconfidence* are behavioral phenomena *entangled* with analysts' forecasts. These forecasts inform investors and, in an efficient market, provide a stimulus for them to act (buy or sell) that may change prices. *Overconfidence* features in all papers and is instructive for the consideration of prices and *entanglement*. *Overconfident* analysts fail to correctly understand the firms they are analyzing: they underestimate risk. Such *entangled* forecasts provide stimuli through which prices become biased (and incorrect). Such *entanglement* points to a way of reconciling Shiller's analysis with the EMH. Deviations from a *prima facie* correct price are a cumulative effect of *entangled* stimuli.

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# EVALUATING THE ECONOMIC STRUCTURAL CHANGE OF SIX COASTAL LOCALITIES IN THANH HOA USING VECTOR METHOD AND SUSTAINABLE DEVELOPMENT INDICATORS

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**Abstract:** Vector method (coefficient cos) and sustainable development indicators will be used to evaluate the economic structural change of six coastal localities in Thanh Hoa. Finding results show that the economic structural change in localities is towards more industrialization and modernity, faster shifting speed, per capita income increased while the poverty rate decreased. However, factors such as labor productivity and growth rate of production value have not improved much. The land, water and air environment has shown signs of pollution during the process of restructuring the economic sector. We have analyzed the causes of the inadequacies and made some recommendations for economic restructuring in six coastal localities in Thanh Hoa towards sustainable development.

**Keywords:** economic sector structure, economic structural change, sustainable development.

## 1. INTRODUCTION

Thanh Hoa is a locality that converges all three geographical regions according to topographical characteristics: mountainous, midland and coastal. This is favorable for multi-industry and multi-sector economic development. In particular, the coastal localities of Thanh Hoa including Sam Son city, Nghi Son town and 04 districts namely Nga Son, Hau Loc, Hoang Hoa, Quang Xuong have many advantages as well as outstanding potential to create comprehensive development and being a driving force in promoting the province's economic growth. In the field of agriculture, with the advantage of the Ma River Delta, coastal localities play an important role in providing aquatic resources, forest products and agricultural products to the northern provinces, exporting and stabilizing food security. In the industrial sector, with the advantage of natural resources and geographical location, the province's key industrial products (cement, sugar cane, garments, shoes, petroleum, etc.) affects the balance of supply and demand in the domestic and export markets. In the service sector, with the advantage of a long coastline and many beautiful beaches, coastal localities are ideal tourist and resort destinations in the North, Nghi Son deep-water port plays an important role in developing sea transport services.

The economic structure of six localities is shifting in a positive direction: the proportion of industries - construction, tourism services has increased, the proportion of agriculture, forestry and fishery sectors decreased in the GRDP of each locality. However, the economic restructuring in these six localities is not sustainable, with many negative impacts on the land, water and air

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environment. This situation raises a question of how to promote economic restructuring in six districts, towns and coastal cities of Thanh Hoa towards sustainable development.

In this study, we will evaluate the trend and speed of economic structural change in six coastal localities in Thanh Hoa using the vector method, assess the impact of economic structural change and give some recommendations to contribute to economic sector restructuring in these localities towards sustainable development. In addition to the introduction, section 2 will present the theoretical framework, section 3 will evaluate the trend and speed of economic structural change. Finally, some recommended solutions will be proposed.

## 2. THEORETICAL FRAMEWORK

Just like a country, each locality has an economic structure suitable to different conditions and stages of development. In essence, the economic structure is a process of continuous movement from limiting growth to opening up new growth spaces for the economy. According to Kuznets (1961), an economic structure is a coherent framework of interrelated parts, each of which has a distinct role but has common goals. Economic restructuring is the transformation of the economy from one state to another with better economic structural characteristics and higher efficiency. The purpose of economic restructuring is to make the economy grow faster, with better quality and more sustainably. To evaluate the results of economic restructuring, scholars often rely on the trend and speed of the transition [3].

The trend of economic sector restructuring is determined based on calculating the change in the proportion of each industry in the economic structure year by year (by value added, labor or capital).

$$T_i = (\text{GRDP}_i : \text{GRDP}) \cdot 100\% \quad (1)$$

In which:

+  $T_i$ : Contribution of sector  $i$  in local GRDP

+  $\text{GDRP}_i$ : Added value of industry  $i$

+ GRDP: Total product in the area

The larger  $T_i$  reflects the larger share of industry  $i$ 's contribution to the total product in the area.

The translation speed is carried out according to the vector method - coefficient  $\cos\phi$ . This vector method shows how to determine how quickly or slowly the economic structure changes and can be used for many different research objectives in different periods. According to this method, each economic sector structure in a period (usually measured in years) is represented by a vector based on calculating an index reflecting the added value structure of each sector in the economy [2], [4].

The angle  $\phi$  between these two structural vectors will show the change in the structure of the economic sector between the two study periods. The change in economic sector structure will be calculated based on the  $\cos\phi$  according to the following formula:

$$\cos \varphi = \frac{\sum_{i=1}^n S_i(t_0) S_i(t_1)}{\sqrt{\sum_{i=1}^n S_i^2(t_0) \sum_{i=1}^n S_i^2(t_1)}} \quad (2)$$

In which:  $S_i(t_0)$ ,  $S_i(t_1)$  is the proportion of added value of industry  $i$  in the base period and the proportion of added value of industry  $i$  in the local GRDP in the study period;  $\varphi$  is considered an angle composed by two structure vectors  $S(t_0)$  and  $S(t_1)$ .

Because  $S_i(t_0)$ ,  $S_i(t_1) \geq 0$ ,  $\cos \varphi \geq 0$  (according to the properties of the Cos function), in other words, the angle  $\varphi$  will only lie in the first quadrant of the trigonometric circle, that is,  $\varphi$  always has a value from  $0^\circ$  to  $90^\circ$  (angle degree) or if you know the value of  $\cos \varphi$ , you can immediately calculate the value of the angle  $\varphi$ .

If  $k$  is the speed of economic sector restructuring, then  $k$  is calculated by the formula:

$$k = \frac{\varphi}{90^\circ} * 100\%$$

+ When  $\cos \varphi = 0$  or  $\varphi = 90^\circ$ , then the transition speed  $k = 1$ , proving that economic sector restructuring is the fastest (biggest).

+ When  $\cos \varphi = 1$  or  $\varphi = 0^\circ$ , then the transition speed  $k = 0$ , proving that there is no structural shift in the economic sector.

Thus, the larger the angle  $\varphi$  ( $\varphi$  the smaller the  $\cos$ ), the larger the  $k$ , the stronger (faster) the degree of transition of economic structure and vice versa.

The process of economic restructuring affects the results of economic development, which are assessed through criteria such as economic growth rate, labor productivity, income per capita, rate poverty reduction rate, openness of the economy, environment [2], [4], [5].

### 3. EVALUATING THE ECONOMIC STRUCTURAL CHANGE OF SIX COASTAL LOCALITIES IN THANH HOA

#### 3.1. Evaluating the trend and speed of economic structural change

##### \* Shifting trend

**Table 1. Economic structural change of six coastal localities in Thanh Hoa**

Unit: %

	Agriculture, forestry and fisheries	Industry and construction	Service
Hau Loc			
2011	42.3	25.6	32.1
2015	38.2	41.3	20.5
2020	30.0	47.0	23.0
Hoang Hoa			
2011	28.0	44.0	28.0
2015	19.0	46.0	35.0



2020	15.3	48.1	36.6
Quang Xuong			
2011	40.0	27.2	32.8
2015	30.0	32.0	38.0
2020	23.0	39.0	38.0
Nga Son			
2011	43.1	24.2	32.7
2015	36.0	30.7	33.3
2020	22.6	45.3	32.1
Nghì Son			
2015	8.5	82.0	9.5
2020	2,2	91.3	6.5
Sam Son			
2011	16.4	12.3	71.3
2015	12.6	10.8	76.6
2020	8.1	21.7	70.2

*Source: [1]*

The economic structure of six coastal localities in Thanh Hoa has changed in the direction of industry and is more modern:

(i) In the fields of agriculture, forestry and fisheries, form large sample fields, giving higher productivity and product quality. Areas where safe vegetables, cash crops, fruit trees and rice plants are grown according to VietGap standards appear more frequently. Forming concentrated breeding areas, large-scale farms and farms raising pigs, cows and poultry. Fisheries thrive in both farming, fishing and fisheries logistics. Form specialized farming areas, applying high technology such as raising white-legged shrimp and flower clams in Hau Loc, Hoang Hoa, Quang Xuong, etc. Developing offshore fishing activities with larger capacity vessels. Localities all focus on developing strong agricultural, forestry and fishery products to be certified as OCOP products or export-oriented.

(ii) In the field of industry and construction: each locality develops its own industrial zones and clusters and begins to attract FDI. Especially the development of Nghì Son economic zone with many key products of petrochemical refining, electricity, cement, etc. Local handicraft products continue to be developed in a professional and sustainable direction such as the sedge products of Nga Son, initially exported to foreign countries. Basic construction develops rapidly with projects of road construction, construction of resorts, ecological zones and industrial parks; has a great contribution to the GRDP of each locality.

(iii) In the service sector, trade is developing rapidly in terms of scale, quality, and type, increasingly meeting the needs of production and serving people's lives. The tourism industry in all six localities has made changes in the districts of Hoang Hoa (Hai Tien beach), Quang Xuong (Tien Trang beach tourist area), Nghì Son (Hai Hoa tourist area), etc. Especially, in Sam Son, the appearance of large high-end tourism projects contributed to increasing the added value of the tourism industry, such as FLC resort, beach space on the Dong Ho Xuan Huong street, system of restaurants in Van Chai area, etc. Marine transportation services also develop thanks to the development of the deep-water port system in Nghì Son town.

### \* Speed of economic restructuring

**Table 2. Economic structural change's coefficient of 06 coastal localities in Thanh Hoa**

Stage	Cos		Structural transformation speed (%)
Hau Loc District			
2011 - 2015	0.991601	7.43	8.25
2015 - 2020	0.931416	21.34	23.71
2011 - 2020	0.902943	25.45	28.28
Hoang Hoa District			
2011 - 2015	0.98177	10.9	12.1
2015 - 2020	0.967199	3.99	4.43
2011 - 2020	0.997575	14.7	16.35
Quang Xuong District			
2011 - 2015	0.976375	12.4	13.86
2015 - 2020	0.985885	9.63	10.71
2011 - 2020	0.932473	21.17	23.53
Nga Son District			
2011 - 2015	0.986726	9.34	10.38
2015 - 2020	0.943802	19.29	21.44
2011 - 2020	0.987821	28.57	31.74
Nghi Son town			
2015 - 2020	0.99594	5.16	5.73
Sam Son City			
2011 - 2015	0.997658	3.92	4.35
2015 - 2020	0.986177	9.53	10.59
2011 - 2020	0.985560	9.74	10.83

Source: [1] and Author's calculation

Using the vector method to calculate the speed of economic transformation of 06 districts, towns and coastal cities in Thanh Hoa, the calculation results of the research team show that, in general, in the period of 2011 - 2020, the labor productivity shift in 3 major industry groups of 06 localities takes place at a relatively fast rate, especially in districts such as Hau Loc, Quang Xuong, and Nga Son. The overall labor productivity conversion rate from 2011 to 2020 of Nga Son district is the highest, reaching 31.74%, followed by Hau Loc district reaching 28.28%, Quang Xuong ranked third with 23.53%, followed by Hoang Hoa district (16.35%) and Sam Son city (10.83%).

### 3.2. Assessing the impact of economic structural change

#### \* Economic growth rate

**Table 3. Growth rate of production value of six coastal localities in Thanh Hoa**

TT	Targets	2011 - 2015	2016 - 2020
first	Hau Loc		
	Growth rate of production value (%)	13.0	14.2
	- Agriculture, forestry and fisheries	9.00	7.3
	- Industry and construction	17.6	20.4
	- Service	14.8	14.4

2	Hoang Hoa		
	Growth rate of production value (%)	18.75	14.65
	- Agriculture, forestry and fisheries	7.3	3.11
	- Industry and construction	20.4	17.55
	- Service	25.76	18.47
3	Quang Xuong		
	Growth rate of production value (%)	15.8	15.0
	- Agriculture, forestry and fisheries	5.9	4.0
	- Industry and construction	18.4	19.0
	- Service	21.1	20.0
4	Nga Son		
	Growth rate of production value (%)	13.1	13.7
	- Agriculture, forestry and fisheries	2.9	3.3
	- Industry and construction	19.0	17.4
	- Service	16.3	16.0
5	Sam Son		
	Growth rate of production value (%)	18.08	17.8
	- Agriculture, forestry and fisheries	10.07	5.4
	- Industry and construction	16.2	26.7
	- Service	24.76	17.4
6	Nghì Son _		
	Growth rate of production value (%)	30.79	29.9

Source: [1]

The growth rate of production value of six localities in the 2016-2020 period was not higher than that in the 2011-2015 period. The agriculture, forestry and fishery sectors all recorded a decrease in the value growth rate produced in localities (except Nga Son). The industry and construction group had higher growth in Hau Loc, Quang Xuong, Sam Son and Nghì Son districts. The service industry group had a decreasing growth rate in all six localities.

#### \* Labor productivity

The general labor productivity of 06 localities has increased steadily over the years; in 2015 is 1.6 times higher than in 2011 (average growth rate is about 9.9%/year); in 2019 is 1.64 times higher than in 2015 (average growth rate is more than 13.2%/year). Thus, the growth rate of labor productivity in the period 2016 - 2020 is higher than the previous period, but the overall labor productivity value of Thanh Hoa coastal area is not high, reaching more than 52.3 million VND/ person/year in 2019 (calculated at 2010 prices); is only equivalent to the average level of Thanh Hoa in 2019 (about 53 million VND/person/year) in the context that the province has many localities with more difficult socio-economic conditions (mountainous districts of Thanh Hoa).

### \* Average income per capita

The average income per capita of 06 coastal districts of Thanh Hoa has increased continuously, the GRDP/person in 2020 of 06 districts increased 2 - 4 times in 2010. However, some localities such as Hau Loc, Quang Xuong, Nghi Son, Nga Son are still lower than the average of Thanh Hoa in 2020 (reaching 50.2 million VND/person/year). The rate of poor households has decreased significantly, but this indicator of Quang Xuong, Nga Son districts and Nghi Son town is still higher than the provincial average (1.01% in 2020). Thus, economic sector restructuring has made a major contribution to increasing GRDP/person but is not really effective, the growth rate of GRDP/person is still low, leading to low accumulation capacity for development investment.

**Table 4. GDP per capita income and poverty rate of six coastal localities in Thanh Hoa**

Indicators		2011	2015	2020
Hau Loc	GRDP/person (million VND/person/year)	10	22.8	45
	The rate of poor households (%)	7	7.4	0.55
Quang Xuong	GRDP/person (million VND/person/year)	12.2	25.5	50
	The rate of poor households (%)	15	7.3	1.14
Hoang Hoa	GRDP/person (million VND/person/year)	10.8	24.9	50.2
	The rate of poor households (%)	-	10.67	0.38
Nghi Son	GRDP/person (million VND/person/year)	-	18.5	48
	The rate of poor households (%)	24.02	15.84	2.9
Sam Son	GRDP/person (million VND/person/year)	22	51	57.72
	The rate of poor households (%)	13.9	4	0.59
Nga Son	GRDP/person (million VND/person/year)	9.5	21.4	46.3
	The rate of poor households (%)	-	4.9	2.18

Source: [1]

### \* The openness of the economy

**Table 5. Export value of 06 coastal localities in Thanh Hoa**

Unit: million USD

	Hau Loc	Hoang Hoa	Nghi Son	Nga Son	Sam Son	Quang Xuong	The whole Thanh Hoa
2011	12.0	30.7	-	7.7	-	-	362
2015	97.0	48.0	130	70.0	-	11.0	1.527
2020	153.4	92.0	900	115	50.0	30.0	4.000

Source: [1]

Economic openness in 06 localities has increased over time. The export value of the districts has increased, especially in some districts such as Nga Son - export value in 2020 increased 14.0 times in 2011 - this is also the district with the highest rate of economic restructuring speed among 6 districts; followed by Hau Loc district - export value in 2020 increased by 12.7 times in 2011, this is the district with the second highest rate of economic restructuring among 6 districts; Hoang

Hoa district - export value in 2020 increased 2.9 times in 2011; Nghi Son town, thanks to the economic restructuring in the right direction, the export value in 2020 will reach the maximum of 900 million USD, many times higher than the remaining districts (5.86 times more than Hau Loc district and 30 times higher than Hau Loc district and 30 times higher than that of other districts. once in Quang Xuong district). The economic restructuring has shifted towards export, which has helped 06 coastal localities to start entering the world trade market. However, the export value of 05 coastal localities only accounted for 23.3% of the total export value of the province in 2015 (excluding Sam Son) and the export value of 06 localities only accounts for more than 33.5% of the province's total export value in 2020. Thus, it can be seen that due to relatively low labor productivity and limited competitiveness, the economic openness of the coastal area of Thanh Hoa is not commensurate with the potential and position of localities. Restructuring the economic sector towards export is not really effective and sustainable.

**\* Harmful to the environment**

- Water Environment:

+ The quality of coastal sea water has a number of concerns due to the existing trend of pollution. Many industrial zones and clusters (Nghi Son) do not yet have a centralized wastewater treatment system, production facilities have invested in building a local wastewater treatment system, then discharged into a common sewer. The craft villages in 6 districts do not have a common drainage system and water treatment systems must, wastewater generated from establishments is treated by themselves and then discharged into the environment.

+ The quality of groundwater in some residential areas living near industrial zones, industrial zones and craft villages has not shown any sign of heavy metal pollution but has been polluted by a number of indicators such as COD, Coliform and NH<sub>4</sub><sup>+</sup>. The reason is due to the indiscriminate use and exploitation of groundwater, the treatment of domestic waste in households is not thorough and gradually seeps into the groundwater over time.

- The soil environment in 06 localities shows signs of salinization due to tides or saline geysers moving from below to above the ground, moreover, seawater penetrates deep into the mainland, increasing the area of saline land. In addition, the digging of canals and ditches to bring salt water into the fields, deepening the field to switch from rice farming to aquaculture in coastal areas have contributed to increasing the area of saline soil and the level of salinity in the soil.

- Air environment: The air quality in the sea area is still quite good, many areas have not shown any signs of pollution. However, according to the level of socio-economic development, there are differences in the concentration of substances in the air in the sea areas depending on the region and polluting activities. Air pollution is mainly affected by the activities of craft villages, production facilities, concentrated livestock farms, farming activities, mining activities, burying and burning waste, etc.

**3.3. Causes of inadequacies in economic restructuring**

Firstly, the management and administration of economic restructuring in 06 coastal localities of Thanh Hoa is still inadequate.

Planning work in general does not have a long-term, modern vision; There are not really solid scientific bases, implementation resources have not been fully calculated. Most obviously, in agriculture, crop planning in all 6 districts is not really linked to the specific terrain, quality, and type of land in each specific area (notably Hoang Hoa, Nga Son, Quang Nam). In particular, in areas planned to grow rice, but in reality, rice growing is ineffective, people cannot apply technology and machinery in production, leading to low productivity, or abandoning the land and not continuing. culture. They cannot convert crops themselves, from ineffective rice farming to other types of farming. This leads to a huge waste of resources, affecting people's lives and income, and is also a factor slowing down the transition of economic structure. The coordination between 06 localities to develop the coastal zone planning in Thanh Hoa is still limited. This is clearly shown in the planning and development of specialization in agriculture, fisheries, construction of transportation systems, electricity, water and waste treatment.

Administrative procedure reform has not kept pace with the requirements of innovation and economic reform, people and businesses are not really satisfied, the application of information technology to management is still facing many difficulties due to the lack of technology infrastructure and high-quality human resources.

The progress of site clearance for some projects is still slow, not meeting the set schedule, affecting the implementation of projects, especially technical infrastructure projects and affecting investment attraction in the locality. The state management of planning, construction order management is not strict, detection, prevention and handling are not timely and effective.

Secondly, the development investment capital in the coastal areas of Thanh Hoa in recent years has not been enough compared to the development needs of the localities.

Investment capital for economic development and economic sector restructuring is still lacking compared to demand and the investment has not really brought about the desired results. Labor productivity and GRDP/person of Thanh Hoa province in general and coastal districts in particular are still low, so the ability to accumulate capital for investment is still low, many projects use central budget capital. Although the ICOR coefficient in the coastal area of Thanh Hoa is on a downward trend from 6.6 in the period 2011 - 2015 to 6.1 in the period 2016 - 2019, it is only equivalent to the average of the whole Thanh Hoa or Vietnam.

Investment capital in the coastal areas of Thanh Hoa is mainly focused on industry (accounting for about 60%). Investment in service development and technical infrastructure construction in each field is about 16-18%. Investment in agricultural development accounts for a small proportion, only about 5-6%. Similarly, investment in technology development is still low, accounting for only 4-6% of total investment. In addition, investment capital is focused on industrial development, especially heavy industry, but has not focused on waste treatment systems, which has created negative impacts on the environment.

Thirdly, lack of large enterprises, strong financial potential and the competitiveness of enterprises is limited.

The number of enterprises with large capital scale is very small, most of them are small and medium enterprises (accounting for 98%), production and business efficiency is not high. The number of enterprises engaged in science and technology activities is also not many,



which slows down the improvement of the ability to develop and apply advanced technologies, thus making the overall development efficiency of the coastal area also low.

Fourthly, the labor factor has not yet created money for restructuring the economic sector towards sustainable development.

Labor quality is still low. The number of trained workers mainly works in the industrial sector, the majority of workers in the agricultural and service sectors are untrained and are mainly manual and simple workers.

Fifthly, the socio-economic and technical infrastructure is not modern and synchronous.

Compared with the speed of urbanization, the system of material and technical foundations and technologies of 06 localities is still limited, not enough to create a force for the process of restructuring the economic sector towards sustainable development. Information technology infrastructure, science and technology infrastructure is still poor, especially digital connection infrastructure and network security have not met development requirements in the context of Industry 4.0. Traffic infrastructure (especially branch roads connecting communes with main traffic axes, connecting with neighboring areas) has not been synchronously invested. This is also the cause of difficulties in consuming output products and attracting investment capital. The infrastructure for production is still lacking and has not been commensurately invested. Many communes lack fishing ports and fishery logistics infrastructure (some communes in Hoang Hoa, Quang Xuong, Hau Loc, Nghi Son districts), aquaculture infrastructure (for communes with potential for aquaculture, or animal husbandry) such as water supply and drainage systems, wastewater treatment is lacking and inconsistent. Many communes have not separated the infrastructure of domestic water supply and production water, etc.

#### **4. RECOMMENDATIONS**

Associated with the causes of inadequacies in economic sector restructuring in six coastal localities in Thanh Hoa, following urgent solutions are recommended:

Firstly, improving the effectiveness and efficiency of state management of economic sector restructuring.

Promoting administrative reform, continue to simplify processes and procedures, model documents, and shortening the time to resolve administrative procedures to create the most favorable conditions for organizations, businesses and individuals.

Continuing to strongly improve the open, transparent and attractive business investment environment. Promptly solving difficulties and problems of enterprises, bottlenecks in land, infrastructure, and administrative procedures to attract investors, especially strategic and capable investors. Great financial potential.

Improving the effectiveness of state management of natural resources and environment. Strengthening land management according to master plans and plans on land use, strictly handle violations. Localities need to overcome the backlogs in land management, especially in site clearance.

Strengthening state management in the field of public investment. Well implementing the medium-term public investment plans, in the immediate future are the periods of 2021 - 2025,

2026 - 2030 and annual plans. Prioritizing the arrangement of concentrated capital to invest in key projects, with breakthroughs and great spillover effects, and urgent works.

Improving state management capacity in planning formulation and implementation.

Secondly, continuing to promote investment capital attraction, create resources for diversified and dynamic economic development in the six localities.

- *Mobilizing the state budget capital*

+ Prioritizing Thanh Hoa's budget, and actively coordinate with ministries and central branches to take full advantage of targeted central support capital sources, Government bonds, and national target programs, preferential investment credit capital to invest in socio-economic infrastructure of 06 localities.

+ Within the framework of land law, have appropriate measures to mobilize maximum capital from land fund exploitation for urban and industrial development.

- *Enhancing the attraction of domestic and international resources for economic development in general and economic restructuring in particular.*

+ Implementing targeted, focused, and key investment promotion programs, focusing on investment promotion for large-scale projects with high added value, modern technology, and widespread impacts. Connecting the global production and supply chain, being environmentally friendly. Attracting investment capital from countries with potential capital, technology and management experience. Organizing image promotion and investment promotion to attract investors to coastal localities of Thanh Hoa.

Six localities highlighted their commitment and expressed their determination to implement the "2 companionship" commitment with investors: companionship in choosing investment locations, companionship in carrying out administrative procedures. 03 commitments: commitment to accompany investors in solving difficulties and problems, commitment to ensuring site clearance progress, commitment to improving infrastructure of roads, electricity, water, and communications.

Key areas calling for investment include: processing and manufacturing industry (with priority to attract: chemical production, petrochemical refining, petrochemical refining auxiliary, electronics and telecommunications, automobile manufacturing, cars, electrical and refrigeration equipment); investment in construction and exploitation of seascape business; building resorts, amusement parks; construction of infrastructure of industrial parks and urban areas; high-tech agricultural zone; etc.

Thirdly, developing high-quality human resources to meet the development requirements of businesses and the economy.

- Developing the region's common human resources in the direction of serving the development of the region's advantageous industries, protecting and developing the region's natural and human resources in the context of climate change.

- Establishing a network of education and training establishments and other social infrastructure to ensure vocational training, build innovation centers closely linked to



businesses, develop human resources, especially high-quality human resources, suitable for the local labor market as well as the export market and serving the production process and livelihood transformation, meeting the economic development needs of coastal areas.

Fourthly, increasing the application of science and technology in socio-economic activities.

- Increasing budget investment capital in facilities for science and technology organizations in the province. Synchronized investment in centralized software areas, information technology centers, research, technology incubation, high-tech business incubation, etc. to be able to master high technology and products related to high technology and put it into effective application in key economic sectors of the coastal region.

- Building the province's Technology and Equipment Exchange, commercializing the results of scientific research and technology development on the basis of closely linking science and technology activities with production and business through cooperation between science and technology organizations and businesses.

- Building organic links between 4 groups: managers, scientists, investors and manufacturers. Creating close cooperation between science and technology organizations and businesses. Provincial and local governments can issue a number of preferential policies on fees and charges when businesses transfer modern, environmentally friendly technology.

- Enhancing the application of technology in basic survey and assessment of the current status and potential of land of each area in each district, as a basis for determining suitable crops and livestock or industries, bringing about high productivity and efficiency.

Fifthly, strengthening linkages among six localities in all socio-economic development activities.

This linkage activity needs to go through a series of development programs, policies and plans; and need to be implemented in many aspects: industry linkages, linkages in production - processing - product consumption, internal linkages between functional entities, spatial linkages (intra-regional and inter-regional).

In linking industry development, identify the greatest similarities as well as the greatest advantages between districts in the development of specific industries and fields. From there, forming complementary industry chains and product chains within each district or between districts (for example, beach tourism - resort - seminar; production - processing - consumption; seafood catching - seafood processing - seafood consumption; handicraft production - craft village tourism; etc), thereby forming spatial links (intra-regional - inter-regional).

In development cooperation, strengthen the connection between coastal districts and between the district and Thanh Hoa in analyzing and evaluating the implementation and implementation of planning, ensuring cohesion and synchronization in the implementation between districts and provinces, between the province and the Central Government.

Sixthly, focusing on overcoming negative effects from economic sector restructuring.

Creating jobs for redundant workers in the process of modernizing rural agriculture. The number of redundant workers must be vocationally trained in accordance with the industrial and service development requirements of the localities.

Focusing on overcoming and solving environmental pollution caused by the development of a number of unselective industrial fields (due to outdated technology and equipment). It is necessary to promulgate regulations on conditions and standards as a basis for selecting investment projects, including FDI projects in coastal localities of Thanh Hoa, in accordance with local realities and preventing adverse impacts of these projects. Environmental standards should be included in the list of most essential criteria for selecting industries that encourage investment, production technology and products.

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# BUILDING A PROCESS FOR DEVELOPING STRATEGIC LEADERSHIP PERSONNEL AT THE LOCAL LEVEL

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**Abstract:** *The development of strategic leadership personnel at the local level has a significant impact on socioeconomic development. Recent experience has shown that any locality in the country that focuses on developing high-quality human resources in general and strategic leadership, in particular, will generate momentum for economic growth and improved living standards. Using qualitative research methods, the study has constructed a process for developing strategic leadership personnel at the local level, starting from creating an environment to attract high-quality human resources to appointing leadership positions. This process serves as the basis for localities to formulate strategies and plans for human resource development. The research is expected to be highly applicable and contribute to essential human resource development at the local level.*

**Keywords:** *Leadership, Strategic leadership, Process, Training, and development*

## 1. INTRODUCTION

Human resources always play a crucial role in the economic development and social stability of any nation. Especially in the realm of strategic leadership, this group not only defines the direction but also guides the nation toward its goals. At the local level, the role of the strategic leadership team becomes more prominent as their actions directly impact local growth and competitiveness. History has proven that the achievements of leadership are closely tied to economic outcomes and social well-being. Thus, leaders must possess independent thinking and decision-making abilities (IQ), as well as the capacity to enhance personal qualities and character to gain trust, respect, and consensus, building strong relationships (EQ) combined with effective communication, coaching, influence, negotiation, selection, prioritization, and leadership execution (XQ). In Vietnam, the people are directly involved in labor, production, and nation-building. Their interests are paramount and are the goals of all leadership and social management activities. Leaders have the role of setting strategic directions, educating, persuading, and organizing the masses toward resolving key issues to promote socioeconomic development aligned with the desires and benefits of the people. The leadership team can either restrain or facilitate the robust development of a locality or an entire nation, representing “the root of all work” (Ho Chi Minh, 2000). The authors believe that studying the process of developing strategic leadership personnel at the local level will provide theoretical foundations and recommendations, enhancing the quality of leadership teams.

The authors concentrate on addressing three main issues: (1) Approaches to strategic leadership research, (2) Current status of the development process of strategic leadership

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personnel at the local level, and (3) Proposed process. The content employs qualitative research methods using secondary data to verify theoretical foundations and policy recommendations. The article is structured as follows: Part 1 introduces the issue, Part 2 presents the theoretical basis, Part 3 describes the research methodology, Part 4 discusses research results, and Part 5 presents policy recommendations.

## 2. THEORETICAL BASIS

### 2.1. Literature Review

#### 2.1.1. Studies Published Abroad

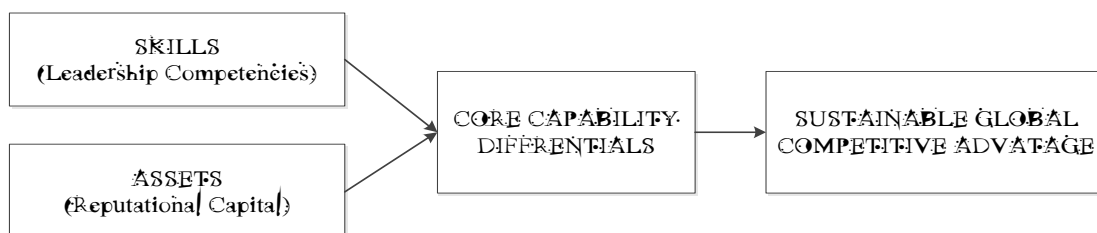
##### 2.1.1.1 Approaches from Leadership Theory

Recognizing the importance of the strategic leadership team within an organization, (Petrick J. A. and Quinn J. F., 2001) stated that business leaders are responsible for the core competencies of the organization. The authors emphasized ethical competencies in decision-making and behavior, ethics, and economic issues.

(Po Hu, 2007) proposed a new theory of strategic leadership development based on the enhancement of existing human resource development theories. This theory defined a new concept and model of strategic leadership development based on organizational resources, the impact of financial efficiency, and competitive capabilities. The proposed model included five components: individual development, training and development, organizational development, result-oriented management, and leadership development.

##### 2.1.1.2 Approaches from Economics

Considering human resources in general and leadership resources as critical assets within an organization, (Petrick et al, 1999) regarded reputation as a key element of social capital, reinforcing trust, reliability, and responsibility of an organization or industry on a global scale. The Strategic Resource Model of Petrick and colleagues (1999) demonstrated that strategic leadership and management capabilities at the strategic level are key intangible resources. Reputation capital contributes to a unique and essential capacity, acting as the key to sustainable competitive advantage in the 21st century.



**Figure 1.1: Strategic Resource Model of Sustainable Global Advantage**

*Source: Petrick et al., 1999*

##### 1.2.1.3. Approaches from Management and Leadership Science

(Finkelstein et al., 1996) with the book “Strategic Leadership - Theory and Research on Executives, Top Management Teams, and Boards” systematically reviewed studies and

defined the essence of strategic leadership, the scope of objects considered as strategic leaders (including top executives, top management teams, boards of directors, and some other components). Additionally, the authors also identified the tasks and nature of the work of leaders, strategic economic management within the economic management field, and the standard requirements for senior executive directors (Executive job demands), which include task challenges, performance challenges, and executive aspirations. This work synthesizes multiple theories and multi-faceted research on leadership, top executives, and boards of directors worldwide, providing practical references for this topic.

(Chin et al., 2001) The Global Leadership Competencies Model presented a model for developing global leadership competencies, encompassing three levels, from lacking global leadership competencies to possessing sufficient global leadership competencies. Another study by (Bueno et al., 2004) published “Exploratory study - Identifying global leadership competencies,” affirms the impact of globalization and science and technology, requiring new commercial theories and new leadership competencies. The study indicated the most important competencies of global leaders in the new context. (Finkelstein et al., 1996) the book “Strategic Leadership - Top Executives and Their Effects on Organizations” identified strategic leaders and strategic economic managers in developed countries, creating conditions to identify strategic leaders in Vietnam.

The research paper “Challenges of Transformative - Strategic Leadership in Developing Economies; An Analysis of Africa Leadership Approach in Economic Development” (Waichungo P. N, 2017) analyzed and identified the urgent need for transformation in leadership and management with strategic characteristics in economically developing countries, directly impacting the expansion of economic-political globalization in the 21st century. This study is a valuable reference for researchers of leadership, and strategic economic management in developing countries like Vietnam.

### **2.1.2. Studies Published Locally**

#### *2.1.2.1. Approaches to Building Vietnam's Political System*

Implementing the Party's resolutions of various periods, the Party and State have implemented these through research topics on leadership and management and issuing programs and policies to develop leadership human resources.

The report summarizing 20 years of implementing Central Resolution 3 of the 8th Party Congress on “Strategy for cadres in the period of promoting the cause of renovating the country and building the homeland” (March 23, 2018) by the Central Project Steering Committee 7 (Central Organization Committee, 2018a);

The project “Focuses on building a cadre team at all levels, especially strategic levels with sufficient qualities, capabilities, and prestige, commensurate with their tasks” (March 23, 2018) implemented by Central Project Steering Committee 7.

Compilation by Central Project Steering Committee 7: Feedback reports, submissions, and the project “Focusing on building a cadre team at all levels, especially strategic levels

with sufficient qualities, capabilities, and prestige, commensurate with their tasks” through nationwide seminars and conferences (March 2018).

Resolution of the 7th Central Executive Committee of the 12th term (No. 26-NQ/TW, May 19, 2018) on focusing on building a cadre team at all levels, especially strategic levels, with sufficient qualities, capabilities, and prestige, commensurate with their tasks.

Project “Establishing job title standards for cadres and criteria for evaluating cadres” (November 2017). The project is implemented by the Central Organization Committee.

Compilation of “Various differing opinions” (through seminars, and conferences in the North, Central, and South regions). Compilation by the Editorial Team of the “Establishing job title standards for cadres and criteria for evaluating cadres” project of the Central Organization Committee.

In general, the above documents and texts have thoroughly and scientifically researched on a large scale the construction of the cadre team, including strategic-level cadres in Vietnam’s new context by 2030. However, these important documents have only referred to strategic-level cadre teams in general, including all strategic-level cadres in various fields, without classifying cadres in economic fields from other fields. They have not yet differentiated, defined standards and criteria for strategic-level leadership cadres at local levels, nor specified the unique content requirements and methods for developing this cadre team during the period of international economic integration.

#### *2.1.2.2. Approaches from Competency Framework*

(Lê Văn Chiển, 2018) introduced a competency framework for strategic-level cadres in our country under new conditions, defining central strategic-level cadres as the leadership team of heads and deputies of agencies at the ministerial level (equivalent to ministries), heads (vice provincial party secretary, People’s Committee, Provincial People’s Council). Lê Văn Chiển’s (2018) competency framework approach introduces a new perspective compared to previous studies by not only focusing on the knowledge, professional qualifications, and skills of leaders but also on political qualities. These qualities are approached through criteria: Heart - Vision - Talent - Will - Virtue. The heart can be understood as generosity, compassion, ethical ideals, a sense of responsibility, dedication to work, and having a collective attitude. For a leader, having Heart means creating many positive values for the organization, treating others fairly, creating conditions to promote the organization’s development, and behaving ethically. Besides the responsibility to the organization, leaders need to be responsible to the community, and society. Talent is understood as the ability to work, problem-solving, having intelligence in managing organizational activities. Vision is identifying the strategy, and long-term goals of the organization, from which the organization is organized to achieve those goals. Will is determination, aspiration, and persistence toward set goals. Virtue is ethics or good thoughts, words, and deeds. The author also states that Heart - Talent - Vision - Will - Virtue are essential factors for a leader.

#### *2.1.2.3. Approaches from Economics*

(Đâu Văn Côi, 2020) with the Ph.D. thesis on “Building the Leadership Cadre Team of Vietnam’s Economic Strategic Management in the Context of International Economic



Integration” evaluated the current situation of the leadership cadre team, strategic management in economics in Vietnam, thereby proposing a core competency framework and training solutions for the leadership cadre team, strategic management in economics in Vietnam in the context of international integration. This is a well-researched thesis that collected various theories worldwide, especially during the research process, the author spent time studying leadership in Singapore and conducted surveys and interviews with many leaders abroad. A strong point of the thesis is connecting and interviewing high-level leaders of the Party and State. Regarding the value of the thesis, it provides an overview of leadership in economic management.

## **2.2. Basic terminologies**

### **2.2.1. Leader**

A leader is an individual at the head of an organization, the subject who makes decisions using authority, power, and position as stipulated by the constitution and laws, combined with non-authority elements to command change and achieve set goals (Nguyễn Bá Dương, 2015).

### **2.2.2. Strategic-level Leadership Human Resources**

Strategic-level officials have been mentioned extensively in wartime and the present day. In personnel work, strategic officials are understood in various senses as follows: (1) Strategic officials constitute a cadre group with a vital role in determining the revolutionary cause of a country, locality, or sector; (2) They are high-level Party and State officials; (3) They are officials with strategic vision, possessing good qualities, high competence, and are utilized and developed in the long term (Đỗ Việt Cường and Nguyễn Việt Lộc, 2016). Strategic-level officials are the most critical part of personnel work, holding key positions in building and safeguarding revolutionary achievements. This group has the task of directing and governing the country and has a decisive role in the development of the nation. According to (Nguyễn Phú Trọng and Trần Xuân Sâm, 2001), strategic-level leadership human resources, known as strategic officials, can be divided into three groups: (1) The group of national political leaders - politicians; (2) The group of leaders at a macro level; (3) The group of strategic experts and advisors in each sector and field. According to the regulations of the Communist Party of Vietnam, the strategic-level leadership human resources at the central level include senior officials belonging to the Politburo, managed by the Secretariat (Central Executive Committee, 2021). As of June 2017, Vietnam had 610 strategic-level leadership human resources (Central Organization Committee, 2018b).

### **2.2.3. Local-level Strategic Leadership**

Local-level strategic leadership is understood as the human resources managed by the Standing Committee of the Provincial Party Committee. For each locality, the Provincial Party Committee will issue its regulations, usually involving individuals such as members of the Standing Committee of the Provincial Party Committee, members of the executive party committee at the provincial level, the Party Secretary, and the Chairman of Districts, Towns under the province, deputy heads of units under the province (Author group synthesis).



### 3. RESEARCH METHODOLOGY

The author group employs a qualitative research method (Nguyễn Văn Thắng, 2015) from a multi-actor perspective, a theoretical framework used to understand and analyze complex societal issues or systems by focusing on interactions and relationships among multiple actors or stakeholders participating in the system or issue. The multi-actor perspective assumes that no single actor or group of actors can fully explain or solve a complex issue or societal phenomenon by themselves and that the perspectives, interests, and actions of all relevant actors in the system or issue need to be considered.

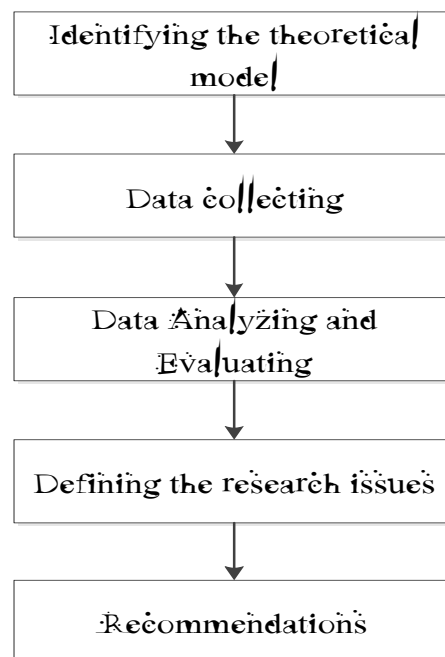
#### *Research Data*

The data used in the study mainly consist of secondary data collected from connected papers, ScienceDirect, including reputable articles and journals worldwide in the fields of leadership, public administration, and personnel. These data are used to clarify the theoretical foundation of leadership, strategic leadership, training and development, and public administration management. Additionally, secondary data are collected from official reports from the Government of Vietnam and experts in workshops, as well as reputable domestic journals.

#### *Data Analysis Method*

To achieve the research objectives, the researcher uses the model analysis method based on the theoretical model proposed by (Saunders et al, 2010). The researcher synthesizes research methods into the following model.

**Figure 2.1: Research Methodology Model**



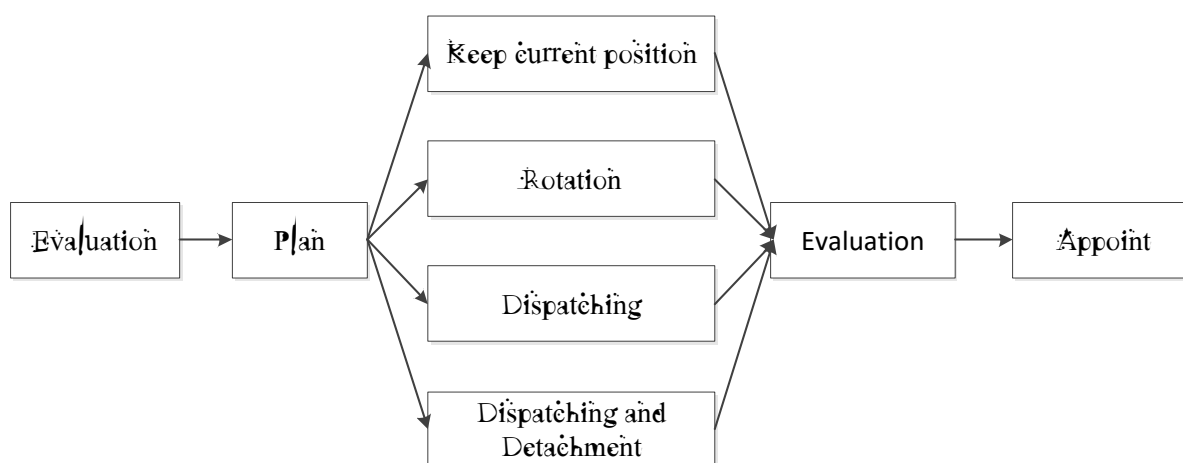
*Source: Compiled by the author based on Saunders et al., (2010)*

### 3. DISCUSSION OF RELEVANT SIGNIFICANCE TO THEORY (DISCUSSION: SUSTAINABILITY ISSUES AND POLICY IMPLICATIONS)

Recognizing the role of personnel work in the innovation process, our Party and State have issued numerous policy directions to streamline the administrative apparatus, create a competent civil service, progressively enhance the effectiveness of organizations from central to local levels, and restructure agencies, departments, and sectors. The fundamental cadre team has been rejuvenated and structured in line with principles of democracy, equality, and harmony among ethnic groups and regions, as well as considering diverse demographics. The qualifications of cadres have been raised, and the gender and age structure has become more rational. The training and development system for cadres within the political system has been strongly invested in. The legal framework has been continually improved to suit practical situations. To concretize the cadre work, both the Party and the State have issued various guidance documents. Specifically, the Party and State documents such as resolutions from Party congresses, laws enacted by the National Assembly, documents outlining Party cadre work, implementing guidance documents from the Government, and regulations from Provincial Party Committees and Provincial People's Committees have provided detailed instructions for this work.

Summarizing research data, analyzing and synthesizing, the author group finds that the current process of developing strategic-level leadership human resources at the local level is being implemented through the following steps:

**Figure 3.1: Development of Local Leadership Human Resources**



*Source: Compiled by the author's research group*

#### **Step: Evaluation of Civil Servants**

This step is stipulated in Regulation No. 214-QD/TW dated January 2, 2020, by the Central Committee of the Communist Party of Vietnam regarding the framework of title standards and evaluation criteria for officials under the Central Committee, the Politburo, and the management by the Secretariat. Regulation No. 132-QD/TW, dated March 8, 2018, by the Central Committee of the Communist Party of Vietnam about reviewing and evaluating, classifying the annual quality of collectives, individuals in the political system; Decree No.

90/2020/ND-CP, dated August 13, 2020, by the Government about evaluating and classifying officials, civil servants, and public employees.

### **Step: Cadre Planning**

Based on the evaluation results, civil servants are planned into positions with leadership and management roles as guided by Regulation No. 50-QD/TW dated December 27, 2021, by the Central Committee of the Communist Party of Vietnam regarding cadre planning work. Guidance No. 16-HD/BTCTW dated February 15, 2022, by the Central Committee Organization Board further clarifies this.

### **Step: Transfer and Special Assignments**

Subsequently, the work of transferring and special assignments is carried out according to Regulation 65-QD/TW dated April 28, 2022, regarding the rotation of officials.

### **Step: Appointment of Officials**

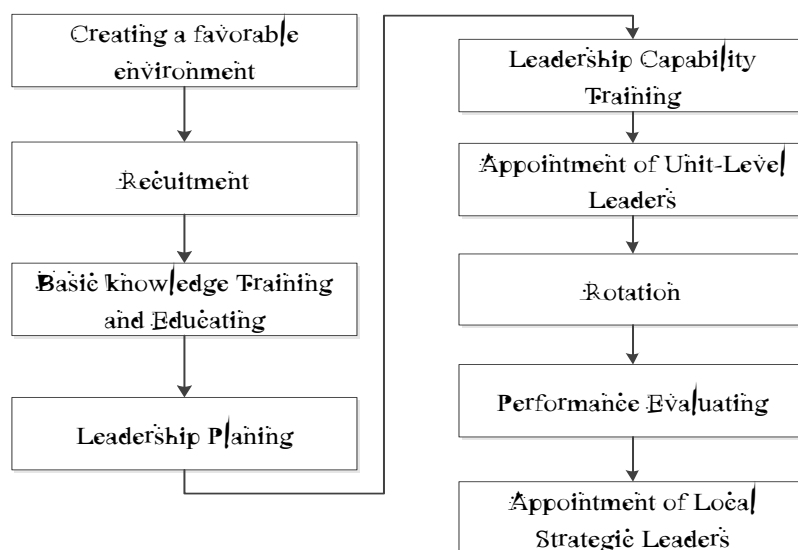
For appointments to high positions, guidance is provided by Regulation No. 80-QD/TW dated August 18, 2022, by the Central Committee, outlining the delegation of authority for cadre management and appointment, and introducing nominated officials.

In addition to the guidance documents provided by the Central level, local areas also have their specific guidelines for each content, including general regulations and specificities of each province.

The current process of developing leadership human resources shows that despite having comprehensive guidance documents for each step, the regulations remain quite general and lack clear criteria for leadership at various levels. Alongside this, the identification and cultivation of talent mainly come from the recruited cadre and civil servant teams. Moreover, the working environment in the private sector is more competitive due to income, benefits, and equal development opportunities, attracting many talents away from the public sector. According to the Ministry of Home Affairs, in the period from 2020 to June 2022, 39,552 civil servants and public employees left the public sector, accounting for 2% of the allocated positions (My Anh, 2022). The strategic-level leadership sector at the provincial level managed by the Provincial Party Standing Committee requires focused development. Currently, localities lack a long-term strategy for developing high-quality human resources, closely linked to specific plans or a clear process to comprehensively address existing issues.

## **4. CONCLUSION**

Through the discussion of the relevant research content, the author group finds that the development of strategic-level leadership human resources at the local level needs to be carried out systematically, with a strategic approach and a well-defined process. This process should outline each step of implementation to create coherence, consensus, and objectivity. Especially, the strategic-level leadership team at the local level increasingly has to meet the requirements of international integration and the world's VUCA situation (Volatile, Uncertain, Complex, and Ambiguous). After researching and synthesizing relevant documents, the author group proposes a sustainable process for developing strategic-level leadership human resources at the local level.

**Figure 2.1: Process of Developing Strategic Leadership Human Resources**

*Source: Compiled by the author's research group*

#### 4.1. Creating a Favorable Environment

\* Criteria for Individuals: Building a favorable environment involves establishing standard concepts within the environment and ensuring the quality of individuals living in it. This environment consists of individuals with qualities such as (1) Belief in the Party and State's leadership direction; (2) Humility; (3) Honesty; (4) Love and compassion responsibility towards oneself, family, organization, and the country.

Selecting outstanding individuals from this human resource pool will contribute to effective and ethical local governance, as well as leading local socio-economic development.

\* Establishing Standard Beliefs: Alongside human factors, a good environment is one where everything is transparent, open, and unified in terms of definitions and standards for each department and position. This contributes to a unified understanding and approach, ensuring equal access to information and advancement opportunities for everyone. These standard beliefs are synthesized into the organization's data.

#### 4.2. Recruitment

Recruitment is carried out based on the standards set for officials in the sector or organization and the criteria for good officials within the organization. This is a crucial step in selecting capable officials with aspirations and a spirit of service. The sources for recruiting public officials include:

- Graduates from domestic and foreign universities.
- Employees of state-owned enterprises within the region.
- Personnel working at research centers and universities.
- Officials from other agencies.

- Skilled workers with appropriate qualifications.

Recruitment methods can include competitive exams, evaluations, or transfers. Competitive exams and evaluations can be applied to all candidates, while transfers are more relevant for officials with prior experience.

#### **4.3. Basic Knowledge Training and Development**

For individuals lacking experience in the state administrative sector, training is essential on Vietnam's political system, regulations for specialists, and basic management skills. The training should integrate programs:

The current public sector already has training programs in state management.

Besides specialized training, personnel should be trained in the right mindset for working within the public system, emphasizing the importance of their roles and responsibilities and their attitudes towards service and colleagues. This comprehensive training helps maintain a positive environment and accelerates the maturity process while minimizing errors during duty execution.

#### **4.4. Leadership Planning**

The purpose of cadre planning, as defined by the Central Committee (2004), is to (1) ensure proactive and strategic engagement among officials, address leadership gaps, ensure succession, and maintain stability and internal unity; (2) cadre planning is based on the general goals of the local area, sector, and organization. It ensures gender and age diversity according to general regulations. The process relies on the annual evaluation of officials to identify individual capabilities and place them in appropriate positions. Planning should involve both direct management proposing candidates and HR departments.

#### **4.5. Leadership Capability Training**

Leaders need to have appropriate capabilities for both leadership positions and their specialized roles. They lead the organization to achieve the best outcomes with available resources.

#### **4.6. Appointment of Unit-Level Leaders**

The appointment of unit-level leaders can involve in-place appointments or competitive selection, attracting high-quality private sector talent, particularly those with successful business experience. The organization should not only manage current civil servants but also explore high-quality human resources in the private sector.

#### **4.7. Rotation**

The goal of the rotation is to train and challenge officials to further develop comprehensive practical knowledge. It should be based on practical requirements for leadership positions and the capabilities of individuals.

#### **4.8. Performance Evaluation**

Performance evaluation involves collecting information about an individual's work process, including task execution, leadership outcomes, behavior, communication skills, and more. This feedback helps assess the effectiveness of leadership development, and it serves as a reference for appointments, further training, and utilization.

#### 4.9. Appointment of Local Strategic Leaders

The appointment of strategic leaders is carried out following instructions from the Central level and local authorities. Thorough consideration and review are crucial before appointments are made.

#### 5. FUTURE RESEARCH

Research on leadership development, especially at the strategic level in provinces, still has gaps in content and theoretical foundations. The author group continues to research related issues in this field, focusing on constructing a portrait of strategic local leaders.

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# IMPACT OF THE RUSSIA - UKRAINE CONFLICT ON THE WORLD AND VIETNAM ECONOMY

Dr. Lai Lam Anh<sup>1</sup>

**Abstract:** *The Russia - Ukraine conflict has had a major impact on the regional and world economy. The conflict has had the effect of increasing the prices of some commodities such as food, energy, precious metals and many other commodities. Moreover, the war also had a major impact on the stock market, currency market, increased inflation, economic recession, etc. As an open country and deeply integrated with the world economy, Vietnam's economy has to face both positive and negative impacts. The article will focus on analyzing the current situation of the conflict, the reactions of countries to the conflict and the impacts of the Russia - Ukraine war on the world economy and Vietnam.*

**Keywords:** *Conflict, war, Russia, Ukraine, economic development, Vietnam.*

## 1. OVERVIEW OF THE RUSSIA - UKRAINE CONFLICT

On February 24, 2022, Russia conducted a “*Special Military Operation*”, sending troops into Ukraine. The Russian - Ukrainian conflict actually started the Maidan revolution that broke out in late 2013 and early 2014. This was a protest by Ukrainian people in Kyiv’s Maidan Square to protest President Yanukovich for his actions from refusing to sign an association agreement with the EU, even though it had been initiated a year earlier. The protest was initially peaceful, but became radicalized. The initial protest in Kyiv’s Maidan Square in late 2013 later spread to other cities mainly in Western Ukraine. This movement is called the Euro-Maidan democratic revolution. The protest later turned into armed clashes that reached its peak on February 19 and 20, 2014. Protesters were backed by police units, the army and some wealthy tycoons. As a result, President Yanukovich was forced to flee to Russia. The Ukrainian Parliament elected Oleksandr Turchynov as interim President on 23 February and Arseniy Yatsenyuk as head of the interim government on 27 February 2014. At that time, Russia condemned the protest, considered it was a Western conspiracy against Russia and described the transfer of power in Kyiv as a “coup by a fascist group”.

The Crimean peninsula is the region with the most Russian population in Ukraine. Crimea was formerly a Russian land, but was officially annexed by the Soviet Union into the Ukrainian Soviet Republic in 1954. Russia still maintains the Sevastopol naval base in Crimea. At the end of February 2014, soldiers without national insignia occupied the parliament, government buildings and airport in the capital Simferopol. The new government formed on 6 March announced that Crimea would be annexed by Russia, which was confirmed in a controversial referendum on 17 March. The Russian Federation recognizes Crimea as part of Russia on March 20, 2014.<sup>2</sup>

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<sup>2</sup> Andreas Kappeler I (2015), *Lược sử Ukraine (P4): Cách mạng Maidan và cuộc can thiệp vũ trang của Nga*, <https://nghiencuuquocte.org/2022/04/09/luoc-su-ukraine-p4-cach-mang-maidan-va-cuoc-can-thiep-vu-trang-cua-nga/>

The climax of the Russia-Ukraine conflict was that Russia sends troops directly to Ukraine on February 24, 2021. Up to now from the time Russia's military intervention in Ukraine has entered its third year but there is still no sign of ending.

Russia's sending troops into Ukraine has faced strong opposition from the US and the Western countries. They have imposed more than 13,000 sanctions directed to Russia. This is the largest number of sanctions ever imposed. That is more than the sanctions imposed on Iran, Syria, North Korea, and Cuba combined.<sup>1</sup>

In response, Russia also applied a number of measures such as limiting energy exports to EU countries, only exporting oil and gas to friendly countries, and not accepting USD when exporting oil and gas,... causes energy prices, gold prices, food prices and many other products in the world to increase. Pushing the world into recession. The Russia - Ukraine conflict has had many impacts on the world economy in the context of many changes in the world such as the US - China trade war, the COVID-19 pandemic, the fourth technological revolution, etc. making the already unstable world economy to be even more unstable.

## **2. THE WORLD'S REACTION TO THE RUSSIA - UKRAINE CONFLICT**

### **2.1. Reaction of the US, EU and America's allies**

The US, the West and its allies have: (1) Speak up and call on the world to oppose Russia's actions; (2) Support for the Ukrainian army and its government; (3) Imposing embargoes and sanctions. Embargoes and sanctions focus on:

- Sanctions on the Russian financial and banking system: On February 26, seven banks of Russia were removed from the SWIFT payment system by the US, UK and EU, causing difficulties for export and import activities of Russian companies. Britain announced a freeze on all assets of Russian banks, to prevent large Russian companies from raising capital in the UK. At the same time, Russian banks will be banned from accessing the British pound market and clearing activities here. Sanctions caused the Russian ruble to fall to record levels. Because of Russia's importance in supplying gas to the EU, banks such as Sberbank and Gazprombank, which are Russia's oil and gas payment channels, are not on the sanctions list. This also demonstrates the EU's dependence on gas and oil from Russia.

- UK and US announce ban on import of oil and refined products: On March 8, 2022, US President Joe Biden issued a ban on all imports of Russian oil and gas. The US is considered less dependent on Russian energy than Europe. In 2021, on average, Europe imports about 4.5 million barrels of oil from Russia every day<sup>2</sup>, while the US imports just over 20.4 million barrels of crude oil and petrochemical products from Russia, accounting for 8% of fuel imports of American liquid ingredients<sup>3</sup>. Russia supplies about 40% of Europe's gas needs and 30% of

<sup>1</sup> Valerii Nozhin & Daniel Bellamy (2023), Are the economic sanctions against Russia actually working?, EURONEWS, <https://www.euronews.com/2023/06/28/are-the-economic-sanctions-against-russia-actually-working>

<sup>2</sup> Eric Reguly (March 7, 2022), "*Banning Russian oil exports might hurt Europe far more than the U.S. or Russia - and Vladimir Putin knows that*", The Global and Mail.

<sup>3</sup> The U.S. Energy Information Administration (EIA) (March 22, 2022), "*The United States imports more petroleum products than crude oil from Russia*", Today in Energy.

its oil needs. At the same time, the EU also announced a plan to reduce dependence on Russian gas with measures such as finding new gas sources, increasing reserves and improving energy consumption efficiency.

- Ban the export of hundreds of Russian items and stop providing services to Russian entities. The US Department of Commerce has just announced a list of nearly 600 luxury items banned from export to Russia and Belarus from March 16. These items included spirits, cigarettes, clothes, jewelry, vehicles, antiques, snowmobiles, handbags, suitcases, carpets, coral... French Foreign Minister Jean-Yves Le Drian also said that the European Union (EU) has imposed new sanctions on Russia, effective from March 13. The sanctions include a ban on imports of Russian iron and steel, as well as a ban on exports of luxury goods and investment in Russia's oil industry. A series of multinational companies announced the suspension of work in Russia, including Apple, Intel, Microsoft, ExxonMobil, Ford and many others. Two card payment companies Visa and Mastercard simultaneously stopped operating in Russia on March 5, following American businesses suspending operations in Russia due to the war situation in Ukraine. On March 6, several other major companies including sports shoe maker Nike, Swedish home furnishings retailer IKEA and French bag maker Hermes announced they would close stores and representative office due to trade restrictions, supply shortages and political pressure in Russia.<sup>1</sup>

- Aviation embargo: The EU has announced that any aircraft operated by Russian airlines will be banned from landing and taking off on EU territory or flying over EU territory, except in emergencies (February 27, 2022), prohibiting the provision of Russian aircraft maintenance services. The US also took similar measures and stopped aviation cooperation with Russia (February 28, 2022).

## **2.2. Russia's reaction to American and Western actions**

In addition to implementing the campaign in Ukraine as planned, Russia also has drastic reactions to retaliate against the actions of the US, the West and the US Allies, included:

- Russia closed the airspace with 36 countries and territories, including all 27 EU members, Albania, Canada, Norway, Iceland and UK (February 28, 2022).

- On March 5, 2022, Russia announced that the Yamal - Europe pipeline had suspended all sources of gas to the West, the flow from Russia to Germany was suspended from indefinitely.

- On 23/3/2022, the Russian President announced the application of Ruble gas payment to unfriendly countries (the Ruble exchange rate increased rapidly against the USD and EUR).

- Russian President Putin banned people from transferring money to abroad, Russian exporters had to reserve 80% of Rubles. The Central Bank of Russia raises basic interest rates from 9.5% to 20% to offset the risk of the currency devaluation and the risk of inflation<sup>2</sup>.

<sup>1</sup> Kate Gibson và Irina Ivanova (2022), "These are the corporations that have pulled out of Russia since its invasion of Ukraine." CNBC.

<sup>2</sup> Bình Minh (2022), Nga nâng gấp đôi lãi suất lên 20% để chặn đà sụp đổ của đồng Rúp, VnEconomy, <https://vneconomy.vn/nga-nang-gap-doi-lai-suat-len-20-de-chan-da-sup-do-cua-dong-rup.htm>

### 2.3. Reaction of other countries

Most countries in the world reflect the Russian actions and argue that the attack on a country with sovereignty is a violation of international law.

On March 2, 2022, in New York, USA, the United Nations General Assembly approved the Resolution condemning the Russian military campaign in Ukraine, which also “asked Russia to immediately withdraw all military forces out of Ukraine, in the internationally recognized, comprehensive and unconditional international border”, the voting results: 141 states vote in favour of the motion, 35 abstentions, 5 against.

The voting results showed that 35 countries still did not condemn Russia’s implementation of a special military campaign in Ukraine.

Although voting, many people think that China has supported Russia in terms of diplomacy and economy but does not support military. Earlier, on February 4, 2022, Putin went to Beijing to open the Winter Olympics and declared to President Xi Jinping about an “unlimited” relationship between the two countries. Chinese media also emphasized that the two countries “shoulder shoulder in maintaining justice in the world”<sup>1</sup>.

## 3. THE IMPACT OF RUSSIA - UKRAINE CONFLICTS TO THE WORLD AND VIETNAM

### 3.1. Impact on the world economy

*Firstly, the Russian - Ukrainian conflict will impact reducing economic growth, increasing inflation and reducing international trade activities.*

The Russian - Ukraine conflict occurred at a time when the world has just spent two years of suffering because of COVID-19 and is expecting the rehabilitation phase of the post of COVID-19. Therefore, the longer the Russian -Ukrainian conflict, the more multi-level impacts in the global scale, especially in the field of energy, food and finance. According to the WB (2022) assessment, the world trade will decrease by 1%, reducing global GDP by 0.7% and GDP of low-income countries decreased by 1%.

The polarization and confrontation between the US - China - Russian parties by the trade war, the epidemic of COVID -19, the conflict of Russia - Ukraine caused the price of essential items to increase strongly, leading to rising global inflation. In 2022, the global inflation rate was 8.3 percent. In the EU it was 8.8 percent. For the United States, a year-over-year price increase of 8.0 percent was determined<sup>2</sup>. It is forecast that high inflation may last until the end of 2023 and may continue for a few more years.

*Secondly, the price of energy and metal prices, especially precious metals or metals for industrial production, has increased costs, leading to cost-push inflation in a large scale at almost all countries in the world.*

The world economy is at risk of severe recession than ever. Brent oil prices sometimes reach 130 USD/barrel, an increase of more than 30% after about a month. Metal prices, especially

<sup>1</sup> Yew Lun Tian (2022), “Analysis: China would back Russia, diplomatically, if it moved on Ukraine”, Europe, Reuters

<sup>2</sup> World Data (2023), Inflation rates in a global comparison, <https://www.worlddata.info/inflation.php#:~:text=In%202022%2C%20the%20global%20inflation,of%208.0%20percent%20was%20determined.>

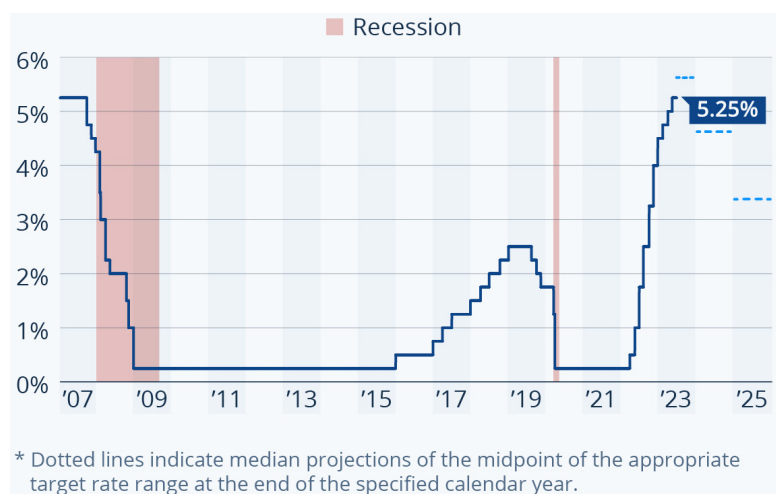
metals for industrial production that Russia and Ukraine are the main exporting countries such as Platinum, Nickel, and Uranium also soared. Nickel price (a substance used in metallurgical industry, rechargeable battery, casting, plating ...) sometimes up to about 50,000 USD/ton<sup>1</sup>.

When the Russian - Ukrainian conflict lasted, analysts said the world could fall into an equivalent crisis, even worse than the oil crisis of the year 70s of the last century. JP Morgan Financial Service Company predicts that oil prices are also likely to increase to \$ 175/barrel in the coming years.

Facing that situation, industrial countries develop and consume a lot of energy and resources such as the EU are the most damaged countries. Energy exporting countries such as Iran, Iraq, Kuwait, Saudi Arabia and Venezuela,... (OPEC countries) are the most beneficial countries.

Rising energy prices in the EU will create the risk of making industrial production in this region no longer effective due to rising costs. The Russian - Ukrainian conflict is currently in danger, which will result in many industries in the EU dependence on the energy will fall into bankruptcy or forced to leave the factory from Europe to another area to produce more effectively.

The high price of energy and goods increased, leading to increased inflation, leading to a wave of tight monetary policy that takes place in all over the world with unprecedented rapid pace for decades. From the data of central banks, many of these countries have to raise their interest rates. On July 26, 2023, the US Federal Reserve (Fed) raised an interest rate by 0.25 percentage to 5.25%, raising the policy interest rate to the highest level in 22 years from 2001 to 2023 and left open will continue to have another interest rate hike. The dollar acts as an international reserve currency, so the US interest rate increase not only affects foreign capital but also highly pushing the risk of global debt, especially for emerging economies and are developing.<sup>2</sup>



**Figure 1: U.S. federal funds rate 2007-2025**

Nguồn: US.S. Federal Reserve (Felix Richter, 2023)<sup>3</sup>

<sup>1</sup> Camille EricksonKip KeenGaurang Dholakia (2022), Nickel price spike, LME trade halt presage extended nickel deficit, <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/nickel-price-spike-and-lme-trade-halt-presages-extended-nickel-deficit-69269697>

<sup>2</sup> Felix Richter (2023), Fed Pauses Rate Hikes But Signals More to Come, STATISTA, <https://www.statista.com/chart/21023/us-federal-funds-target-rate/>

<sup>3</sup> Felix Richter (2023), Fed Pauses Rate Hikes But Signals More to Come, STATISTA, <https://www.statista.com/chart/21023/us-federal-funds-target-rate/>



*Third, the world's food supply is rapidly decreasing, fertilizer prices are escalating, and the world is facing the risk of food shortage.*

Ukraine is the country with the best agricultural land in Europe, a country known as Europe's bread basket. Both Russia and Ukraine are two countries that together account for about 25% of global wheat exports and 16% of global corn exports. Wheat prices increased to 12.94 USD/bushel, the highest since 2008.

The Russia-Ukraine conflict has pushed up agricultural product prices and threatened the global agricultural supply chain. Up to now, the price of wheat has increased by about 35%, the price of corn has increased by 17%, the price of soybeans has increased by 8%... Some forecasts of international organizations say that the conflict could push 250 million people into poverty.<sup>1</sup>

Previously, in 2021, fertilizer prices in the US also increased nearly 80% over the same period last year - the highest level since November 2008<sup>2</sup>. Fertilizer prices in the world have also increased, many countries such as China and Russia have banned the export of certain types of fertilizers. Prices of Urea, UAN and Ammonia increased. Ammonia price in the US increased to over 1,300 USD/ton, previously 1,135 USD/ton. Escalating fertilizer prices seriously affect the cost of input production in agriculture, making the world food crisis more serious than ever.

*Fourth, losing investor confidence in the financial market, disrupting the global supply chain and reducing international trade activities.*

This is reflected in the fact that many investors have withdrawn from the stock market, stock indices have lost points, and gold and precious metal prices have skyrocketed. The global supply chain faces serious disruption and rising costs when the air transport industry is affected by bans. In addition, the global supply chain is also affected because shipping by sea or air via Russia and Ukraine is facing difficulties. While some seaports in Ukraine are one of the important transit places for goods on the Black Sea coast, Russia's attack on these areas will cause transportation to be halted for a long time. Fighting near seaports in Ukraine makes transporting goods through the area very dangerous.

The US and the West's exclusion of a number of Russian banks from the international interbank financial telecommunications association (SWIFT) pushes Russia and many countries around the world to look for other solutions. although they may be less secure than SWIFT, in payments, China's cross-border interbank payments system (CIPS) could benefit from this one. Denying Russia access to international financial markets as well as import and export markets for important goods could achieve the goal of putting pressure on the Russian economy, but at the same time forcing other economies to find alternative supply sources, find new consumer markets and find suitable payment methods.

<sup>1</sup> Văn Hiếu (2022), Xung đột Nga-Ukraine kéo dài làm thế giới đối mặt nhiều hệ lụy, Quân đội Nhân dân, <https://www.qdnd.vn/quoc-te/doi-song/xung-dot-nga-ukraine-keo-dai-lam-the-gioi-doi-mat-nhieu-he-luy-696392>

<sup>2</sup> Steven Burke (2022), Fertilizer prices are hammering farmers: What does that mean for agricultural prices? FOCUS ECONOMICS, <https://www.focus-economics.com/blog/posts/fertilizer-prices-are-hammering-farmers-what-does-that-mean-for-agricultural-prices>

*Fifth, forcing many countries, especially European countries, to increase defense spending, causing a significant impact on economic development.*

Countries in the EU, especially NATO member countries, are the countries that feel most worried about security issues in the region. Therefore, they are forced to increase their defense spending budget. Increasing national budgets will force these countries to cut budgets for other activities. Increasing the defense budget also benefits for exporting weapon countries, especially the United States. In that context, budget spending on economic development goals is significantly affected.

### **3.2. Impact on Vietnam's economy**

#### **- Positive impacts:**

Vietnam can benefit from the Russia - Ukraine conflict in some of the following economic areas:

+ When the US and the West apply sanctions on Russia, it creates opportunities for Vietnamese businesses to enter the Russian market. In particular, Russia is looking towards Asia and Vietnam will be an important destination for Russia. The world's leading economies leaving the Russian market are also economies that have new generation FTAs with Vietnam. This is an advantage that Vietnam can grasp, turning the Vietnamese market into the global supply chain.

+ In case Russia continues to be embargoed and Russian products cannot be exported to the EU as well as Ukraine's export industries are stagnant, Vietnam has a great opportunity to increase its proportion of export to EU market. It can be said that steel export is one of the industries benefiting greatly in the current period, with world steel prices starting to recover after the pandemic, the demand for production and construction using steel products is more increasing day by day. Large enterprises producing and exporting steel from Vietnam to the EU can benefit if they seize this opportunity. The EU is the third largest market of Vietnam among steel export markets, accounting for 12.56% (about 2.9 million tons of steel). Since the EVFTA Agreement took effect, Vietnam's steel industry has witnessed great progress and steel output exported to the EU market has steadily increased. Commodity industries such as aluminum, fertilizer and seafood could be the main beneficiaries because Russia is the world's leading supplier of steel, metals and fertilizers. Sanctions targeting Russian exports could increase commodity prices in the short term, with a positive impact on manufacturers in Vietnam. Pangasius export is one of the industries that can benefit from Vietnam's advantages. Specifically, the EU is currently importing 160,000 tons of pollock from Russia each year, accounting for about 19% of total pollock imports to the EU. This is considered a product that directly competes with Vietnamese pangasius in the EU market and can replace each other. In contrast, the EU is currently Vietnam's fourth largest pangasius export market last year. If Vietnam make good use of this opportunity and the effectiveness of the EVFTA Agreement, Vietnam's pangasius industry will have many advantages to penetrate deeper into the EU market.

+ However, opportunities come with pressure and motivation to accelerate institutional reform and build business strategies of enterprises to create motivation for development.



**- *Negative impacts:***

Regarding the negative impact of the Russia - Ukraine war, it comprehensively affects the world economy both directly and indirectly, and of course including Vietnam.

+ First is the negative impact on import and export, Vietnam has trade activities with both Russia and Ukraine. The war made it difficult to transport goods, costs and prices increased, and payments were not made. Indirectly, Russian - Ukrainian investment in Vietnam is also affected. The import-export and investment activities with Russia and Ukraine are greatly affected. The cost of goods increased, the global supply chain was broken. In short, the war has a direct impact on transportation activities, goods transactions, trade from the air, by road, by sea... However, the scale of trade between the two countries according to Vietnamese statistics with Russia it is about 1% of total import-export value of Vietnam. This number is not large but will have a certain impact.

+ The indirect impacts will be greater, the war affects the global economy and the global economy always affects Vietnam. It is likely that this indirect impact will greatly affect Vietnam's economic recovery after COVID-19 pandemic. Because Vietnam's economic recovery must also depend on the recovery of common markets and partner countries. If many economies are affected, Vietnam also can be affected. Pressure on inflation will increase, with the most obvious impact being the increase in domestic gasoline prices, which directly impacts transportation businesses and consumers, putting great pressure on Vietnam's inflation. Managing prices and inflation in the coming time will be very difficult because the risk of world oil prices is huge. Furthermore, this is imported inflation, cost-push inflation and is difficult to control comprehensively.

+ The impact causes difficulties for Vietnam's payment activities with Russian partners. Immediately after 7 Russian banks were imposed sanctions and excluded from the SWIFT global payment system, the State Bank of Vietnam sent an urgent dispatch to commercial banks requesting a review of their operating payments of Vietnamese businesses with Russian partners through the commercial banking system, as well as reporting on the situation of cooperation between banks themselves with the Russian market. This is considered very important in helping Vietnamese banks and businesses be proactive in transactions and payments with Russian partners. The immediate exclusion of many Russian banks from the SWIFT system makes it difficult for Vietnamese businesses exporting goods to Russia to make payments.

#### **4. CONCLUSION**

The Russia - Ukraine conflict has had many impacts on the world economy in general and Vietnam in particular. The Russia - Ukraine war has resulted in: (1) reduced economic growth, increased inflation and a decline in international trade activities; (2) soaring energy and metal prices, especially precious metals or metals used for industrial production, have increased costs, leading to the risk of cost-push inflation occurring on a large scale in the almost countries; (3) the world's food supply is rapidly decreasing, fertilizer prices are escalating, and the world is at risk of food shortage; (4) loss of investor confidence in financial markets, disruption of global supply chains and decline in international trade activities; (5) forcing many countries,

especially European countries, to increase defense spending, causing significant impact on economic development. In addition to its impacts on the world, the Russia - Ukraine war also has both negative and positive impacts on Vietnam's economy. The negative impacts are: (1) transportation of goods is difficult, costs and prices increase, payments are not made; (2) great impact on Vietnam's economic recovery due to the world economic decline; (3) causing difficulties for Vietnam's payment activities with Russian partners. The positive impacts are: (1) creating opportunities for Vietnamese businesses to enter the Russian market; (2) there is a huge opportunity to increase the proportion of exports to the EU market; (3) opportunities come with pressure and motivation to accelerate institutional reform and build business strategies of enterprises to create motivation for development. It can be said that up to now, despite both positive and negative impacts from the Russia - Ukraine conflict, Vietnam's economy has gained momentum of growth and development with many optimistic forecasts.

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# ECONOMIC DEVELOPMENT ASSOCIATED WITH ENVIRONMENTAL PROTECTION IN VIETNAM

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**Abstract:** After over 35 years of renovation, Vietnam has achieved tremendous achievements in many fields. However, the faster the socio-economic development, the more negative impacts on the ecological environment as the socio-economic development process uses a lot of natural resources causing resource depletion and pollution. This article will apply several qualitative research methods to briefly analyze the current economic development situation with environmental issues and environmental protection in Vietnam in recent years. Then, several solutions will be proposed for economic development associated with environmental protection in the period up to 2030 with the aim of sustainable development.

**Keywords:** Economic development; environment; environmental protection.

## 1. INTRODUCTION

For sustainable socio-economic development, it is necessary to pay attention to the issue of environmental protection, making the environment clean. Economic growth and environmental protection have a dialectical relationship with each other. The faster the socio-economic development, the more negative impacts on the ecological environment will be because the socio-economic development process uses a lot of natural resources, causing resource depletion; The more wastes are discharged into the environment, the more polluted the environment will be, the more costs will be incurred, etc. On the contrary, a clean environment will create a premise to promote socio-economic development and improve people's health. Therefore, socio-economic development associated with environmental protection has been engaging in many countries to have the most effective solutions to both develop the economy and protect the environment and natural resources, creating sustainable development.

## 2. LITERATURE REVIEW

After over 35 years of renovation, Vietnam has achieved tremendous achievements in many fields, creating a prominent mark. The economy grew continuously, becoming one of the swiftly growing economies; it demonstrated remarkably endured in the international context of profound political and economic changes as well as the outbreak of the Covid-19 pandemic. As a result, the macro-economy is becoming more and more stable; the significant balances of the economy are ensured; the scale and potential of the economy increased, the quality of growth improved; people's material and spiritual life is increasingly enhanced; people's health care is paid much attention; security and defense are maintained; External relations and international integration have been deepened and deepened; gross domestic product (GDP) and

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per capita has steadily increased. Notably, in 2022, the growth rate will reach 8.02%, which is a high increase compared to the past years. The economic structure is strongly shifting towards industrialization and modernization; Industry has the highest growth rate among the national economic sectors, contributing about 28.2% by 2020, becoming the country's primary export industry. The proportion of economic sectors shifted in line with the trend of the development process; the ratio of industry and services is increasing, and the balance of agriculture, forestry, and fishery is decreasing, correctly reflecting the requirements of the stage of industrialization and modernization.

However, the growth of industries and fields is not uniform and not commensurate with the potential and advantages of industries and fields; they have not fully brought into play the role of industrial areas; the economic restructuring and application of scientific and technological advances to production still have many shortcomings and limitations; many industrial areas have been established but attracting investment, especially foreign investment, is still low; In the period 2016-2020, the economic growth of the Southern region reduced due to excessive dependence on crude oil and natural gas exploitation, reducing the contribution to the State budget. The management of natural resources is ineffective; there are still many phenomena of exporting resources in the form of raw, unprocessed such as ores, crude oil, coal, etc., at low prices but having to import raw materials and petroleum at high prices to serve the production. In addition, the exploitation of natural resources has not been well controlled, many places have not followed the planning, and illegal exploitation still takes place with outdated technology, causing severe environmental pollution and even becoming "hot spots" in the environment; the import of obsolete technology, machinery, and equipment, and raw materials that do not meet environmental standards still exists and has not been promptly remedied. The handling and remediation of establishments causing environmental pollution in some areas and fields have not been thorough, leading to low people's living quality; air quality in urban areas tends to decline; environmental pollution is still quite common in some industrial areas and craft villages; the amount of waste, plastic waste, electronic waste, construction waste, and hazardous waste is increasing; In terms of plastic waste alone, Vietnam ranks fourth in the world with 1.8 million tons/year. Forest protection and biodiversity conservation activities take place slowly, and deforestation, sand, stone, and gravel exploitation taking place in many areas have not been effectively prevented, seriously affecting the natural ecosystem; Climate change continues to cause negative impacts on the natural environment, increasing all kinds of natural disasters in both quantity and scale, seriously reducing the area of crop production; The situation of saline intrusion, acidification, riverbank, and coastal erosion occurs a lot in some provinces in the Mekong Delta and the Central region, but the remedial work is still slow and has not achieved high efficiency. These issues threaten food security and the development of agriculture, forestry, fishery, and fisheries, significantly affecting policies on hunger eradication, poverty reduction, and socio-economic development goals.

In the process of socio-economic development, many shortcomings have been revealed, creating pressure on the ecological environment; The environmental situation in Vietnam has complicated developments; there are many hot spots, environmental quality has declined, many places are no longer able to receive waste, especially areas where many socio-economic



activities are concentrated. This has hindered many sustainable development goals. Therefore, it is necessary to have effective solutions to synchronize economic development with environmental protection in the coming period.

### **3. RESEARCH METHODOLOGY**

This paper used qualitative method to solve the research objectives, including reference to documents, practical observations, typical case studies of the estimating system and interviews with a number of individual managers and experts. Research results help: (1). Collect basic information for research orientation; (2). Collecting information to design questionnaires for research; (3). Determine the direction to propose perfect solutions according to the set goals.

Based on the research objectives, the research team conducted research on legal documents on accounting, Decrees, Circulars, Regulations, and organizational charters of enterprises in the research sample, books, newspapers and specialized scientific magazines.

### **4. SOLUTIONS FOR ECONOMIC DEVELOPMENT ASSOCIATED WITH ENVIRONMENTAL PROTECTION IN 2023-2030.**

In order to develop the economy in association with environmental protection in Vietnam in the coming time, it is necessary to implement synchronous and integrated solutions; on the other hand, there must be close coordination of many branches and fields, and there are high consensus of state management agencies, businesses, and people. Therefore, the following solutions are suggested:

*Firstly, renewing thinking and awareness and increasing education on economic development associated with environmental protection.*

This is one of the important solutions to develop the country's economy and society in the coming years.

In the process of planning and implementing socio-economic development policies, there are still one-sided perceptions, focusing only on the scale of growth but not on the quality of growth or only interested in the economy of the benefits without having a close connection to the issue of environmental protection as well as solving social problems.

In order to overcome these problems, it is necessary to strengthen education for relevant subjects to be aware of the meaning, role, and importance of economic development associated with environmental protection. Continuing to renew thinking, awareness and increasing education on economic sustainability with environmental protection focuses on specific solutions such as:

- It is necessary to quickly switch from a broad development mindset to a depth development mindset, a quantity mindset to a quality, effective and sustainable mindset. Since then, in development policies, it has been necessary to focus on solutions to improve the quality of industrial development sustainably.

- It is necessary to change short-term and local thinking and perception, and term thinking in economic development to general and long-term thinking and perception, ensuring national interests, overcoming local ideology, pursue short-term interests in development management and administration. This thinking must be thoroughly grasped in formulating growth policies, renovating economic structures and environmental management mechanisms, and solving social problems in development.

- It is necessary to have a global mindset on development, to change the national mindset to a global one. This requires that the selection of the economic structure must take into account the shifting of the global economic structure, the global value chain, according to the international division of labor;

- Implement economic restructuring associated with exploitation and efficient and sustainable use of natural resources, minimizing environmental pollution and low carbon emissions. Provide a roadmap to transition the economy to low-carbon growth and circular economy development, including environmental fees in development investment

- Completing the legal framework: connecting institutions, minimizing conflicts and overlaps to create an economic foundation in the direction of a green and circular economy, specifically: Promulgating policies and economic tools such as taxes, pricing methods, promotion of thrifty use and improvement of efficiency in the use of natural resources; implement the principle that polluters must pay, control the amount of waste right from the beginning of the selection, attract investment projects, encourage green and environmentally friendly technology projects; develop the environmental industry towards a zero-waste circular economy. Enhancing regulations and standards to ensure technical barriers to prevent pollution and backward technology in Vietnam in the context of a very open economy in the process of international integration; implementing policies to encourage economic and efficient use of energy in the production and distribution of products and services.

***Secondly, improve the quality of planning and strengthen the management role of the State in economic development associated with environmental development.***

Regarding improving the quality of planning and planning: for socio-economic development associated with environmental protection and sustainable development in our country, it is first necessary to develop short-term, medium-term, and long-term socio-economic development. To restructure industries and trades suitable to the development of the region and localities in the region; developing the private economy, considering the private economy as the driving force for development; On the one hand, it can create jobs for workers by their current qualifications, and take advantage of flexibility in changing industries and occupations. On the other hand, develop the private economy to accumulate capital and experience in production and business management for a large production base based on advanced and modern scientific applications. During the planning process, the development plan must ensure the harmony of socio-economic and environmental aspects from the point of view of the common interests of the entire economy. The master plan must clearly show the industries and fields that need to promote growth or be maintained or removed, which localities and industries should be prioritized for development first based on maximizing the efficiency of the development results of resources and advantages of the region and the locality in the region; overcome the situation of localization. That is, it is not necessary that this locality has this; other localities must also have it.

Improve the feasibility of development plannings and plans; attach importance to investigation, research on market demand, and forecast changes of the market; forecast scientific, technical, and technological progress of the industry and its impact on industry development; ensure resources to implement the planning; mobilize the maximum support



resources of international organizations; periodically it is necessary to organize the review and adjustment of the master plan and plan to ensure conformity with reality.

Strengthen the participation of relevant stakeholders in formulating and organizing the implementation of the master plan and plan, especially the involvement of environmental managers and managers of social issues;

Ensure assignment and decentralization among ministries, branches, and localities throughout the country; coordinate smoothly and avoid overlapping and vacancy in formulating and organizing the implementation of development plans and plans;

Strictly implement the strategic environmental and environmental impact assessments for planning, plans, and development projects in industrial areas and export processing zones according to the law.

In formulating planning and plans, it is necessary to fully consider social factors, especially job security, raise employee income levels, and improve employees' material and spiritual life;

Research and promulgate mechanisms to resolve conflicts of interest between sectors and fields and between sectors and localities in the implementation of master plans and plans to ensure a harmonious combination between the three factors: (i) The State's adjustment by legal instruments, (i) The adjustment of the market by market laws, (i) The adjustment of the community through their supervision over the activities of State agencies.

In the planning, it is necessary to separate the rainwater drainage system from industrial wastewater and domestic wastewater; renovate the design of rainwater regulation reservoirs in the inner city to enhance water drainage, contributing to limiting inundation during storms; plan locations for construction of urban wastewater treatment stations and concentrated wastewater treatment stations in industrial areas; building new landfills, ensuring technical requirements and environmental sanitation according to regulations; planning urban green tree system, ensuring the appropriate rate of vegetation cover to combine to improve the environment with anti-erosion, wash-out and create space and landscape for tourism;

***Thirdly, strengthen the management role of the State in economic development with environmental protection.***

State management agencies related to economic development and environmental protection should well implement the following measures:

- To adjust and amend legal documents in the direction of decentralization and direct delegation of authority on environmental protection in economic zones, industrial areas, and export processing zones; promulgate guidelines, standards, and regulations related to environmental protection of economic zones, industrial areas, and export processing zones; studying and promulgating a list of industries with a high risk of environmental pollution and specific supervision regulations for the discharge into the environment of production facilities with an increased risk of environmental pollution; strengthen supervision of these establishments to take remedial measures if they violate environmental regulations promptly; to encourage production facilities with a high risk of environmental pollution to switch technology and upgrade environmental protection works and equipment to reduce the risk of causing environmental pollution.

- Building institutions to monitor and implement plans, policies, and laws for sustainable natural resource and environment management; encourage sustainable investments that bring benefits to the environment, such as socio-economic development; strengthen coordination among public institutions to tackle the increasing environmental pollution and enforce environmental laws and standards;

- To step up administrative reform in order to increase the effectiveness and efficiency of State management, strengthen the accountability of relevant agencies, improve efficiency in solving and handling work, and simplify procedures administratively; well implement the “one-stop shop, on-site” policy in attracting investment, establishing enterprises and registering a business; strengthen coordination between agencies in the management of investment licenses for private enterprises, enterprises with foreign direct investment capital; continue to renew thinking on issues of ownership and interests, creating an equal environment for all economical sectors and interest subjects; consider the private economy as a driving force for sustainable development.

- Organize the publicization of socio-economic development plannings, key economic zone development plannings, sector, field, and territory development plannings, development support, and encouragement policies branch; advising investors and businesses in the field of investment and production development based on the list of industries and products prioritized for investment; State agencies involved in the appraisal of investment projects and licensing should have recommended information to help investors and businesses have sufficient information about the expected investment field, limit environmental risks and improve efficiency in solving social problems.

- Develop programs to support key economic sectors that need to be prioritized, essential products, and environmentally friendly; supporting industry, etc., in each period;

- Strengthen the training of managers of relevant agencies in economic management and environmental protection through short-term and long-term training programs, at home and abroad; step by step modernize working conditions and strengthen the application of information technology in environmental protection and management activities.

This is an important and decisive solution to the environmental protection work in Vietnam today. Close coordination should be between ministries, branches, and related agencies on reasonable investment mechanisms and policies for environmental protection, such as completing the Law on Environmental Protection, promulgating sub-law documents, and studying renewing mechanisms and plans for environmental protection, etc. On the other hand, it is necessary to regularly control and inspect the industrial environment to encourage and compel the application of waste treatment measures to ensure environmental standards; encourage enterprises to innovate technology actively, change products, apply ISO 14,000 standards in management system; closing and relocation of units causing environmental pollution; build a unified, synchronous and appropriate organizational system for environmental management of industrial areas in enterprises, strengthen State management of environmental protection from central to local levels; appointing staff specializing in environmental protection in industrial area; have a unified vertical management system to more closely manage environmental protection at each facility inside and outside the industrial area;

***Fourthly, promote research and application of achievements in environmental technology.***

Developing science and technology in the field of environmental protection is one of the important tasks for economic development in association with environmental protection in the direction of increasing the contribution of the TFP factor in growth, meeting development requirements in a fast and sustainable direction, and reducing dependence on capital and labor. Invest and apply advanced and modern technologies, strengthen international cooperation in science and technology to innovate industrial products, and use science and technology in production and life in environmental protection work. Accelerate the construction and operation of high-tech areas; attract and develop information technology products; develop several high-tech areas in Hanoi and Ho Chi Minh City.

Promote scientific and technological research in the fields of energy, waste treatment, and recycling; training and scientific research on sustainable development and green economy, such as increasing the application of modern technologies in climate forecasting, warning of natural disasters and extreme weather, and investigation and assessment of resources, environmental monitoring, and supervision in the database on natural resources and environment; promote research and technology transfer on response to climate change; support localities to implement projects that support appropriate livelihood methods to adapt to climate change; training and development of human resources, especially high-quality human resources to serve the needs of State management of natural resources and environment as well as social needs;

Quickly master advanced technologies, make the most of traditional technologies, and proceed to create new technologies in the following directions:

- + Diversify types of environmental technology, giving priority to research and application of biotechnology in waste treatment;
- + Researching and using new materials, giving priority to using domestic materials to serve waste treatment equipment;
- + Research and develop technology to treat hazardous waste and non-biodegradable waste;
- + Prioritize the development of clean technology, environmentally friendly technology and reuse and recycle waste;

***Fifthly, speed up the process of restructuring and equitizing State-owned enterprises in the fields of natural resources, energy, heavy industry, supporting industries, etc.,*** based on developing and implementing standards, such as biosecurity in aquaculture or improving energy efficiency.

***Sixthly, to attract investment in industrial areas, economic zones, and export processing zones in the direction of prioritizing clean technology industries with low risk of pollution; efficient use of resources and energy;*** increase the use of renewable resources; ensure the structure of industries suitable to the pollution capacity and reality of each locality and industry; to attract focus to ensure the development of key industries and occupations and create favorable conditions in factory layout, develop environmental protection plans;

***Seventhly, increase data and information used for natural resource management, making communication easy for most people to understand and accept.*** Protecting the environment can be based on three factors: conservation, protecting air, soil, and water quality, and

integrating resilience to adverse impacts in economic plans, sector policies, and infrastructure investments. Sustainable socio-economic development requires strong institutions and policies to coordinate action and investment.

***Eighthly, strengthen the effective cooperation mechanism to harmoniously share the interests of the parties in bilateral and multilateral cooperation in sharing*** resources and responsibility for environmental protection, such as cooperation in sharing water resources and natural resources, solving the problem of transboundary pollution; actively integrate into the world, take advantage of financial, technical, technological and management support from the international community for the development of a green economy.

***Ninthly, human resource training***

High-quality human resources, ensuring effective management in socio-economic development with environmental protection, play a very important role in the socio-economic development of the whole country. Therefore, it is necessary to have an overall strategy for human resource development in the direction of opening in quantity, improving in quality based on innovative training programs, and creating new branches/specializations suitable to the context of current socio-economic development, focusing on high-quality human resources to meet the development requirements of the economy. Furthermore, the vocational education and training industry needs strong innovation in curricula, strengthening of vocational practice subjects, technical skills, and applications of the 4.0 revolution in production for workers to meet the needs of employees in key economic regions.

## **5. CONCLUSION**

Economic development associated with environmental protection is important today, ensuring sustainable socio-economic development. The solutions proposed above need to be implemented synchronously to promote efficiency in practice.

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# CIRCULAR AGRICULTURE – EXPERIENCE OF SOME COUNTRIES AND IMPLICATIONS FOR VIETNAM

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**Abstract:** *This research is conducted to investigate a circular agriculture and its development situation in several countries, then gives some lessons for Vietnam. A desk review was employed to analyze studies related to a circular economy, circular economy in agriculture, domestic and international experiences in circular agriculture development. The results show that circular agriculture is an inevitable direction for safe, efficient, and sustainable agriculture. In the Netherlands, Australia, and China, circular agriculture has been interested and encouraged to develop through the development of legal frameworks, encouraging science and technology research, as well as raising customer's awareness and the support of the whole society. Based on the findings, some valuable implications for circular agriculture in Vietnam have been suggested.*

**Keywords:** *Circular agriculture, experiences, implication, Vietnam*

## 1. INTRODUCTION

Since the middle of the 20th century, under the pressure of population growth, the process of growth, urbanization and industrialization has led to increasingly degraded natural resources, depletion, polluted environment, and climate change. The circular economy model was born to overcome that situation. In agriculture it is called circular economy in agriculture or circular agriculture. Circular agriculture is a form of circular economy that has existed for a long time in human history (Barros et al., 2020). Therefore, more countries are promoting circular agriculture as a way to achieve the Sustainable Development Goals (SDGs), especially those related to hunger eradication and environmental protection. (Schroeder et al., 2019).

In Vietnam, in order to fulfill agricultural development goals., it has put pressure and burden on the already intensively productive agriculture in Vietnam. Increasing levels lead to serious consequences for the environment. To solve the above situation, the policy of developing circular economy in agriculture or circular agriculture has been focused and selected by the government as an inevitable trend through the promulgation of many policies and guidelines such as: Resolution of the 13th National Congress of the Party has determined that building a circular economy is one of the country's development orientations for the period of 2021 - 2030. The Law No. 72/2020/QH14 on Environmental Protection also encourages model innovation. sustainable agricultural production methods, adapting to climate change, saving water, limiting the use of inorganic fertilizers, chemical pesticides and environmental treatment products in agriculture. Karma; develop environmentally friendly agricultural models. Decision No. 1520/2020/QĐ-TTg emphasized the program of extension of livestock

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farming in a closed chain, circular economy. The Law on Livestock effective January 1, 2020, also stipulates the responsibility of waste treatment of livestock establishments. Resolution 55/NQ/TW on circular economy and sustainable economic development... However, in reality, the above policies have not been put into practice and brought into play their effectiveness and practical development. Circular agriculture in our country is still spontaneous, lacks the necessary clear and specific orientations (Institute of Strategy, Policy on Natural Resources and Environment, 2020). This research aims to investigate the experience of some countries in circular agriculture development, then gives some lessons for Vietnam. The results show that circular agriculture is an inevitable direction for safe, efficient, and sustainable agriculture. In several European countries, Australia, and China, Circular agriculture has been interested and encouraged to develop through the development of legal frameworks, encouraging science and technology research, as well as raising customer's awareness and the support of the whole society. Based on the findings, some valuable lessons for circular agriculture development in Vietnam have been suggested..

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

In fact, the concept of circular agriculture is mainly understood as the circular economy in agricultural production. The use of the term circular agriculture as an alternative to the circular economy in agriculture. The term “circular economy” was first used by Pearce & Turner (1990) to refer to a new economic model based on the basic principle that everything is an input to something else. MacArthur (2013) argues that the circular economy is a restorative and renewable system by proactive planning and design. It can be said that the circular economy “is characterized by low consumption of raw materials and resources in the production process, low pollution, high efficiency and high turnover rate, enabling resources are fully utilized in the production process” (Jun & Xiang, 2011, 1531). The circular economy contributes to sustainable development through achieving economic growth, protecting the environment, and reducing resource consumption (Jun & Xiang, 2011). The implementation of a circular economy will help reduce the negative impacts of economic activities on the environment by prolonging the life cycle of input materials and transferring waste from the end of the material flow back starting point (Cramer, 2014). According to the European Commission, a circular economy is defined as an economy in which the value of products, materials and resources is maintained in the economy for as long as possible, and generates minimal waste (European Commission, 2017). In short, the circular economy is a production model that ensures sustainability and efficiency thanks to a closed production process, making full use of resources, with low consumption of raw materials and resources as well as limited resources. minimize waste to the environment.

Agriculture is an economic sector that is considered unsustainable because of its large emissions and waste of resources (Jurgilevich et al., 2016; Poore & Nemecek, 2018). Therefore, circular economy is considered as an inevitable option to achieve sustainability in agricultural production system (Jun & Xiang, 2011; Su et al., 2013; Stegmann et al., 2020). ). Agriculture is also considered an easy sector to adopt circular economy (Heshmati, 2017; Jun & Xiang, 2011).



Circular agriculture or applying circular economy in agriculture is considered as a closed economy focusing on the production of agricultural goods, using minimal external inputs and minimizing emissions. environment including waste and emissions (University College Dublin, 2017). Circular agriculture is agricultural production in a closed cycle in which the waste or by-product of one production process is the input of another production process, or strictly speaking. Rather, circular agriculture is a production process that minimizes waste emissions into the environment by utilizing waste products as inputs for production. The application of circular economy in agricultural production helps to create safe, high-quality products, minimize waste and loss, and especially minimize waste or no waste. (Nguyen Xuan Hong, 2020).

Thus, it is possible to define circular agriculture as an agricultural production model based on the application of a circular economy model. Circular agriculture focuses on commodity production, creating safe, quality and highly effective products on the basis of maximizing the use and reuse of by-products and minimizing waste. environment or no waste.

### **3. METHODOLOGY AND PROPOSED MODEL**

#### *Data collection method*

This article collected data on the basis of studying existing documents and by manipulating logical thinking to draw necessary scientific conclusions related to the content of circular agriculture. By reviewing the scientific literature from various official sources around the world as well as practicing the method of systematizing theory and history, the article has reached important conclusions on the issues involved to the situation of circular agriculture in several countries.

#### *Data analysis method*

Research conceptualize overview of circular economy, circular agriculture; summarize the situation of circular agriculture development in the world, then discuss and draw lessons from the development of circular agriculture for Vietnam.

### **4. RESEARCH RESULTS**

#### **4.1. Some models of circular agriculture**

In the world, based on circular agriculture at the the household level in Yunnan province, China, Xi (2011) proposed circular agriculture model at the village level. This model considers agricultural activities of households and villages as the main agents of the cyclical cycle. The characteristic of this model is to focus on collecting, treating and reusing waste from production and daily life such as: Waste from livestock is composted as fertilizer, domestic wastewater is collected for use as fertilizer, irrigation water in agricultural production. Non-reusable wastes are collected and treated centrally.

In addition, Xi (2011) also proposes a cyclic model applied to an ecological agricultural area. In this model, agricultural production takes place on a large scale, using energy and matter cycles based on relationships in an industrial scale agricultural production system. Agricultural products are processed through many stages by processing enterprises. Therefore, the value of

the product increases many times. This model takes enterprises (one or several) or enterprises associated with farmers as the center. Participating in the cycle makes it easier to adopt a standard process in production.

In Vietnam, agro-forestry-fishery production models or sustainable agricultural production models have been researched, formed in many localities and brought high efficiency for a long time such as: model Garden - Pond - Barn (VAC), model Garden - Pond - Barn - Forest/field (VACR) or model Garden - Barn - Forest/farm (VCR)... (Nguyen Binh Lien & Le Dong Tan , 2017). In the program of building new countryside, in order to develop effective agricultural production models, increase income for farmers and sustainably, Hanoi Department of Agriculture and Rural Development (2011) proposed produce a zero-waste farm model. This model is also basically based on the characteristics of current circular agriculture.

Recently, Le Trong Nhan et al (2019) proposed an integrated and zero-emission agricultural production model for livestock households in An Giang province. Accordingly, VAC and VACR have been proposed as a framework model for circular agriculture. Thus, the above models can be considered as primitive models of circular agriculture in our country. These models mainly approach the household/farm scale and are mainly about taking advantage of the available resources of the household/farm as well as the ability to arrange suitable production systems on the basis of full potential. use and minimize waste discharge into the environment.

#### **4.2. Development of circular agriculture in the world**

Circular agriculture is named in many different ways. Barros et al (2020) have statistic some phrases used to refer to circular agriculture in the world as follows: “circular bio-economy”, “rural eco-economy”, “symbiosis”. industry”, “Agricultural ecology”. Countries around the world, no matter which name they use, are aiming for a closed agricultural production cycle, with less resource consumption and reduced emissions. And each country will have its own strategies, mechanisms and policies to develop circular agriculture.

##### **4.2.1. Netherlands**

The Netherlands is a leading European country in the application of circular agriculture. The Netherlands is determined to be a pioneer in circular agriculture, and circular agriculture is the action plan of the Dutch government (Ministry of Agriculture, Nature and Food Quality of the Netherlands, 2018). The Netherlands advocates that the development of circular agriculture will rely on farmers as the main, but also with support from the government. The main reason is that although farmers are the main actors for agricultural production activities, they also need support to overcome technological and financial barriers (Wageningen University and Research, 2018). The Netherlands has pointed out a number of conditions to develop circular agriculture such as: Farmers must be paid a fair price for their products; The value of food must be higher, so there is less waste; Consumers need encouraged to buy sustainable products; Crop and livestock farmers collaborate to make optimal use of waste streams and protect soil health. Another lesson from the Netherlands is to make circular agriculture a priority training and research strategy in universities.

#### **4.2.2. Australia**

Agriculture is one of Australia's key economic sectors. However, as in other countries, agriculture is also a major source of waste in Australia as well as an industry that requires a lot of natural resources, mainly land and water. And the development of circular agriculture is a booming trend in Australia (Pagotto & Halog, 2016). The circular farming approach in Australia is the ReSOLVE approach proposed by the Ellen MacArthur Foundation (2015).

The Australian Government has issued a regulatory framework to help develop circular agriculture in the country. The first is the update of the National Waste Policy in 2018, which was previously implemented by the Australian Department of Agriculture, Water and Environment in 2009 (Department of Agriculture, Water and Environment, 2018). This policy provides governments, businesses, communities and individuals with a framework for cooperation through 2030. In addition, Australia's National Food Waste Strategy launched in 2017 aims to reduce half of the country's food waste by 2030 through the establishment of an effective framework to support actions that achieve desired outcomes (Department of Agriculture, Water and Environment, 2017). Australia also invests heavily in research at universities.

However, much of this research remains unexplored, i.e., has not been commercialized. The Australian Commonwealth Science and Research Organization (CSIRO) recently partnered with universities to begin developing material flow modeling and analysis to better understand what is happening right now, with material flows in the Australian economy (Levitzke, 2020). Thus, as in Europe, the development of circular agriculture in Australia is also based on the development of a legal framework as well as investment in research and scientific transfer.

#### **4.2.3. China**

The circular economy in China is seen as a model for the country to achieve sustainable development (Geng & Doberstein, 2008). Organic agriculture has been mentioned very early in China through biogas development projects since the 1950s (Ni & Nyns, 1996). Scientists argue that agricultural production and resource management should be managed in a holistic approach within a complex socio-economic-ecological system (Chen et al., 2016), it seems, is the forerunner of the contemporary concept of circular agriculture (Zhu et al., 2019). However, scientists have not yet answered correctly a number of questions related to the development of circular agriculture in China, namely: (1) The widespread adoption of circular agriculture brings about To what extent are the economic, ecological and social benefits? (2) What is the best method to achieve a successful cycle?

China has also achieved some success in applying circular economy in agriculture. In the period 2000-2018, the development level of circular agriculture in Ha Nam province generally tends to increase (Li et al., 2021). This is the result of applying scientific progress in agricultural production. In addition, China also has policies related to the development of agro-ecological systems like industrial symbiosis to utilize by-products and wastes from crops and livestock (Yin et al., 2006). China also promulgated general circular economy policies with a wide range of applications, including circular agriculture such as the "Cleaner Production Promotion Law", which took effect in January 2003, the Law on Prevention and Control.

Anti-pollution and solid waste control amendment, effective on April 1, 2005. Also in 2005, the National Development and Reform Commission of China announced eight initiatives to facilitate the implementation of circular economy, including initiating legislative process, pilot projects economic tools, research and development (R&D) efforts, industrial restructuring, financial mechanisms, training and education. In 2009, China enacted the Circular Economy Promotion Law that guides all circular economy policies in China (Su et al., 2013). In 2015, the Chinese government issued the National Sustainable Agriculture Development Plan (2015-2030). This plan proposes to promote “rice-fish symbiosis”, “pig – biogas and fruit trees”, and forest economy, as well as other models of circular agriculture according to local conditions. In 2016, the Ministry of Agriculture of China issued the Guidelines for Ecological Agriculture Projects in Comprehensive Agricultural Development Zones (2017-2020), further recommending to improve the quality and safety of agricultural products, agricultural products, the level of standardized production, and the level of development of circular agriculture. By 2020, the national modern agricultural demonstration site and major grain-producing counties are expected to essentially recycle agricultural resources in the region. By 2030, the country will achieve zero agricultural waste (Li et al., 2021).

Thus, as in the Netherlands and Australia, the development of circular agriculture in China is the result of a combination of legal framework building and strong investment in research and technology transfer.

### **4.3. Implications for the development of circular agriculture in Vietnam**

Summarizing the world situation, some implications for the development of circular agriculture in our country are as follows:

Firstly, it is necessary to consider the development of circular agriculture as an indispensable and strategic direction in directing the development of the agricultural sector. Accordingly, the Government and the Agriculture sector from the central to local levels must identify the development of circular agriculture as the viewpoint, priority development direction and focus towards the development of safe and quality agriculture. efficient and sustainable.

Secondly, build a legal corridor and standardizing the circular agriculture. In order to promote the circular agricultural development, the State plays a constructive role in forming a transparent, stable and favorable legal corridor to attract businesses, professional organizations and people to participate, in which, enterprises are identified as the central role and the core nucleus. The State creates a business environment through mechanisms and policies to develop clean technology, reuse and recycle waste, and waste must become a resource in the economy in both production and consumption aspects. There are policies to give priority to enterprises investing in recycling technology of some high-value agricultural by-products.

Thirdly, connect circular agriculture with the development of science and technology, promote research on circular agriculture, strengthen the application of science and technology in research methods of using, utilizing as well as the process of reusing and utilizing waste by-products in production. Research and develop new production technology processes, research and apply high technologies to production, and develop circular agriculture. Take advantage

of opportunities and opportunities of the 4th scientific and technological revolution (Industry 4.0) in developing circular agriculture.

Fourthly, Vietnam is considered as one of the countries seriously affected by climate change. In that context, it is necessary to develop agriculture in Vietnam in the direction of favorable circular agriculture, that is, to develop circular agriculture that can adapt to climate change. This is a task as well as a specific difficulty for the development of circular agriculture in our country, which requires research and building an appropriate and effective circular agricultural production model.

Fifthly, raise the society's awareness of circular agriculture development by linking circular agriculture development with education and training. Develop formal training programs on circular agriculture at universities or short-term training courses at vocational education and training institutions. Integrate circular agriculture training into development programs and projects as well as in vocational training for farmers under the 1956 project as well as strengthen communication on circular agriculture.

Sixthly, it is necessary to create a trend in circular agriculture development on a national scale by mobilizing resources of the whole society. Based on developing strategies, legal frameworks, development orientations as well as raising awareness of the whole society about circular agriculture development as well as enlisting the support, promoting and exploiting resources of the whole society, especially enterprises for the development of circular agriculture.

## **5. DISCUSSION AND CONCLUSION**

Under the pressure of food security and agricultural development, natural resources in Vietnam have been overexploited and environmental pollution has become increasingly serious. Therefore, the development of circular agriculture is also an indispensable direction for Vietnam. Based on the situation of circular agriculture in some countries that have been effectively implemented, along with building the necessary legal institutions and clearly defining the viewpoints, goals and roadmap for circular economy development, in which, enterprises are the central driving force for implementation, Vietnam is eligible to build and develop circular agriculture. Relevant ministries and sectors need to learn from the experiences of countries, as well as, summarize and evaluate the circular agriculture models that have been implemented in Vietnam, thereby, build up the criteria of the circular agriculture. In order for circular agriculture to come to life rapidly, it is necessary to add the criteria for developing a circular economy model to the new set of agriculture.

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# PROMOTING FINANCIAL INCLUSION IN VIETNAM – AN EMPIRICAL EVIDENCE

Nguyen Van Chien<sup>1</sup>

*Abstract: The objective of the study is to evaluate factors affecting financial inclusion in Vietnam. Through the quantitative analysis, the research results showed that attracting foreign direct investment has a positive impact on financial inclusion. However, international trade has not had a positive impact on financial inclusion. The research results also found that economic growth has a positive and significant impact on financial inclusion, but the magnitude of the impact is relatively weak.*

*Keywords: financial inclusion, FDI, growth, positive.*

## 1. INTRODUCTION

Financial inclusion is a goal pursued by most countries to provide financial products and services to all sectors of the economy at a low cost. In a conventional sense, urban areas have easier access to financial services and products due to lower transaction costs, and thus greater opportunities for financial inclusion than rural areas and remote areas. In rural, remote or isolated areas with low population density, the cost of accessing finance is often higher, making it difficult for a bank branch or financial institution to guarantee the break even and make a profit. As a result, access to financial inclusion in this area is often lower.

Access to financial inclusion is often influenced by many factors. First, access to financial inclusion depends on regional and national economic development conditions. When the economy develops, the demand for consumption and investment will increase, and therefore the demand for using financial services and products will increase, therefore increase the access to financial inclusion. Further, developed countries have higher financial inclusion than developing countries, and urban areas have higher financial inclusion than other regions. Second, access to financial inclusion can be influenced by a country's degree of integration into the global economy, that is, the degree of international trade and its ability to attract direct investment flows. Indeed, expanded international trade may require an improvement in the quality of financial services and products in the economy in order to perform the functions of payment for goods to the counterparty. Moreover, a country with a large FDI inflow is likely to promote financial markets with more diversified financial products and complete financial services.

Starting from a very low income country in the world and a closed economy maintained since the end of the war, Vietnam has implemented economic, political, trade and investment reforms and gradually turning the country into a middle-income country and reaching over \$4,000/person/year. Vietnam has also achieved in attracting FDI inflows for socio-economic

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development, creating jobs and promoting international trade. Moreover, the financial market is also interested in investment and development, creating opportunities to access financial services and products to the majority of people, businesses and society. Therefore, the objective of this study is to evaluate factors affecting financial inclusion. The research results aim to identify the influencing factors and extent of influence on financial inclusion, thereby the study aims to suggest policies to increase financial inclusion access for Vietnam and some other countries.

## 2. LITERATURE REVIEW

Financial inclusion towards the accessibility of financial products and services to the community is an economic and social goal pursued by many countries. In fact, countries are able to provide financial products and services to their people, there is a stronger basis for people's ability to use financial resources to carry out economic activities and meet the needs of the people. Access to financial inclusion is also an opportunity to help the disadvantaged and the poor who have access to financial resources to give them the opportunity to escape poverty, increase income and ultimately ensure social security and economic development of the country.

Research by Ong et al. (2023) argues that digitization of business processes supports financial inclusion. Digital financial inclusion has benefits for some privileged and digitally savvy individuals, but digital financial services do not always guarantee financial inclusion. Based on the Diffusion of Innovation theory, the authors argued that digitization of business processes can be modeled by fixed high-speed mobile, mobile and broadband subscriptions, as a predictor financial inclusion. Research in Cambodia, Indonesia, Laos, Myanmar, Philippines and Vietnam, suggests that digitalization plays an important role in promoting financial inclusion in low-middle-income ASEAN countries. Digitization of business processes significantly affects the access of private businesses to domestic credit for banks to provide.

Financial inclusion is a key element of the UN's 2030 Sustainable Development Goals agenda. Research by Murshed et al. (2023) argues that resolving internal conflicts, higher mobile subscriptions and lower levels of corruption will improve financial inclusion while higher economic growth will limit financial inclusion in the South Asian region. In addition, internal conflict resolution is believed to indirectly promote financial inclusion by regulating the relationship between economic growth and financial inclusion, and mediating the relationship between remittances and financial inclusion. Thereby, the authors recommended a number of solutions to promote financial inclusion, especially maintaining economic growth, low corruption and investment in mobile services.

Countries have been stressing the importance of economies in their efforts to combat climate change with the Paris agreement and the 2050 agenda calling on countries to ensure the goal of global warming approximately 1.5 degrees Celsius limit and work towards a zero-carbon economy. Research by Musah et al. (2023) in West Africa, where the level of environmental pollution has increased significantly, through the study the authors argued that financial inclusion and green investment have a monotonous effect in reducing greenhouse gas emissions, and thus technological innovation to reduce environmental pollution, green

investment and inclusive finance are likely to reinforce the regional pollution haven effect. The study also recommends that governments jointly commit to support green investment and environmentally friendly technological innovation, and enforce the laws governing the activities of multinational corporations in the region towards development.

Africa is an economic region that has grown rapidly in recent years, but poverty and economic inequality remain a problem for the continent, and thereby affect economic development. Therefore, financial inclusion is one of the important channels capable of improving the livelihoods of low-income individuals in accessing financial products and services and increasing income. Research by Telukdarie & Mungar (2023) suggests that the majority of the population in developing areas in rural areas have limited access to services and financial inclusion. Therefore, digital financial technology is a potential solution in promoting the development of the market towards financial inclusion and thereby creating a driving force for economic development in the long term. The authors also insisted that the application of digital, especially artificial intelligence, can help individuals in developing markets access financial institutions and financial services.

Given that one of the financially vulnerable groups is the elderly, who are less interested in financial inclusion. The elderly often find it difficult to access a full range of financial products and services, and the rapid aging of the population increases the challenge in each country. Research by Bui and Luong (2023) using Findex 2017 survey data, found that there is a significant positive relationship between financial index and age, age group, and positive impact of mobile phones and mobile money for financial scores. The study sheds light on the driving forces behind mobile banking among the elderly and shows that low internet access and phone use are relatively major barriers to financial inclusion. Another study of Vietnam, Nguyen The Binh and Tran Duy (2022) argued that Vietnam is moving towards comprehensive financial development at the national level, therefore, people and businesses have the ability to access financial products and services at safety, convenience and reasonable cost. This requires Vietnam to have a complete legal framework, financial infrastructure, financial services, financial supply network as well as increase consumer understanding for financial inclusion. Moreover, Le Thi Dieu Huyen (2021) also affirmed that the financial market plays an important role in promoting the development of financial inclusion, which requires ensuring financial stability in order to facilitate the development of financial inclusion. Moreover, economic development is a favorable condition for financial inclusion to develop.

### **3. DATA SOURCES AND METHODOLOGY**

#### **3.1. Data sources**

Research using Vietnamese data, and the study period is from 1991 to 2022. The study uses data from the General Statistics Office of the country and from the World Bank. The data collected includes: the number of ATMs per 100,000 inhabitants, per capita income, FDI, the urbanization rate, the trade openness. The data will be processed for errors before being used for regression analysis.

### 3.2. Research methodology

The estimated equation is shown below:

$$FINANCE_t = \beta_0 + \beta_1 GROWTH_t + \beta_2 FDI_t + \beta_3 URBAN_t + \beta_4 TRA_t + \epsilon_t$$

Where,

is financial inclusion, measured by the number of ATMs per 100,000 inhabitants, and this is the dependent variable;

is the per capita income (USD/person/year), is the independent variable. The estimated coefficient has a positive sign, as discussed by Le Thi Dieu Huyen (2021);

is net FDI attraction, calculated as % GDP; is the independent variable.

is the urbanization rate; is the independent variable. This is supported by Telukdarie & Mungar (2023) when the authors argued that a high degree of population concentration has a positive effect on financial inclusion, and conversely a lower level of population concentration has an impediment for financial inclusion;

is the commercial level of the economy and is calculated according to % GDP; is the independent variable. This variable is developed by the authors with the expectation that trade openness has a positive effect on financial inclusion;

The study uses least squares regression method, and the study also uses generalized linear model regression to evaluate effects of the variables. At the same time, the above two regression methods complement each other.

## 4. RESULTS

### 4.1. Descriptive statistics

Table 1. Descriptive statistics

	GROWTH	FDI	TRA	URBAN	FINANCE
Mean	1458.257	5.573087	123.0628	28.71463	17.79889
Median	851.9524	4.821075	125.2606	28.19600	21.26500
Maximum	4163.514	11.93948	186.4682	38.76600	27.05000
Minimum	5.960844	3.390404	66.21227	20.62900	1.410000
Std. Dev.	1301.925	2.199619	31.98699	5.626002	8.725433
Skewness	0.644451	1.323360	-0.165725	0.228063	-0.789467
Kurtosis	1.952706	3.776534	2.227949	1.785901	2.163250
Jarque-Bera	3.677457	9.827169	0.911816	2.242782	2.394886
Probability	0.159020	0.007346	0.633872	0.325826	0.301965
Sum	46664.24	172.7657	3814.947	918.8680	320.3800
Sum Sq. Dev.	52545230	145.1497	30695.03	981.2088	1294.264
Observations	32	31	31	32	18

Source: Authors' analysis

Research results show that:

The average value of per capita GDP in the period 1991 to 2022 reaches an average of 1458.25 USD/person/year, of which Vietnam had a strong improvement in average income from 5.96 USD/person/year in 1991 to up to 4163,514 USD/person/year, partly reflecting the development level of the country's economy in recent years. Regarding FDI inflows, Vietnam has achieved many achievements in attracting FDI, reaching an average of 5.57% of GDP and is a high level in the region, even in some years Vietnam can attract up to 11.93% of GDP. Regarding international trade, this coefficient reached an average value of 123.06% of GDP in the past period, sometimes up to 186.46% of GDP, reflecting Vietnam's level of integration into the global economy and international trade. Or it can be said that Vietnam has participated relatively extensively in global economic activities through trade liberalization. In terms of urbanization rate, this rate is low and only reaches 38.76% in 2022, a very slow increase compared to 20.62% in 1991. In terms of financial inclusion, accessibility to financial services and products via ATM increased in recent times, therefore, Vietnam's access to financial inclusion can be seen increasing.

#### 4.2. Regression results

**Table 2. Least Squares regression**

<b>Dependent Variable: FINANCE</b>				
<b>Method: Least Squares</b>				
<b>Included observations: 18 after adjustments</b>				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROWTH	0.007140	0.004332	1.648082	0.1233
FDI	1.211974	0.220770	5.489768	0.0001
TRA	-0.186745	0.031921	-5.850249	0.0001
URBAN	0.908441	1.347908	0.673964	0.5121
C	-5.882174	30.84589	-0.190696	0.8517
R-squared	0.982809	Mean dependent var		17.79889
Adjusted R-squared	0.977520	S.D. dependent var		8.725433
S.E. of regression	1.308248	Akaike info criterion		3.605387
Sum squared resid	22.24965	Schwarz criterion		3.852713
Log likelihood	-27.44848	Hannan-Quinn criter.		3.639490
F-statistic	185.8028	Durbin-Watson stat		2.141680
Prob(F-statistic)	0.000000			

Source: Authors' analysis

**Table 3. Generalized Linear Model**

Dependent Variable: FINANCE				
Method: Generalized Linear Model (Newton-Raphson / Marquardt steps)				
Family: Normal				
Link: Identity				
Dispersion computed using Pearson Chi-Square				
Convergence achieved after 1 iteration				
Coefficient covariance computed using observed Hessian				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
GROWTH	0.007140	0.004332	1.648082	0.0993
FDI	1.211974	0.220770	5.489768	0.0000
TRA	-0.186745	0.031921	-5.850249	0.0000
URBAN	0.908441	1.347908	0.673964	0.5003
C	-5.882174	30.84589	-0.190696	0.8488
Mean dependent var	17.79889	S.D. dependent var	8.725433	
Sum squared resid	22.24965	Log likelihood	-27.87729	
Akaike info criterion	3.653032	Schwarz criterion	3.900357	
Hannan-Quinn criter.	3.687135	Deviance	22.24965	
Deviance statistic	1.711512	Restr. deviance	1294.264	
LR statistic	743.2112	Prob(LR statistic)	0.000000	
Pearson SSR	22.24965	Pearson statistic	1.711512	
Dispersion	1.711512			

Source: Authors' analysis

Research results in Tables 2 and 3 show that: FDI estimation coefficient is positive and statistically significant in both OLS and GLM regression cases, showing that attracting FDI has a positive impact on financial inclusion. This evidence reflects the positive effect of FDI inflows on access to financial inclusion. Indeed, many international investors are interested in investing in the banking system in Vietnam through buying shares in domestic banks, or opening branches of foreign banks. This investment process is associated with the transfer of financial technology, enabling the domestic banking system to improve its physical, technical and technological foundations, further improve financial products and services, and thus make financial inclusion accessible to the community. According to Ong et al. (2023), digitization of business processes can be modeled by fixed high-speed mobile, mobile and broadband subscriptions, as a predictor of financial inclusion. In recent years, banks have invested heavily in digital banking, e-banking has made it easier for people to access banking products and services, which has made financial inclusion develop.

The estimated coefficient of international trade is negative and statistically significant in both OLS and GLM regression cases, showing that international trade has not had a positive impact on Vietnam's financial inclusion. This has not shown a good impact of

international trade on financial inclusion development. It can be explained that international trade is associated with direct and indirect investment flows into financial markets, but also increases risks in financial markets. When capital flows suddenly out of the market can increase risk in the market, conversely, the capital flows into the asset market increase asset prices and create bubbles, adversely affecting the financial market health. Therefore, international trade liberalization needs to be associated with the risk management ability of the economy in order to be able to minimize the impact of risks from outside the world, shocks to the country.

The estimated coefficient of GDP per capita has a positive sign in both OLS and GLM regression cases, but is statistically significant in the case of OLS regression at the 10% significance level and is not statistically significant in the GLM regression case. This result suggests that there is likely to be a positive effect of economic growth on financial inclusion, but the magnitude of this effect is relatively weak. This can be explained that economic growth has not only a direct impact, but can also have an indirect impact on financial inclusion. The country's economic growth creates the attractiveness for FDI inflows, domestic investment and confidence in the market and thus provides an impetus to the development of financial markets.

The estimated coefficient of URBAN has a positive sign, but is not statistically significant in both OLS and GLM regression cases, meaning that there is no basis to confirm the impact of urbanization on financial inclusion.

## **5. CONCLUSION**

Financial inclusion is a goal pursued by any country that fulfills its mission of providing financial products and services to the public at a low cost. As the financial market develops, the lower costs of accessing financial services and products increase access to financial inclusion in the financial market, especially the disadvantaged group with low income, the elderly, people living in remote areas with low income. In addition, countries always pursue the goal of creating inclusive and harmonious development among social classes and geographical areas, and are the foundation for sustainable development of the country. Studying factors affecting financial inclusion in Vietnam since 1991, through the estimation model, the research results show that attracting FDI has the potential to increase access to financial inclusion in Vietnam. However, international trade has not had a positive impact on financial inclusion due to the possibility of external risks that may have a negative impact on Vietnam. The research results also show that urbanization has not had an impact on financial inclusion, but economic growth has a positive impact but the impact is weak.

The study has some policy implications for Vietnam towards financial inclusion. Firstly, Vietnam continues to reform the financial market to make the market more capable of healthy development, thereby creating the confidence of FDI investors to invest in the financial market. Second, Vietnam improves risk management in the financial market so that it can optimize the achievements of the economic integration process and minimize the impact of external shocks on the economy. Third, Vietnam continues to pursue green growth and green finance to promote sustainable economic development in the long term.



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# VIETNAM'S FISCAL POLICIES IN RESPONSE TO CLIMATE CHANGE

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**Abstract:** Vietnam is a vulnerable country to the impacts of climate change, including droughts, floods, and erosion. These threats, combined with the fact that Vietnam has been declared one of the highest greenhouse gas emitters in Southeast Asia, have prompted the Vietnam government to prioritize on climate change issues. In particular, the government considers its fiscal policy to be a key instrument in both mitigating against and adapting to climate change. This paper reviews Vietnam's implementation of fiscal policies in response to climate change. The impact of tax and fee policies on greenhouse gas emission reduction is insignificant. Public spending on climate change adaptation primarily focuses on infrastructure projects to enhance resilience capacity, while the budget for mitigation activities only constitutes a small proportion. In general, one can conclude that while progress has been made in the area of fiscal policies in response to climate change, a more proactive approach is needed to safeguard Vietnam's environment and effectively cope with the new challenges of climate change.

**Keywords:** fiscal policy, climate change, mitigation, adaptation

## 1. INTRODUCTION

Vietnam's socio-economic development in recent decades has significantly improved people's living standards, but has also increased the country's greenhouse gas (GHG) emissions and vulnerability to climate change. Vietnam ranks among the economies with the highest GHG emissions in Southeast Asia. Climate change has impacted all sectors of the economy and poses a threat to stall or reverse Vietnam's progress in growth and poverty reduction. According to the Vietnam Country Climate and Development Report, climate change could lead to a loss of 12% to 14.5% of GDP by 2050 and potentially push up to 1 million people into extreme poverty by 2030 (World Bank, 2022).

Vietnam is placing climate change at the core of its development agenda. The goals for 2016 – 2050 are outlined in the National Climate Change Strategy, published in 2011. The National Green Growth Strategy was approved in 2012, setting forth goals and actions to mitigate environmental impact. The Law on Natural Disaster Prevention and Control, effective since 2013, was created to address the various natural disasters affecting the country. As part of its commitments under the 2016 Paris Agreement on Climate Change, Vietnam has pledged to cut its GHG emissions by 8% by the year 2030 compared to current levels. By declaring its intention to achieve net-zero GHG emissions by 2050 at COP26, the Prime Minister demonstrated Vietnam's unwavering commitment to reform (World Bank, 2022).

Fiscal policy plays a crucial role in addressing climate change challenges. The implementation of carbon tax policies, emission trading systems, and environmental protection taxes

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has the potential to minimize or avoid the release of GHG emissions. These approaches have the potential to offer compelling and trustworthy motivations for companies and households to minimize carbon emissions and advance alternate technology. Additionally, they can guarantee a fair sharing of the costs and benefits associated with in this process. Meanwhile, directing public funds towards specific areas such as coastal protection, healthcare, and education can contribute to mitigating a nation's vulnerability and enhancing its adaptive capacity.

Despite the progress made, there is still a considerable amount of work to be accomplished to effectively addressing climate challenges. The current tax rates and fees imposed on activities that contribute to environmental pollution lack sufficient strength. The state budget for adaptation primarily focuses on funding infrastructure projects, particularly the creation of irrigation systems and transportation. However, there is a lack of significant expenditures aimed at reducing the vulnerability of society and the economy. The implementation of green public procurement is not yet fully developed yet due to constraints posed by the existing legal and institutional structure.

The aim of this paper is twofold: first, to review fiscal policies for mitigating and adapting to climate change in existing studies; second, to present the current fiscal policy regime in Vietnam related to environmental management from both revenue and expenditure perspectives. We will focus on environmental protection tax (EPT) and climate-related expenditures, along with other regulatory policies. In conclusion, the study will highlight the challenges Vietnam faces in its efforts to combat climate change and provide future policy suggestions.

## **2. LITERATURE REVIEW**

Fiscal policy plays a critical role in both mitigating climate change and adapting to its effects. However, the international literature on the fiscal implications of climate change remains limited.

Climate change response involves two main approaches: mitigation and adaptation. Adaptation, as defined by the Intergovernmental Panel on Climate Change (IPCC), refers to making necessary changes in response to current or anticipated climate conditions and their consequences. It aims to reduce damage and take advantage of beneficial circumstances in human systems. In certain natural systems, human intervention can assist in adjusting to projected climate conditions and their impacts (Pigato, 2019). On the other hand, mitigation focuses on reducing the severity of climate change by lowering global carbon emissions.

Effective implementation of adaptive measures requires various forms of government intervention. Some policies prioritize infrastructure spending to enhance societal and economic resilience to climate change and extreme weather events. Others may involve legislation to increase the cost of public resources (e.g., water) to promote conservation and sustainable management. Regulations can be used to alter human behavior patterns to align them with climate-related risks, such as zoning laws that prohibit construction in flood-prone areas. Additionally, fiscal incentives can encourage private investment in adaptation efforts.

Climate change mitigation can be effectively achieved through fiscal policy, which encompasses various instruments. Fiscal instruments can be categorized into three main

groups: price policies (such as taxation and subsidies), spending and investment, and public guarantees. Price policies include carbon taxation and cap-and-trade systems, incentives for mitigation activities, subsidies for low-carbon investments, reduced interest rates, feebates, and tax exemptions. Carbon pricing policies are considered crucial in the fight against climate change and should reflect the environmental costs of carbon emissions, including climate change and other local impacts (IMF, 2019a).

Carbon pricing has proven effective in reducing emissions and generating fiscal revenue. Carbon taxes and emissions trading schemes have encouraged companies to adopt best practices and invest in clean technologies. However, carbon pricing may not always be sufficient, as other market failures can hinder innovation and limit energy-efficient options (Unruh, 2000).

Efficient climate change mitigation also depends on strategic spending and investment. Public procurement can promote low-carbon innovation and create economies of scale. Investing in public infrastructure, especially in sustainable transportation and urban development, can lock in the use of clean energy and reduce carbon emissions.

Moreover, providing public guarantees can help close the low-carbon investment gap and reduce risk perceptions for project developers, financial intermediaries, and savers. This approach can scale up low-carbon investments in developing nations by leveraging the expertise of international and domestic banks and development institutions (Krogstrup & Oman, 2019).

In conclusion, fiscal policy is crucial for addressing climate change and its impacts. By employing a combination of price policies, strategic spending, and investment, and utilizing public guarantees, governments can effectively mitigate climate change and foster adaptation, leading to a more sustainable future. However, further research and analysis are needed to fully understand the fiscal implications and design effective policies to combat climate change on a global scale.

### **3. FISCAL POLICIES INSTRUMENTS HAVE BEEN USED TO ADDRESS CLIMATE CHANGE IN VIETNAM**

This section provides an overview of the fiscal policy tools that the Vietnamese government has employed to mitigate the consequences of and adapt to climate change. Through these tools, fiscal policy facilitates the shift to a greener economy and encourages investment in renewable energy or other climate-smart technologies.

#### ***Taxes and charges***

Within Vietnam's tax, fees, and charges system, the Environmental Protection Tax (EPT), Environmental Protection Fees for wastewater treatment, and Environmental Protection Charges for waste treatment are directly related to the use of fossil fuels and GHG emissions. On the other hand, the Natural Resource Tax (NRT) and Environmental Protection Fee for exploitation and minerals generate significant revenues for environmental protection activities but do not cover economic activities generating GHG emission (UNDP, 2018). Additionally, the government has also issued tax incentives for renewable energy projects.

#### ***Environmental protection tax (EPT)***

Vietnam officially promulgated the EPT law in 2010. It functions as an indirectly collected tax, levied on products and goods that result in negative environmental impacts upon their

use. The range of taxable goods encompasses both domestic production and consumption, as well as imports and exports. The fundamental principle of the EPT is that those utilizing polluting products are required to pay the tax. Taxable items include gasoline, oil, grease, coal; hydrogen-chlorofluorocarbon liquid (HCFC); plastic bags; herbicides; pesticides; forest product preservatives; warehouse disinfectants. Taxpayers are organizations, households, and individuals that produce and import goods subject to environmental protection tax, while the taxable objects are consumers. The environmental protection tax schedule has been developed, amended, and supplemented in stages.

**Table 1. The environmental protection tax rates for fossil fuels.**

No	Goods	Unit	Tax rate Range (VND/unit)
I	Gas-online, oil, grease		
1	Gas-online	Litre	1.000-4.000
2	Aviation fuel	Litre	1.000-3.000
3	Diesel oil	Litre	500-2.000
4	Fuel oil	Litre	300-2.000
5	Mazut oil	Litre	300-2.000
6	Lubricating oil	Litre	300-2.000
7	Grease	Kilogram	300-2.000
II	Coal		
1	Lignite	Ton	10.000-30.000
2	Anthracite Coal (anthracite)	Ton	20.000-30.000
3	Fat coal	Ton	10.000-30.000
4	Other coal	Ton	10.000-30.000
III	Hydrogen-chlorofluorocarbon liquid (HCFC)	Kilogram	1.000-5.000
IV	Taxable-plastic bag	Kilogram	30.000-50.000
V	Herbicide which is restricted from use	Kilogram	500-2.000
VI	Pesticide which is restricted from use	Kilogram	1.000-3.000
VII	Forest product preservative which is restricted from use	Kilogram	1.000-3.000
VIII	Warehouse disinfectant which is restricted from use	Kilogram	1.000-3.000

*Source: Environmental Protection Tax (2010)*

### *Economics Impacts of EPT*

After a of implementation, the EPT has contributed to a significant contributed to an increase in state budget revenue, aiding the fulfillment of the country's socio-economic objectives, including expenditure on environmental protection.

Collectively, the EPT constitutes a substantial proportion of total tax revenues in Vietnam. As depicted in the table 2, EPT revenues hold notable significance, accounting from more than 4% to nearly 6% of domestic revenues and more than 3% to nearly 5% of the total government budget in Vietnam. Revenue from EPT increased from 1.3 to 2.2 times after each tax rate adjustment in 2016 and 2019. The amount of EPT revenue from petroleum and coal group

accounts mainly (about 99%) of the total amount of EPT over the years, contributing to the restructuring of state budget revenue towards sustainability (Do & Bui , 2022).

In absolute terms, exhibited an ascending trend over the past decade, mirroring the growth in economic activities. In 2019, EPT revenue reached record levels before experiencing a decline of 3.3% in 2020. The drop in 2020 corresponds to the contraction in economic activities caused by Covid-19 pandemic. In 2022, EPT revenue dropped by 8.1% compared to 2021 due to tax reductions aimed at supporting the economy's recovery after the pandemic.

#### *Environmental Impacts of EPT*

The EPT plays a critical role in fulfilling Vietnam's commitment to the international community in safeguarding the environment. Vietnam actively engages in international environmental initiatives, reflecting its dedication to the environment. The implementation of the EPT policy underscores Vietnam's resolute adherence to its international environmental responsibilities.

As a participant in the Kyoto Protocol, which aims to control GHG emissions, Vietnam has adhered to its regulations since February 16, 2005. As part of this commitment, Vietnam pledged to adopt the "Clean Development Mechanism" (CDM) across sectors like energy, industry, transportation, agriculture, forestry, and waste management. With the introduction of products such as gas-online, oil, grease, coal, HCFC solution into taxable objects environmental protection has demonstrated Vietnam's efforts in implementing CDM commitments. This not only underscores Vietnam's dedication to sustainability but also positions it to receive financial support and access new technologies from developed countries involved in the Kyoto Protocol through CDM projects, ultimately contributing to Vietnam's pursuit of sustainable socio-economic development.

The Montreal Protocol is a global accord governed by the Vienna Convention that aims to protect the ozone layer by progressively banning the production of some substances like HCFCs, which contribute to ozone layer depletion. Vietnam is committed to completely discontinuing the use of HCFC solutions by 2030. The incorporation of HCFC solutions as taxable items for environmental protection tax is a positive step towards fulfilling this commitment.

**Table 2. The EPT and NRT revenue of Vietnam.**

*Unit: billion dong*

	2016	2017	2018	2019	2020	2021	2022
EPT		45,149	47,923	64,464	62,307	66,221	60,840
Domestically produced and traded goods	43,142	44,665	47,050	63,075	60,631	64,391	59,670
Imported goods		484	873	1,389	1,676	1,830	1,170
NRT	27,081	18,963	38,195	36,769	30,180	20,304.1	20,619
Domestic Revenues	749,563	1,039,192	1,155,293	1,277,988	1,293,728	1,133,500	1,176,700
State Budget Revenues	1,107,381	1,293,627	1,431,662	1,553,611	1,510,579	1,343,330	1,411,700

*Source: Compiled from publicly available data of the State Budget of Vietnam by the Ministry of Finance Natural Resource Tax (NRT)*

The NRT is payable by industries exploiting Viet Nam's natural resources such as petroleum, minerals, forest products, seafood and natural water. The tax rates vary depending on the natural resources being exploited and are applied to the production output at a specified



taxable value per unit. Various methods are available for calculating the taxable value of resources, even in cases where the commercial value cannot be determined.

The revenue from NRT fluctuated over the years, from more than 20 trillion VND to more than 38 trillion VND. The proportion of NRT in total state budget revenue tends to decrease gradually, from 2.67% in 2017 to 1.46% in 2020 (Table 2). On December 10, 2015, the National Assembly Standing Committee issued Resolution No. 1084/2015/UBTVQH13, effective from July 1, 2016, raising the royalty rate of most natural resources from 2% - 5%. Revenue from natural resources tax tended to increase in 2016 - 2018 but decreased gradually in the following years due to the influence of the world raw material market and the Covid-19 pandemic (MONRE, 2020). In terms of environmental impact, NRT has not had much impact on the mining activities of mineral resources of enterprises.

100% of the revenue from NRT (excluding petroleum) is allocated to local government budget. This tax therefore constitutes a stable source of revenue also at local level, which can be invested in restoration of the environment in the areas where the natural resources are exploited and also to ensure social benefits reducing the negative impacts of natural resources exploitation on local communities. However, currently in most localities in Viet Nam, the revenue from NRT is distributed together with other sources of revenue to the local budget and thus is cannot be earmarked specifically for restoration of the environment where the natural resources are exploited.

### *Charges*

Several user charges and fees have been levied throughout Vietnam. These are particularly related to municipal services such as waste water treatment, solid waste disposal.

The fee for wastewater and solid waste relate to GHG emission ( $\text{CH}_4$ ,  $\text{CO}_2$ ,  $\text{N}_2\text{O}$ ) (UNDP, 2018). The environmental protection fee for domestic waste water is 10% of the sale price of  $1\text{m}^3$  of fresh water that does not include Value Added Tax. The environmental protection fee for industrial waste water is calculated based on the fixed fee of 1.5 million VND/year plus the variable fee defined by the volume of fresh water used ( $\text{m}^3$ ) multiplying with the content of pollution parameters and the fee level for each pollution parameter.

Since 2020, if the total average volume of wastewater discharged by a facility in a year is less than  $20\text{ m}^3/\text{day}$  (24 hours), charge a fixed fee per unit of wastewater volume (variable fee is not charged) as follows: In 2020, the fee VND 1,500,000/year is charged. From 2021 onwards, the fee below is charged:

No	Average volume of wastewater ( $\text{m}^3/\text{day}$ )	Fee (VND/year)
1	From 10 to less than 20	4,000,000
2	From 5 to less than 10	3,000,000
3	Less than 5	2,500,000

The fee level for each pollution parameter is presented below:

No	Pollution parameters for fee calculation	Fee (VND/kg)
1	Chemical Oxygen Demand (COD)	2,000
2	Total suspended solids (TSS)	2,400

3	Mercury (Hg)	20,000,000
4	Lead (Pb)	1,000,000
5	Arsenic (As)	2,000,000
6	Cadmium (Cd)	2,000,000

Solid wastes are mainly collected and treated by Urban Environment Companies and enterprises that are licensed by Natural Resources and Environment Ministry and Department of Natural Resources and Environment at provincial level for solid waste collect, transfer and treatment services.

The environmental protection fee for solid waste has been implemented since 2007. However, following the implementation of Decree No. 38/2015/ND-CP dated April 24, 2015, on waste and scrap management, the environmental protection fee for solid waste is no longer applicable. Instead, organizations and individuals generating waste are required to pay the cost (service price) of waste treatment to waste treatment companies.

*Tax incentives for renewable energy projects, clean energy, and energy from waste disposal:*

Decree No. 118/2015/ND-CP dated November 12, 2015, issued by the Government, provides detailed regulations and guidance on implementing certain provisions of the Investment Law regarding the industry of “Production of renewable energy, clean energy, and energy from waste disposal” as a sector eligible for special investment incentives.

According to the provisions of Clause 11 and Clause 13 of Article 16 of the Law on Export and Import Taxes No. 107/2019/QH13, projects falling under the list of sectors eligible for special investment incentives according to the laws on investment will be exempt from import duties on imported goods for the purpose of creating fixed assets and will be exempt from import duties for a period of 5 years from the start of production for raw materials, supplies, and components that have not been produced domestically and are imported for the project’s production.

Additionally, in accordance with Clause 7 and Clause 8 of Article 1 of Law No. 32/2013/QH13, which amends and supplements certain provisions of the Law on Corporate Income Tax, enterprises’ income from new investment projects, including renewable energy and clean energy production, will be subject to a tax rate of 10% for 15 years. This comes with a tax exemption for the first four years and a 50% reduction in tax payable for the subsequent nine years.

***Climate-related public expenditures***

Vietnam does not maintain a separate budget line dedicated to climate change response but integrates it with the environmental budget. The State Budget regularly allocates funds for environmental activities (including climate change) at a minimum of 1% of the total budget expenditure. Climate change-related investment expenditures are typically incorporated into programs, plans, and sectors of various central and local ministries, as well as in national target programs.

*Economics Impacts of public expenditures*

In the annual implementation of the State Budget, localities have proactively based their budget allocation for environmental protection tasks on the resources from the local budget,

surpassing the prescribed norms. As a result, the total expenditure of the State Budget for environmental protection activities in the following year is consistently higher than the previous year, accounting for approximately 1.1% to 1.34% of the total State Budget expenditure during the period from 2013 to 2020. Local budgets contribute about 89% to environmental protection initiatives, with the remaining portion funded by the central budget.

**Table 3. Regular State Budget Expenditure for Environmental Protection Activities**

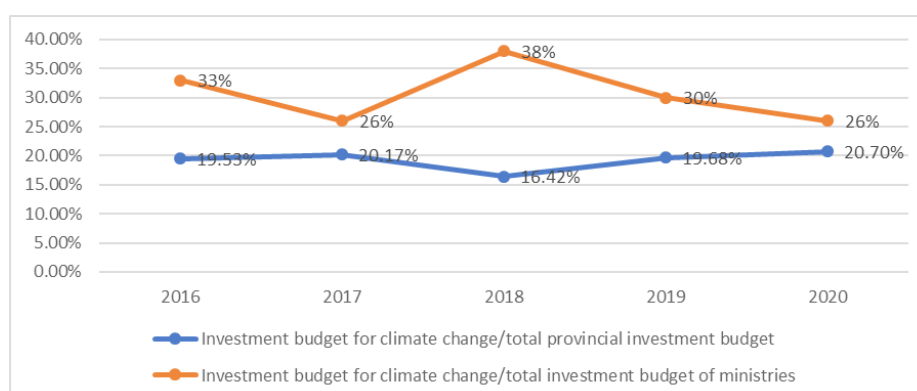
*Unit: billion dong*

	2016	2017	2018	2019	2020
State Budget Expenditure for Environmental Protection	14.7	18.7	18.4	20.5	21.4
Central Budget Expenditure for Environmental Protection Activities	1.7	1.9	2.1	2.3	2.5
Local Budget Expenditure for Environmental Protection Activities	13	16.8	16.3	18.2	18.9
Ratio of State Budget Expenditure for Environmental Protection to Total State Budget Expenditure	1.2	1.34	1.21	1.25	1.23

*Source: Compiled from publicly available data of the State Budget of Vietnam by the Ministry of Finance.*

According to the Review Report on Investment and Public Expenditure for Climate Change in Vietnam, the budget allocated to climate change response activities by six ministries (Agriculture and Rural Development, Natural Resources and Environment, Transport, Industry and Trade, Construction, Science and Technology) remained relatively stable, ranging from 8,000 to 13,500 billion VND. This accounted for 26% to 38% of the total budget during the period 2016 to 2020. At the local level, the budget for climate change investment in 29 provinces and centrally-governed cities increased from around 15,000 billion VND in 2016 to nearly 24,000 billion VND in 2020, representing approximately 16% to almost 21% of the total provincial investment budget over the period 2016 to 2020 (UNDP, 2022).

**Figure 1. Investment budget for climate change/total investment budget**



*Source: (UNDP, 2022)*

The regular State Budget for Environmental Protection has been maintained to ensure the continuous operation of the national environmental monitoring system, prevent and control environmental pollution, and reduce environmental pollution. It encompasses activities such as water source pollution treatment, and solid waste treatment in urban, industrial, and residential

areas, as well as regulating the production, import, and use of chemicals and pesticides, and controlling the import of scrap and used machinery and equipment.

Budget investments primarily focus on adaptation activities, accounting for over 70% of the budget for ministries and over 90% of the provincial-level budget invested in climate change response. Combined adaptation and mitigation investments remain below 10%. Investments in mitigation areas, such as renewable energy, are mainly from the private sector. Budget investments in climate change are concentrated on four infrastructure-related tasks: transportation, urban and residential resilience, water management, and river and coastal embankments.

#### **4. DISCUSSION**

This paper has examined the fiscal policy framework for environmental management in Vietnam, considering both revenue generation and expenditure factors. Overall, while Vietnam has made advancements in implementing fiscal policies to combat climate change, significant challenges remain.

Firstly, tax and fee policies are not strong enough to regulate the behavior of economic entities. Vietnam's GHG emissions are still increasing rapidly. The main cause of emissions is the combustion of fossil fuels, accounting for approximately 60% and 65% of GHG emissions in 2014 and 2020, respectively. In 2019, Vietnam ranked as the 22nd largest emitter of CO<sub>2</sub> from fuel combustion globally and the 3rd largest in the ASEAN region, after Indonesia and Thailand (Do & Burke, 2021), (World Bank, 2022).

Secondly, many environmentally polluting products are not subject to the EPT, such as cigarettes, chemicals (including inorganic acids, alkalis, pesticides, organic solvents, etc.), organic chemicals, mercury, detergents, etc.; electronics (generating electronic waste); rubber (tires, tubes, etc.); and polymers.

Thirdly, the current EPT system follows the principle of "polluters pay the cost" and imposes environmental protection responsibilities on producers and importers of environmentally harmful products. Especially, the development of the EPT considers the contribution of taxes to achieve GHG emissions reductions, for example, taxes on gasoline, diesel, and coal. However, the current EPT law applies different tax rates to different types of fuels without clearly reflecting carbon pricing; thus, the impact of the EPT on reducing GHG emissions is not significant.

Fourthly, there are no regulations regarding the use of revenues from EPT, resource taxes, environmental protection fees, and waste treatment fees for environmental and climate-related expenditures. The revenue is integrated into the state budget and implemented according to the regulations of competent state agencies. Moreover, there is an imbalance between revenue and expenditure for environmental protection. The total revenue from EPT in the five years (2016 - 2020) was 2.8 times higher than the total expenditure for environmental protection activities. This reality may raise doubts about the effectiveness of this tax law. Experience shows that the revenue generated from environmental taxes should only be used to protect and address environmental pollution.

Fifthly, tax incentives for renewable energy projects and clean energy have not been truly effective due to the main barriers to the development of this sector being technical, transmission infrastructure, electricity consumption, and pricing.

Lastly, public expenditures for climate change adaptation mainly focus on infrastructure projects to enhance resilience capacity. However, the budget for mitigation activities accounts for a very small proportion at both central and local levels. In addition, the allocation of the investment budget for climate change mainly integrates climate-related activities under the main investment themes. There are no regulations on creating separate budgets for each climate change-related project.

## 5. CONCLUSION

Vietnam is among the most vulnerable countries to climate change, ranking 127 out of 182 countries in the Climate Change Adaptation Initiative. It ranks 13th out of 180 countries in the Global Climate Risk Index by German watch for the period 2000-2019. Climate change is increasingly disrupting Vietnam's economy, and the costs are starting to slow down economic growth. Recent calculations in the Comprehensive Environmental Assessment (CEA) show that Vietnam incurred losses of \$10 billion in 2020, equivalent to 3.2% of GDP, due to the impacts of climate change. The scale of these losses is predicted to increase rapidly, emphasizing the growing urgency for Vietnam to adapt to climate change risks (World Bank, 2022).

Vietnam must move more quickly to implement a carbon tax to increase revenue and expand fiscal policy to reduce GHG emissions. EPT offers a tax regime that can incorporate a price for GHG emissions associated with the use of fuels (oil, coal). Besides EPT, there are two other economic instruments that have the capacity to at least partly address the price of GHG emissions. These instruments are: (i) the payment for forest ecosystem services policy under the 2017 Forest Law that contains an overall policy stipulation requiring individuals and organizations emitting a large volume of GHG to pay for carbon absorption and storage services provided by forests; and (ii) partially also Environment Protection Fees for wastewater treatment and Environment Protection Charges for waste treatment that can address prices of relevant GHG emissions (primarily methane).

Regarding public expenditure, Vietnam will have to invest more in environmental protection and climate action to address climate change and environmental degradation. Some interventions may be related to, but not limited to, community-based disaster risk reduction and the promotion of clean and renewable energy. It is critical to generate, analyze, and use disaggregated expenditures on environmental protection to inform policy-making.

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# FACTORS AFFECTING THE FINANCIAL PERFORMANCE OF VIETNAMESE COMMERCIAL BANKS

Huynh Thi Thanh Truc<sup>1</sup>

*Abstract: In this study, financial performance is assessed through three indicators ROA (return of assets), ROE (return of equity), NIM (net profit margin). Based on previous domestic and foreign studies, the research has selected a suitable model for Vietnam with 08 factors affecting financial performance including bank size (SIZE), equity to total assets (CAP), operating expenses to operating income (CIR), risk provision (RISK), bank age (AGE), fixed assets to total assets (TANG), gross domestic product growth rate (GDP) and inflation rate (INF). The research results show that the factors SIZE, CAP, CIR, AGE, RISK and INF are all statistically significant and have an impact on financial performance. While SIZE, CAP have a positive effect, CIR, AGE and RISK have a negative effect on financial performance. TANG and GDP alone have an ambiguous impact on financial performance.*

*Keywords: bank, financial performance, Vietnam*

## 1. INTRODUCTION

Banks are like the money hubs of a country. They help people and businesses handle their finances. Nowadays, banks need to work super well to keep up with others, even from different countries. This is where financial performance comes into play – it's like a report card that shows how good a bank is doing.

As a capital conduit between actors in the economy, banks are considered the lifeblood of a country's economy. In the fiercely competitive environment, in addition to competing with domestic banks, Vietnamese commercial banks also have to compete with foreign banks. Therefore, operational efficiency is one of the top goals of banks. In which, financial performance is considered by managers and investors as an important criterion to evaluate the performance of banks.

Think of financial efficiency like a bank's superpower. It's not just about following rules, but also about making smart choices and managing things properly. This superpower helps banks run smoothly and reach their goals.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Some smart folks did research to see how banks use this superpower. For instance, a study in 2015 by Chu Thi Thu Thuy and her team [2] looked at different things that affect how well a bank does. They found out that things like how much money the government owns in the bank, how the bank uses borrowed money, how good the managers are, and other stuff can make a bank do better. Another study in 2015 by Ho Thi Hong Minh & Nguyen Thi Canh [4] talked

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about how having a great team of people in the bank is like having a secret weapon. When banks invest in their people, it helps them do better overall.

There's also research from 2019 by Nguyen Anh Tu and Pham Tri Nghia [10] that checked out how much banks charge for letting people borrow money. Plus, a more recent study in 2021 by Bui Dan Thanh and Tran Minh Tam [1] looked at what makes banks profitable. They found out that bigger banks with more of their own money tend to do better. But, if a bank keeps a lot of money to cover possible bad loans or has high costs, it doesn't do as well.

Lastly, a group of researchers, including Do Huyen Trang, studied how much money a bank makes compared to what it spends in 2022 [3]. All these studies are like pieces of a puzzle that show how important financial efficiency is for banks. It's not just about making money, but also about being wise with money and making the right decisions. And when banks do that, they can help the economy grow, which benefits everyone.

Overall, there are quite a few studies about the financial efficiency of commercial banks, but they haven't really shown the factors that influence financial efficiency in a systematic way. Also, these studies have different scopes in terms of space and time, so many management solutions and policy ideas suggested by these studies might not match the current reality.

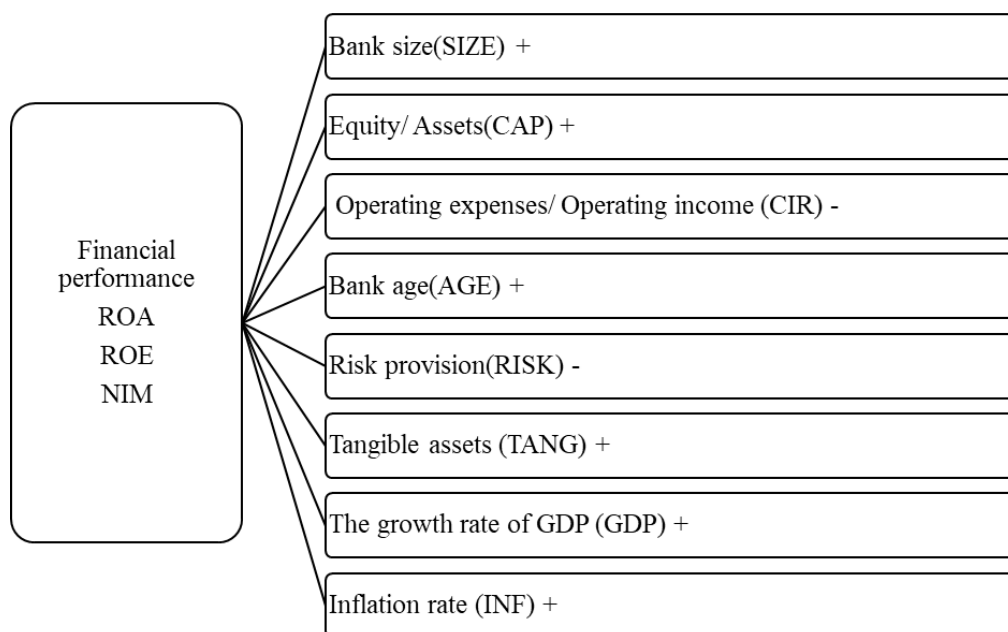
Moreover, nowadays, there are many criteria to measure financial efficiency, and each criterion has its own strengths and weaknesses. This study was done to understand how different factors affect financial efficiency in the listed banks in Vietnam. Previous studies have already shown that this relationship varies in terms of both space and time. In Vietnam, there haven't been many studies on this topic, which leaves a gap. In this study, the author identifies the factors that truly affect financial efficiency, which is really important right now. Recognizing these influencing factors, finding ways to measure them, and then coming up with solutions to improve financial efficiency is a pressing matter for the listed banks in the Vietnamese stock market.

In this research, the author looked at how well banks are doing financially using three things: ROA (return on assets), ROE (return on equity), and NIM (net profit margin). We used ideas from previous studies in Vietnam and other countries to pick a good way to study Vietnamese banks. We focused on 8 things that might affect how well a bank is doing, like how big the bank is (SIZE), how much money they own compared to everything (CAP), how much they spend compared to how much they make (CIR), how much money they keep for safety (RISK), how old the bank is (AGE), how many fixed things they own compared to everything (TANG), how fast the country's economy is growing (GDP), and how prices are going up (inflation rate, INF).

What we found is that SIZE, CAP, CIR, AGE, RISK, and INF are all pretty important when it comes to how well a bank is doing. SIZE and CAP make things better, while CIR, AGE, and RISK make things worse. TANG and GDP are a bit tricky – they don't always have the same effect on how well a bank is doing. This study helps us understand better what makes banks financially strong or weak.

### 3. DATA AND METHODOLOGY

After collecting data from the financial statements of 20 Vietnamese commercial banks for the period 2010 -2021, the authors use the Stata 17 software to analyze panel data. The proposed research model is based on the research of Gupta & Mahakud (2020) [15], Panayiotis Athanasoglou et al. (2006) [16], Trần Hoàng Ngân, Vũ Thị Lê Giang & Hoàng Hải Yến (2019) [11] Bùi Đan Thanh & Trần Minh Tâm (2021) [1]. Research hypotheses are as follows:



**Figure 1. Proposed research model**

(Source: Author’s synthesis)

*SIZE: Bank size has a positive impact on financial performance.*

*CAP: Equity/total assets ratio has a positive impact on financial performance.*

*CIR: The ratio of operating expenses to operating income has a negative impact on financial performance*

*AGE: bank age has a positive effect on financial performance*

*RISK: Risk provision has a negative impact on financial performance*

*TANG: bank fixed assets have a positive impact on financial performance*

*GDP: GDP growth rate has a positive effect on financial performance*

*INF: inflation rate has a positive effect on financial performance*

**Table 1: Interpreting variables and measure**

Variable	Measurement	Previous studies
ROA	Profit after tax / Average total assets	Panayiotis Athanasoglou et al. (2006) [16]
ROE	Profit after tax / Average equity	Nguyen Minh Kieu (2006) [10]
NIM	Net Interest Income / Total Profitable Assets	Nguyen Anh Tu, Pham Tri Nghia (2019) [10]
SIZE	Natural logarithm of total assets	Schiniotakis (2012) [17]
CAP	Equity/Total Assets	Panayiotis Athanasoglou et al. (2006) [16]
CIR	Operating expenses/operating income	Ayalew, Z. A. (2021) [13]

AGE	Year of study – year of bank establishment	Ayalew, Z. A. (2021) [13]
RISK	Risk provisions	Do Huyen Trang et al. (2022) [3]
TANG	Bank fixed assets	Isayas, Y. N. (2022) [14]
GDP	GDP growth rate	Adelopo (2018) [12]
INF	Inflation	Gupta & Mahakud (2020) [15]

Source: Author's synthesis

## 4. RESULTS

### 4.1. Descriptive statistics

Collected data from 20 banks with 208 observed variables. Further, the average return on assets ROA of 20 banks in the period 2010 - 2021 is 0.98% with the smallest value being -0.1%, the maximum value being 3.65%. Meanwhile, the bank's return on equity is the lowest at -6.5%, the highest at 26.83%, with an average value of 10.7%. The average NIM net profit margin is 3.13%, the highest value is 8.84%, the lowest is 0.94%. This shows that there are uneven ROA ROE and NIM among banks. In recent times, besides some effective banks, there are still a few banks that are operating inefficiently in the fierce competition period after the Asian currency crisis in 2009.

**Table 2: Descriptive statistical results of quantitative variables**

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROA	208	0.0098	0.0071	-0.0010	0.0365
ROE	208	0.1070	0.0715	-0.0650	0.2682
NIM	208	0.0313	0.0120	0.0094	0.0884
SIZE	208	14.2140	0.4838	13.25	15.2459
CAP	208	0.0869	0.0304	0.0406	0.1911
CIR	208	0.5004	0.1393	0.242	0.9273
AGE	208	1.3927	0.1681	0.7781	1.8061
RISK	208	0.0133	0.0045	0.00005	0.0322
TANG	208	0.0061	0.0062	0.0006	0.0361
GDP	208	0.0586	0.0160	0.0258	0.072
INF	208	0.0495	0.0442	0.0063	0.1867

Source: Author's synthesis

#### 4.2. Correlation matrix

The independent variables in the model are checked for correlation whether there is multicollinearity or not, the correlation matrix data table in the study will show the following issues of concern:

**Table 3: Correlation matrix**

	SIZE	CAP	CIR	AGE	RISK	TANG	GDP	INF
SIZE	1.0000							
CAP	-0.4979	1.0000						
CIR	-0.5214	-0.0188	1.0000					
AGE	0.6257	-0.1765	-0.3048	1.0000				
RISK	0.2978	-0.0902	-0.1890	0.2598	1.0000			
TANG	-0.3431	0.4376	0.3087	0.0900	-0.2134	1.0000		
GDP	-0.1506	-0.0670	0.2019	-0.1483	-0.1041	0.0652	1.0000	
INF	-0.1296	0.0016	-0.0948	-0.1971	0.1326	-0.0249	0.1087	1.0000

Source: Author's analysis

From Table 3, it can be seen that, besides the positive correlation relationship between the independent variables (such as the positive correlation between AGE, RISK and SIZE, between TANG, INF and CAP, between TANG, GDP and CIR or between RISK, TANG, etc.) and AGE), there are some variables with negative correlation. All 8 independent variables have low correlation with each other, correlation coefficients all are  $< 0.8$ . This shows that there is no multicollinearity (Nguyễn Đình Thọ, Nguyễn Thị Mai Trang, 2009) [8]. This shows a relatively high level of reliability in the research variables. At the same time, to ensure the coherence and independence between the variables in the research model, multicollinearity test is also performed in the next step.

#### 4.3. The analysis of VIF

The data after being processed through the Stata 17, we have the following statistical table:

**Table 4: The analysis of VIF**

Variable	VIF	1/VIF	
SIZE	3.44	0.2904	
AGE	2.12	0.4727	
CAP	2.00	0.4991	
CIR	1.93	0.5184	

TANG	1.74	0.5759	
RISK	1.22	0.8164	
INF	1.17	0.8518	
GDP	1.08	0.9241	
Mean VIF	1.84		

Source: Author's analysis

According to Table 3, the predictor variables have a value of  $1.84 < 10$ . This means that the model is considered to have no multicollinearity phenomenon. (Hoàng Trọng và Chu Nguyễn Mộng Ngọc, 2008) [6].

#### 4.4. Model selection test results

The study carried out regression testing of variables according to Pooled OLS, FEM, REM models to examine the relationship between variables, statistical significance between variables. To select the most suitable and best model for the study, the authors perform the F-test and Hausman test. The following results:

**Table 5: F test**

	Test	Result
ROA	F(19,180) = 7.16 Prob > F = 0.0000 < 5%	Selection of FEM
ROE	F(19,180) = 5.29 Prob > F = 0.0000 < 5%	Selection of FEM
NIM	F(19,180) = 13.89 Prob > F = 0.0000 < 5%	Selection of FEM

Source: Author's analysis

**Table 6: Hausman test**

	Test	FEM	REM	Hypothesis	Results
ROA	Hausman Frob > chi2 = 0.0703 > 5%	Prob > F = 0.0000 < 1%	Prob > chi2 = 0.0000 < 1%	Reject the hypothesis $H_1$ => Accept hypothesis $H_0$	Selection of REM
ROE	Hausman Frob > chi2 = 0.5527 > 5%	Prob > F = 0.0000 < 1%	Prob > chi2 = 0.0000 < 1%	Reject the hypothesis $H_1$ => Accept hypothesis $H_0$	Selection of REM



NIM	Hausman Frob > chi2 = 0.3502 > 5%	Prob > F = 0.0000 < 1%	Prob > chi2 = 0.0000 < 1%	Reject the hypothesis $H_1$ => Accept hypothesis $H_0$	Selection of REM
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Source: Author's analysis

From Tables 5 and 6, for ROA, Prob > chi2= 0.0703 > 5%. This means rejecting the hypothesis  $H_1$ , accept hypothesis  $H_0$ . For ROE, Prob > chi2= 0.5527 > 5%. This means rejecting the hypothesis  $H_1$ , accept hypothesis  $H_0$ . For NIM, Prob > chi2= 0.3502 > 5%. This means rejecting the hypothesis  $H_1$ , accept hypothesis  $H_0$ . Hausman test results show that REM model is considered better than OLS and FEM for ROA, ROE and NIM.

#### 4.5. The estimation of GLS

The OLS, FEM, and REM models all have problems with autocorrelation and variable variance, so the study proposes a GLS model to correct the defects. The following results:

**Table 7: Regression coefficient and P-value of the basic estimation model GLS**

Variable		ROA	ROE	NIM
SIZE	$\beta_1$	0.00664***	0.0547***	0.00973***
	P-value	0.000	0.000	0.000
CAP	$\beta_2$	0.104***	-0.133	0.205***
	P-value	0.000	0.362	0.000
CIR	$\beta_3$	-0.0248***	-0.284***	-0.0213***
	P-value	0.000	0.000	0.001
AGE	$\beta_5$	-0.00853***	-0.0384	-0.0177***
	P-value	0.001	0.158	0.002
RISK	$\beta_6$	-0.173**	-1.838**	0.231
	P-value	0.020	0.015	0.148
TANG	$\beta_7$	-0.113*	0.0739	0.113
	P-value	0.084	0.911	0.481
GDP	$\beta_9$	-0.0253	-0.0777	0.0285
	P-value	0.207	0.704	0.508
INF	$\beta_{10}$	0.0141*	0.192**	0.0321**
	P-value	0.062	0.013	0.048
_CONS	N	-0.0656***	-0.444***	-0.0965***
	P-value	0.000	0.010	0.008

Note: \*, \*\*, \*\*\* correspond to the significance level of 10%, 5%, 1%.

According to the research results, the factors SIZE, CIR and INF all have a positive impact with ROA, ROE and NIM with statistical significance <1%. Meanwhile, although CAP is also correlated with ROA and NIM, it was negatively correlated with ROE. The AGE variable has a negative correlation with all ROA ROE and NIM with statistical significance <1%. RISK has a negative correlation with ROA and ROE with statistical significance <5%. Particularly, the variable TANG and GDP have an unclear impact on financial performance.

## **5. CONCLUSION**

After joining the WTO in 2007 and entering the post-Asian currency crisis in 2009, the Vietnamese economy in general and the financial performance of commercial banks in particular in the research period were significantly affected. In order to improve financial efficiency, bank administrators should pay attention to a number of contents related to the expansion of the bank's size, the ratio of equity to total assets, the ratio of expenses operating on operating income, bank age, risk allowance and inflation rate of the economy.

### **5.1. Bank expansion**

Bank size is considered one of the criteria to attract customers. The results show that bank size has a positive impact on financial performance. Therefore, managers need to have a policy to expand the bank's scale with a specific and clear strategy and roadmap to help improve the bank's position and competitive advantage in the market.

### **5.2. The ratio of equity to total assets**

Besides bank size or total assets, banks with more equity or higher equity-to-total assets ratio have a competitive advantage. In the process of operation, banks also need to have a strategy to increase equity in accordance with the development capacity of the bank itself and the general situation of the business.

### **5.3. Ratio of operating expenses to operating income**

Operating costs are inversely proportional to operational efficiency. In other words, the ratio of operating expenses to operating income is negatively related to financial performance. Therefore, managers always seek to increase operating income by diversifying and increasing revenues.

### **5.4. Risk provisions**

In addition to developing market share, scale, capital, etc., the banking system also complies provision for risks according to regulations of the management agency. This helps the bank itself to prevent risks but also for the whole banking system. Provisions have a negative correlation with operational efficiency in general and financial performance in particular. Therefore, banks ensure that the level of provision is appropriate to the economic situation and meets the standards of Basel II in Circular 41/2016-TT-NHNN and especially ensures the capital adequacy level, meeting the desired profit.

### **5.5. Forecast of economic inflation**

Banks are forced to grasp the domestic economic situation through fiscal policies, monetary policies and the world political and economic situation in order to come up with appropriate business strategies. It is important to note that banks are forced to grasp the domestic economic situation through management policies, fiscal policies, monetary policies and the world political economy to forecast and make decisions. appropriate business strategies for each period, namely mobilization and lending policies, input and output interest rates, etc.

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# GREEN GROWTH AND GREEN BOND MARKET DEVELOPMENT EXPERIENCE IN CHINA

PhD. Thi Lan Anh Pham, PhD. Nguyen Van Binh<sup>1</sup>

*Abstract: In recent years, the term “green growth” has emerged as a global narrative and is used in many speeches on sustainable development. For sustainable development, a requirement is raised that countries need to mobilize a large amount of capital. Stemming from the need for huge capital to realize green growth, an effective capital mobilization tool, associated with green economic projects was born with the name green bond. Nowadays, green bonds are gradually becoming effective tools for countries to attract capital for projects associated with environmental issues. Green bonds are being deployed more and more widely around the world, showing the strong development trend of this type of bond in the future. China is one of the successful countries in developing the green bond market to mobilize capital for green growth. The article clarifies the concepts of green growth, green bonds and the green bond market; and analyzes China’s experience in using green bonds to raise capital for green growth.*

*Keywords: green growth, sustainable development, green bonds.*

## 1. INTRODUCTION

With the development of science and technology, the breakthroughs of the Fourth Industrial Revolution have provided many opportunities for economic growth. On the one hand, economic growth has created many breakthroughs. On the other hand, it has also caused many negative impacts on the environment such as biodiversity loss, environmental pollution, and climate change... leading to many other complex social problems and affecting economic opportunities for future generations. To solve this problem, green growth becomes an inevitable choice and a goal that every country is aiming for sustainable development. This is a new approach, an effort of countries and regions to simultaneously deal with harmonious socio-economic development with restoration and conservation of natural ecosystems. To realize green growth or a green economy, countries around the world need a large amount of capital. In recent years, the issuance of green bonds has been a global trend and is considered an important capital mobilization channel to meet capital needs for sustainable growth. Green bonds are a financial tool to maximize capital mobilization for the implementation of projects towards green and sustainable growth.

After a period of rapid development, China is facing a serious environmental pollution problem, causing serious political, security, economic and social consequences. This forces China to reorient its development strategy towards sustainability and greening the economy. As in all other countries in the world, implementing green growth or greening the economy requires a large source of capital. Therefore, to focus resources on achieving the goal, China has built and promoted the development of a green financial system, with special attention to the development of green bonds.

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## 2. CONCEPTS OF GREEN GROWTH, GREEN BONDS AND GREEN BOND MARKET

### 2.1. Green growth

Many scholars have pointed out that green growth evolved from the concept of “sustainable development” mentioned in the Brundtland Report in 1987 and at the Earth Summit in 1992 (Jacobs, 2013). There have been many different views of green growth.

In 2010, the Global Green Growth Institute (GGGI) was set up as a non-profit foundation (then became an international organization in 2012) dedicated to diffusing green growth as a model of economic growth, targeting poverty reduction, job creation, social inclusion, environmental sustainability, climate change mitigation, biodiversity loss, and security of access to clean energy and water. According to GGGI, green growth simultaneously targets key aspects of economic performance, such as poverty reduction, job creation and social inclusion, and those of environmental sustainability, such as mitigation of climate change and biodiversity loss and security of access to clean energy and water (GGGI, 2014).

The UNESCAP (Economic and Social Commission for Asia and the Pacific) definition of green growth is growth that emphasizes environmentally sustainable economic progress to foster low-carbon, socially inclusive development. This approach seeks to harmonize economic growth and environmental sustainability by promoting fundamental changes in society’s production and consumption (UNESCAP, 2012).

According to the OECD, green growth means fostering economic growth and development, whilst ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. Besides, the concept of green growth is narrower in scope than sustainable development and seeks to promote a resource-efficient, climate-compatible and resilient way of guiding sustainable consumption and production decisions. One key way in which this can be achieved is through explicitly valuing the impact on natural capital of investment choices to influence the quality of growth and development. According to the OECD, green growth presents a new approach to economic growth that puts human wellbeing at the centre of development, while ensuring that natural assets continue to provide the resources and environmental services to support sustainable development (OECD, 2013).

In the Green-to-Green Growth Report 2011, the World Bank defines green growth as “making growth processes resource efficient, cleaner and more resilient without necessarily slowing them”. Green growth is the pathway to sustainable development. For the World Bank, green growth is growth that is efficient in its use of natural resources, clean in that it minimises pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters”. This means that green growth policies must be developed to maximise benefits at the same time as minimising costs to the poor and most vulnerable and avoid irreversible negative impacts (Stéphane Hallegatte, 2011).

Based on the various international definitions presented above, green growth is seen as a way to pursue economic growth and development while preventing environmental degradation, biodiversity loss and unsustainable use of natural resources. Green growth and green

economy as a new development model in which economic development and environmental sustainability reinforce each other (Figure 1).

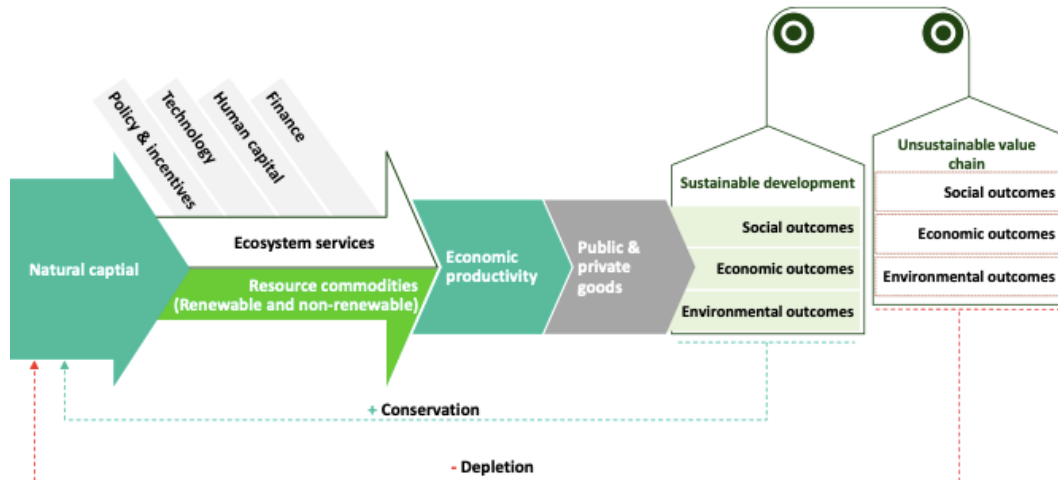


Figure 1: Green Growth Value Chain

(Source: Global Green Growth Institute, 2010)

## 2.2. Green bonds

Sustainable development with green growth is becoming a common development trend in countries around the world because green growth can ensure economic growth while protecting the environment and society. Originating from the huge need for capital to implement green growth, green bonds are an effective capital mobilization tool, associated with green economic projects.

Green bonds were issued in 2008 by the World Bank to finance environmental projects. According to the World Bank (2021), green bonds are financial instruments that finance green projects and provide investors with regular or fixed-income payments. Green projects are understood as projects and activities aimed at promoting the sustainable development of the environment.

Green Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance in part or in full new and/or existing eligible green projects and which follow the 4 Green Bond Principles. Four principles outlined in Green Bond Principles are: (1) Determine criteria for selecting green projects; (2) Establish project evaluation and selection process; (3) Manage capital mobilized from green bonds; (4) Report on capital use (Green Bond Principles, 2015).

Green bonds are debt instruments to finance green projects delivering environmental benefits. A green bond is differentiated from a regular bond by its commitment to use the funds raised to finance or re-finance “green” projects, assets or business activities. Green bonds can be issued by either public or private actors up front to raise capital for projects or re-financing purposes, freeing up capital and leading to increased lending (OECD, 2016).

According to the Climate Bonds Initiative 2020, green bonds are bonds issued to raise capital for climate change solutions issued by governments, banks, localities or businesses, labelled green bonds as debt securities including securities, private placement, and guaranteed bonds. The issuance of green bonds will help create conditions to attract large capital sources



in society to support the implementation of environmentally friendly projects and meet social responsibility goals, serving sustainable development in the future.

Thus, a green bond can be defined as a bond where the proceeds will be used for projects and activities that help mitigate and adapt to climate change or for environmental sustainability purposes.

### **2.3. Green bond market**

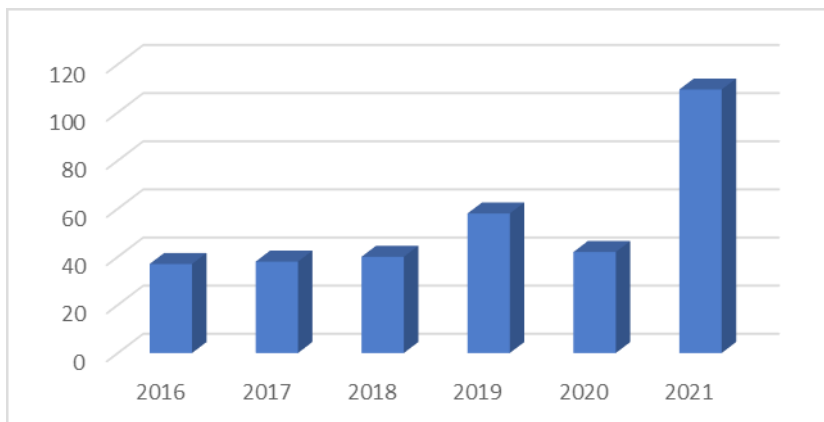
According to CBI (2021), the green bond market is where green bond issuance, trading, and buying and selling activities take place. The green bond market is one of the infrastructures serving green investment, orienting the development of green financial products. This is where organizations issue green bonds to mobilize capital for “green” activities and projects, helping to solve climate and environmental issues in green growth strategies in economies.

There are currently four popular types of green bond markets including the government green bond market; the government-guaranteed green bond market; the local government green bond market; and the corporate green bond market.

## **3. EXPERIENCE IN DEVELOPING CHINA'S GREEN BOND MARKET**

The green bond market has been formed and developed strongly in many countries such as the US, China, UK, France, Germany, Korea, Singapore... China is not the first country to join the green bond market. Faced with particularly serious environmental pollution caused by industrial development, China must reorient its development strategy towards sustainability and greening its economy. China has built and promoted the development of a green financial system, especially the development of green bonds. Although relatively young compared to its counterpart in the European Union (EU), where the European Investment Bank issued the world's first green bond - a climate-aware bond in 2007, China's green bond market has developed at a rapid pace over the past few years. Therefore, China has quickly become the second-largest green bond market in the world (CBI, 2021).

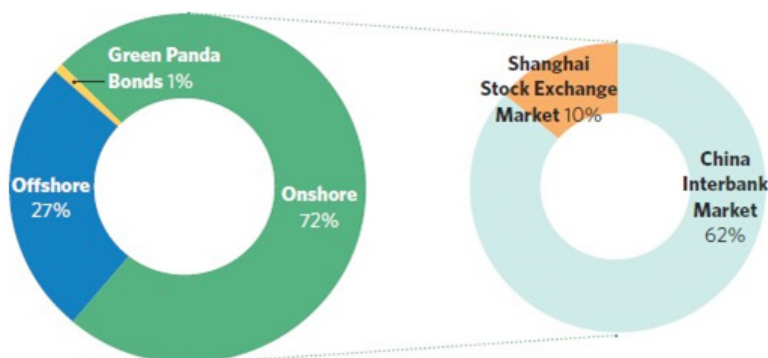
The event marking China's first official entry into the global green bond market was the issuance of nearly \$1 billion in green bonds by the Agricultural Bank of China in the London market to mobilize capital for friendly projects to improve the environment in October 2015. The domestic green bond market was established in December 2015 with the first amount of green bonds issued on the interbank market, to help credit institutions increase more capital to finance green projects, and also establish a market to create a basis for the development of the green bond market in the following years. Since two exploratory and market-shaping events, China's green bonds have grown strongly in 2016. In 2016, China became one of the largest green bond issuers with a green bond issuance value of \$37 billion, accounting for 40% of the global green bond issuance value. By the end of the first quarter of 2019, China had become the largest green bond issuer globally, accounting for 22% of the global market size. In 2021, the issuance to domestic and international markets of up to \$109.5 billion in green bonds has helped reaffirm China as the world's second-largest green bond market after the US (Figure 2).



**Figure 2: Chinese green bond issuance value in the period 2016 - 2021**

*(Source: Climate Bonds Initiative - CBI, 2021)*

In addition, China has developed green bonds in both domestic and foreign markets, in which, focusing on developing the domestic green bond market. Trading on international stock markets as well as domestic financial markets has created a large market for the development of Chinese green bonds. In 2016, 27% of China’s green bonds were issued overseas in three currencies: USD, RMB and EUR. Among the issued green bonds, 17% of green bonds meet international green bond standards and are traded in the London and Singapore markets. However, the domestic green bond market shows the strong development of China’s green bonds when the domestic issuance rate accounts for 72% of the total amount of green bonds. Of which, 74% of green bonds are issued on the interbank market and 17% are traded on the Shanghai stock market. Thus, the development of the domestic green bond market, mainly in the interbank market, has facilitated the trading of green bonds, promoting the development of green bonds (Figure 3).

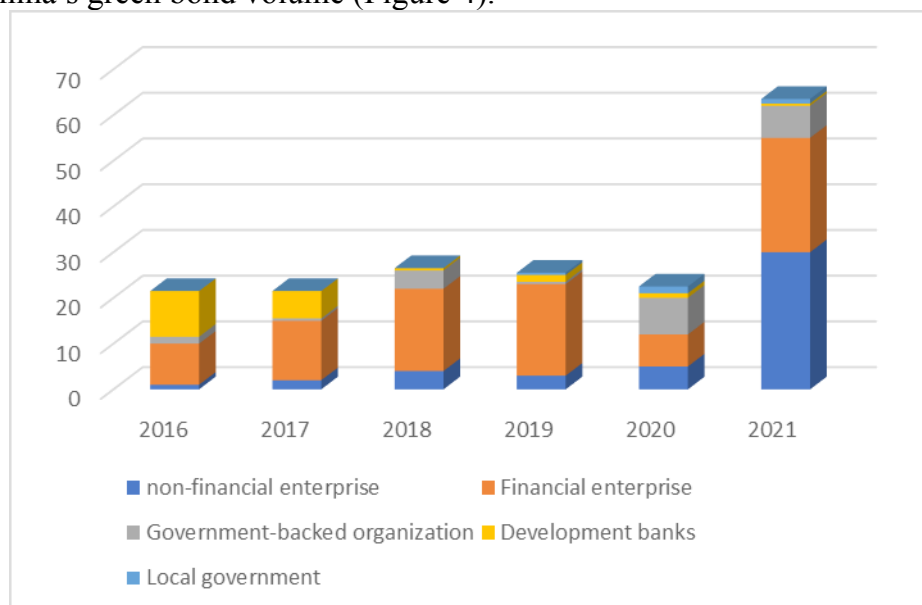


**Figure 3: Structure of Chinese green bond issuance in domestic and international markets**

*(Source: China Green Bond Market Report, 2016)*

The rapid growth and expansion of the green bond market as above has contributed significantly to investment in 06 main groups of fields: (1) energy saving, (2) pollution control and prevention; (3) Conservation and recycling of resources; (4) Clean traffic; (5) Clean energy; (6) Ecosystem protection and adaptation to climate change. Issuers have also increasingly focused on expanding the market size and increasing the amount of green bonds issued. In particular, in 2021, the value of green bond issuance from financial companies increased by 237% compared to 2020 to \$24 billion, contributing 35% to the total issuance of green bonds.

Non-financial enterprises are also strongly participating in the market with the issuance value increasing 482% compared to 2020 to reach USD 31.2 billion, accounting for nearly half (46%) of China's green bond volume (Figure 4).



**Figure 4: Value of Chinese green bonds issued by entities in the period 2016 - 2021**

(Source: Climate Bonds Initiative - CBI, 2021)

To achieve the above results, China has implemented the following key measures: Building a legal corridor on green bonds; issuing a list of projects funded by green bonds; and implementing incentive and preferential policies to develop the green bond market. The green bond market has achieved positive results, which is one of the important capital attraction channels to help China achieve its plan of greening its economy in the future.

#### 4. CONCLUSION

Green growth is currently the focus of the national development strategies of many countries. This is one of the efforts to simultaneously solve the following problems economic growth, reducing greenhouse gas emissions, preventing resource shortages and environmental pollution, mitigating and adapting to climate change, and maintaining the ecosystem. Green finance, including green bonds, increasingly plays an important role in the formation of capital to serve countries with sustainable growth. Green bonds launched in 2008 are gradually becoming an effective tool for countries to attract capital for projects related to the environment. China began entering the green bond market in 2015 to mobilise capital in developing a green economy. China is one of the successful countries in developing a green bond market and now become one of the leading countries in this market.

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# THE CURRENT SITUATION OF DIGITAL TRANSFORMATION IN AGRICULTURE IN VIETNAM

PhD. Le Thi Dan Dung<sup>1</sup>, PhD. Bui Tien Hanh<sup>2</sup>

**Abstract:** Digital transformation in agriculture is becoming an inevitable trend that requires businesses, enterprises and even farmers to transform. Digital transformation will help improve agricultural productivity while minimizing the potential negative environmental impacts of agricultural intensification. The article analyzes the current situation and limitations of digital transformation in agriculture in Vietnam. The results indicate that although the digital transformation in agriculture in Vietnam is taking place positively showing that there have been many policies issued to promote digital transformation in agriculture. The country's digital infrastructure has been gradually improved, creating the basis for the digital transformation process in economic sectors in general and the digital transformation in agriculture in particular. In fact, many localities have applied information technology in production, work management and supervision. However, the digital transformation in agricultural enterprises and households is still at a low level. Enterprises participating in digital transformation are few. The quality of human resources with high expertise in digital agriculture is still limited, making it difficult to access and master advanced technologies.

**Keywords:** Digital transformation, agriculture, Vietnam

## 1. INTRODUCTION

Digital transformation in agriculture is the use of digital technologies, data and business model innovation to transform practices in the agricultural value chain and solve production problems such as agricultural productivity, post-harvest handling, market access, finance and supply chain management to achieve higher income for smallholder farmers, improve agricultural value chain economics for agribusinesses, expand the economic inclusion of youth and women, improve overall food and nutrition security, and build climate resilience – while minimizing potential negative impact on the environment of agricultural intensification. In Vietnam, digital transformation in agriculture is one of the priority areas and has achieved some outstanding achievements. There have been a few studies on digital transformation in agriculture in Vietnam. Research by Cao Thi Ha (2021) preliminarily evaluates some successes of digital transformation in agriculture and the role of farmers in digital transformation. The study of Vo Tat Thang et al (2021) synthesizes international experiences on digital transformation in agriculture in some countries and the current situation of digital transformation in agriculture in Vietnam based on the Porter diamond model. Research by Vu Thi Hai and colleagues (2023) evaluates the status of digital transformation in agricultural cooperatives in Son La based on the digital transformation diagnostic toolkit for agricultural cooperatives (Agri-cooperative digital). diagnosis tool - Agri-CoopDDT). Research results show that digital

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transformation in cooperatives has been taking place, but mainly at a low level and outwardly. Digital transformation helps cooperatives save costs and increase member income, but due to limitations in scale, financial resources, infrastructure, professional human resources and awareness, the digital transformation process is still slow and did not meet expectations.

It can be seen that previous studies have only mentioned digital transformation in one locality or a few aspects of the digital transformation in agriculture. Research focuses on policy assessment as well as digital transformation in agricultural enterprises and households is limited. This study will fill that research gap by analyzing the current situation of digital transformation in agriculture in terms of (i) institutions and policies for digital transformation; (2) technical infrastructure, technology; (3) capital and (4) digital transformation in businesses and farming households

The article uses the method of synthesizing and analyzing secondary data. The data is compiled from many different sources: from national statistics, data from reports of international organizations.

## **2. CURRENT SITUATION OF DIGITAL TRANSFORMATION IN AGRICULTURE IN VIETNAM**

### **2.1. Institutions and policies for digital transformation in agriculture in Vietnam**

In recent years, the Party and State have paid attention to directing and promulgating many mechanisms and policies to promote digital transformation in the economic field in general and in agriculture in particular. As part of Agriculture 4.0 Vietnam has also renewed its commitment to integrating new technologies into the agricultural sector to support economies of scale, input efficiency, commodity value and eco-friendly products. Conceived based on “more is less”, the Agriculture Sector Restructuring Plan 2014 sets out the strategic objectives of the sector to ensure sustainable agricultural development financially, socially and environmentally. This initiative is underpinned by an emphasis on strengthening cooperation among value chain stakeholders to facilitate strong agricultural growth and competitiveness by improving productivity, efficiency, added value and understanding of consumer preferences. Decision No. 879/QD-TTg signed by Prime Minister Nguyen Tan Dung in 2014 approving the Industrial Development Strategy to 2025 and a vision to 2035, prioritizing the application of advanced technology and communication in agriculture, focusing on digital services, telephony and software development. The Master Strategy for International Integration to 2020 identifies a focus on digital, cloud-based technologies, e-commerce, and digital literacy. The strategy also focuses on attracting domestic and foreign investment by simplifying business establishment procedures and applying information technology in local governments to increase transparency. The Five-Year Socio-Economic Development Plan 2016-2020 calls for better value chain management to accelerate processes related to agriculture and food production, while improving linkages between producers and consumer market.

Vietnam has recently taken steps to create a more favorable environment for digital agriculture through infrastructure development and financial support. Decision No. 575/QD-TTg aims to increase the value of agricultural production by 500% by increasing large-scale farm automation, establishing hi-tech agricultural zones and establishing 500 digital



agricultural cooperatives in 2020 (Shira and Dad, 2018). As part of this effort to improve the quality of agricultural products and reduce costs, the Prime Minister has committed to improving investment in at least two hundred enterprises with digital agricultural solutions. Such comprehensive support from the government will help producers afford digital agricultural solutions and will promote the development of innovative and smart solutions. The government has also acknowledged the huge potential of digital solutions in aquaculture. To help address communication gaps and information fragmentation in the industry's value chain, the government's national action plan on shrimp sector development (Decision No. 79/QD-TTG) calls for call using digital communication technologies. The Ministry of Agriculture has also promoted digital solutions to improve access to information and multi-dimensional communication and has recognized (Directive 6524/CT-BNN-KHCN) the limitations of the current legal framework on digital transformation towards 4.0 technology in agriculture.

The government has also taken steps to strengthen agricultural extension and advisory services, protect multi-dimensional information flows between suppliers and end users, and support agribusinesses to develop services for better market access and competition. The Ministry of Agriculture and Rural Development is currently building on the success of other programs, including the Viet Nam Sustainable Agriculture Transformation Project, to develop a digital database to improve coffee seed traceability and resource management (VNA, 2019). In 2019, the Plant Protection Department also introduced a mobile application called Pesticides to increase pesticide use efficiency and provide information on non-chemical alternatives (IDH, 2019). As part of the government's incentive package on funding for digital agriculture, Decree No. 57/2018/ND-CP provides financial support for rural development programs to promote agricultural research and technology transfer. In early 2019, the Ministry of Agriculture and Rural Development, together with the Vietnam Youth Union, launched the One Commune One Product Initiative to provide financial support of US\$645 million to stimulate the rural economy and start-ups. At the same time, credit policies were issued to attract investment in hi-tech agriculture, including Decree No. 41/2010/ND-CP and Resolution 30/2017/ND-CP. The above policies focus on increasing credit limits and reducing interest rates for clean agriculture and high-tech agriculture. In particular, Decree No. 116/2018/ND-CP allows businesses to borrow up to 70-80% of the value of high-tech agricultural and industrial projects without collateral. In addition, the decree also provides many incentives in terms of reducing administrative procedures and land rent. In addition, Decree No. 57/2018/ND-CP belongs to the Government's incentive package on financing digital agriculture, stipulating mechanisms and policies in providing financial support to rural development process that promotes agricultural research and technology transfer.

According to the "National Digital Transformation Program to 2025, with orientation to 2030" approved in Decision No. 749/QD-TTg dated June 3, 2020, of the Prime Minister, the agricultural sector is one of the 8 industries and fields that need to be prioritized for digital transformation. Some of the goals in the process of digital transformation of the agricultural sector are given as follows:

- (1) Develop hi-tech agriculture in the direction of focusing on smart agriculture and precision agriculture, increasing the proportion of digital agriculture in the economy.

(2) Implementation of digital transformation in agriculture must be based on data. Focus on building big data systems of the industry such as land, crops, livestock and fisheries. Building an integrated observation and monitoring network in the air and on the ground for agricultural activities. Promote the provision of information on the environment, weather, and land quality for farmers to improve productivity and crop quality and support the sharing of agricultural equipment through digital platforms.

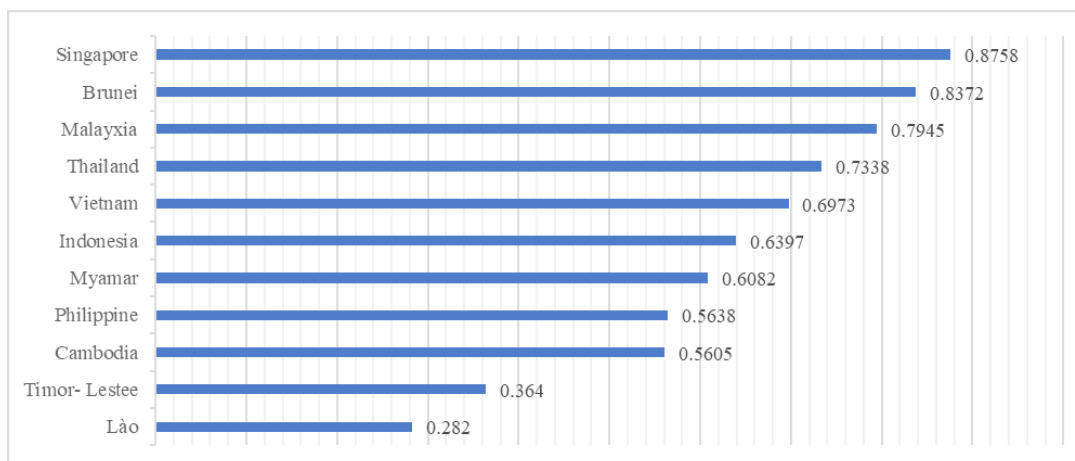
(3) Applying digital technology to automate production and business processes; managing and monitoring the origin and supply chain of products, ensuring fast, transparent, accurate, safe, and food hygiene. Consider piloting the implementation of the initiative “Each farmer is a trader, each cooperative is an enterprise applying digital technology” with the goal that each farmer will be oriented and trained in digital technology application in the future in order to produce, supply, distribute, forecast (price, season, ...) agricultural products, promote the development of e-commerce in agriculture.

(4) Implementing strong digital transformation in management to have timely policies and administration for agricultural development such as forecasting, market warning, planning management, etc.

The above objectives have a strong impact on the structure of human resources in general and human resources in the agricultural sector in particular. Improving labor quality is considered as one of the three pillars of motivation for socio-economic development according to the Socio-Economic Development Strategy for the period 2021-2030 of the 12th Party Central Committee. For digital transformation, to solve the problem of labor, the Project “Raising awareness, universalizing skills and developing human resources for national digital transformation by 2025, with orientation to 2030” was issued and the Decision 146/QĐ-TTg dated January 28, 2022 of the Prime Minister has set the goal of creating a strong change in awareness and actions of leaders and officials of agencies and organizations, enterprises to promote digital transformation; popularize digital skills for subjects participating in the digital transformation process in each industry, each field, and each locality. To achieve the above goal, corresponding solutions are given including raising awareness about digital transformation, universalizing digital transformation skills, and developing digital transformation human resources.

## **2.2. Technical infrastructure, science and technology**

Vietnam is a country with the potential to apply digital technology to economic sectors. From 2009 to 2022, Vietnam has increased 4 places in the Global Readiness Index Ranking (Networked Readiness Index Ranking) as assessed by the World Economic Forum (WEF). WEF ranks this index of countries based on an assessment of the readiness and exploitation of information and communication technology (IT-IT). Specifically, the index focuses on evaluating three main factors: the environment for ICT development (policy, infrastructure, political stability), ICT readiness (the level of people’s, business and government) and ICT use by citizens, businesses and Governments (Portulans Institute, 2022). Vietnam is also the country with the fastest growth in information and communication technology in the world. Vietnam ranks third in the world in terms of ability to pay telecommunications charges. The average price for fixed broadband is 2.93 USD/month. Meanwhile, the average rate for minimum speed in many countries around the world exceeds 580.35 USD/month (Burra et al., 2021).



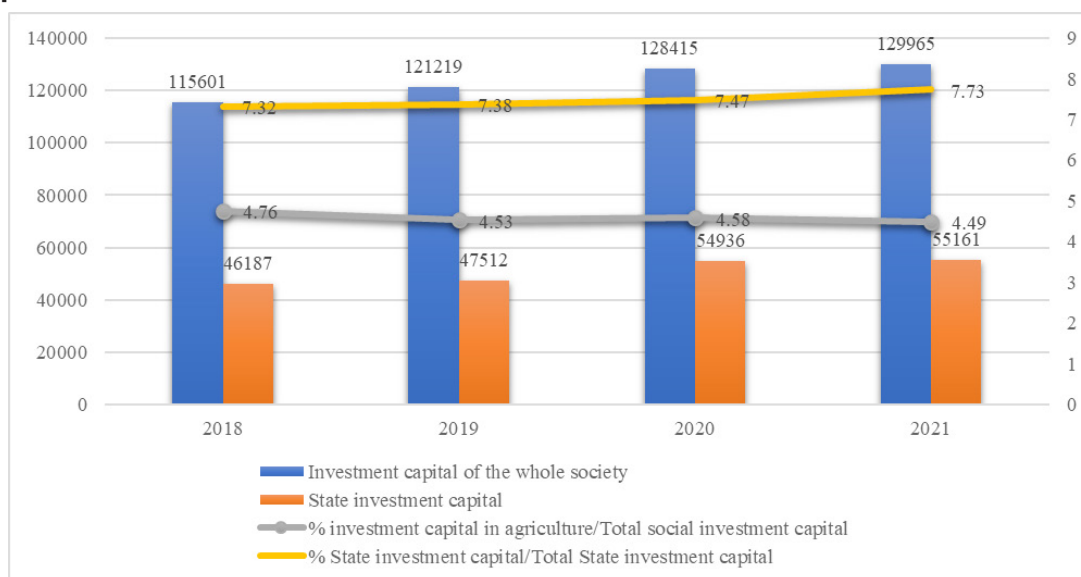
**Figure 1. Telecommunications infrastructure index in 2022 of Southeast Asia**

**Source: United Nations, 2022**

In 2020, Vietnam has 69 fixed telecommunications service providers. The percentage of the population with 2G, 3G and 4G mobile coverage is 99.8%. The percentage of internet users reached 70.23%. The percentage of households with internet access reached 74.8% (Ministry of Information and Communications, 2021). The number of smartphones has increased rapidly. As for farm households, the 2016 Rural, Agricultural and Fishery Census showed that 90% of farmers owned a mobile phone. However, most farmers use smartphones as a communication and entertainment device, instead of using them as a labor tool (Borton, 2020).

Despite the high growth rate of information and communication technology, Vietnam's telecommunications infrastructure compared to other countries in the world still has many points to improve. Vietnam's telecommunications infrastructure index in 2022 is 0.6973, an increase of about 4% compared to 2020, higher than the average value of the world and Asia, Southeast Asia. In terms of rankings, Vietnam's telecommunications infrastructure in 2022 is ranked 74th out of 193 countries/territories, decreases 5 places compared to 2020. The Telecommunications Infrastructure Index is evaluated based on data compiled provided by the International Telecommunication Union (ITU), and is the average of 4 component indexes: Internet users rate, weight 25%, number of mobile subscribers per 100 populations, weight 25%, number of mobile phone subscribers and active mobile broadband subscribers per 100 people, weight 25%, fixed broadband subscribers per 100 people, weight 25%. In Asia, Vietnam ranks 19th out of 47 countries in terms of telecommunications infrastructure. In Southeast Asia, Vietnam ranks 5th out of 11 countries on the Telecommunications Infrastructure Index. The countries that stand above Vietnam in terms of telecommunications infrastructure in Southeast Asia include Singapore, Brunei; Malaysia and Thailand. All four of these countries are high- and upper-middle income countries (United Nations, 2022).

### 2.3. Capital



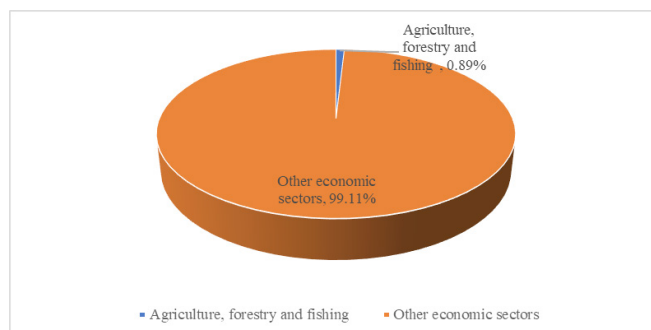
**Figure 2. Investment capital of the whole society and state investment capital in the agricultural sector**

Source: General Statistics Office 2021 and the authors' calculations

High-tech agricultural projects often require high initial investment. In fact, to build a model of high-tech agriculture, it takes about 140 to 150 billion VND, a hectare of greenhouses according to Israeli technology with a full system of temperature and humidity sensors needs to invest at least 10 to 15 billion VND (Ngoc Son, Chi Vinh and Bao Phuong, 2017). To stimulate the development of hi-tech agriculture, the government has a policy of unsecured loans from VND 100 million to VND 3 billion, from 70% to 80% of the project value for production and business plans of cooperatives and enterprises applying high technology according to Decree No. 55/2015/ND-CP dated June 9, 2015. In addition, Resolution 30/NQ-CP dated March 7, 2017 of the Government on loans to encourage the development of high-tech agriculture, clean agriculture with a capital of VND 100,000 billion for lower-interest loans than the normal lending interest rate from 1-1.5%/year for organizations and individuals that meet the criteria of high-tech application of agriculture and clean agriculture according to the regulations of the Ministry of Agriculture and Rural Development. However, the actual disbursement of the program is still slow. After more than 3 years of implementation, by 2020, the program's accumulated loan sales will reach VND 66,650 billion, the outstanding loan balance will be about VND 27,500 billion (Ministry of Agriculture and Rural Development, 2020).

The proportion of total social investment in the agricultural sector is still low. In 2018, the total social investment capital of the agricultural sector was VND 115,601 billion, accounting for 4.76% of the total investment capital). By 2019, this capital is 129,965 billion VND, accounting for 4.49% of the total investment capital (GSO 2021 and self-calculation by the authors).

The proportion of state investment in agriculture is also low compared to total state investment capital but tends to increase slightly (Figure 2). In 2018 state investment in agriculture was 7.32% of the total state investment capital and has increased to 7.73% in 2021.



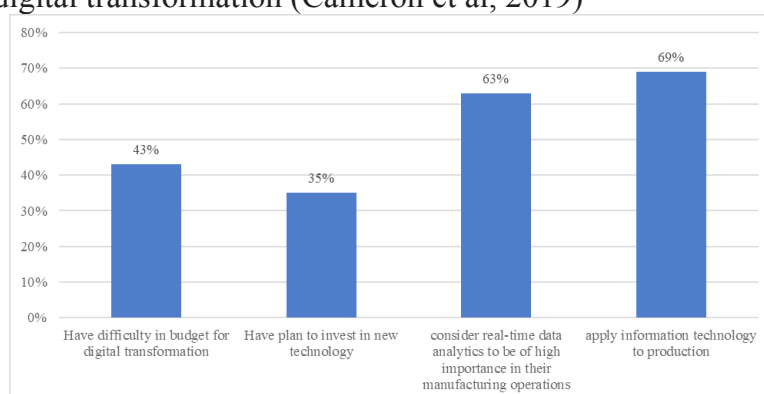
**Figure 3. Proportion of accumulated FDI by 2021 by economic sector**

*Source: General Statistics Office 2021*

Accumulated to 2021, Vietnam received 515 foreign direct investment (FDI) projects in agriculture out of a total of 34,479 projects. The number of agricultural projects accounted for only 1.49% (down 0.12% compared to 2019) of the number of FDI projects. In addition, the amount of registered capital for agricultural projects also accounts for a lower proportion of the total capital. By 2021, the total accumulated FDI in the agricultural sector is 3.72 billion USD, accounting for only 0.89% of the total capital (GSO, 2021).

**2.4. Digital transformation at agricultural enterprises and farming households**

Currently, in Vietnam, agro-forestry-fishery production is organized in three forms: households, cooperatives and enterprises. Data from the General Statistics Office shows that Vietnam has 9,123 thousand agricultural - forestry - fishery production units as of July 1, 2020. Of which, there are over 9,108 thousand households; 7,418 cooperatives; 7,471 enterprises. These are the units that will directly participate in the agricultural digital transformation in Vietnam. However, according to an assessment of Vietnam’s digital economy, only 35% of businesses plan to invest in new technology and 69% apply information technology to production and business activities. Among surveyed businesses, 63% consider real-time data analytics to be of high importance in their manufacturing operations, and 43% have difficulty in budgeting for digital transformation (Cameron et al, 2019)



**Figure 4. Digital transformation of Vietnam’s agricultural industry in agricultural enterprises**

Among households, only 15% of farming households plan to invest in new technology and 18% of households apply information technology to production and business activities. 46% of surveyed households consider automation technology to be of high importance in production



and 39% of farm households have difficulty in accessing information. Agribusinesses prioritize automation, machines, sensors, and data collection. Meanwhile, agribusiness households prioritize technologies that support instant decision making and solving day-to-day management problems (Cameron et al., 2019).

In recent years, the agricultural sector and some localities have paid attention and actively applied digital solutions in agricultural production and rural management. According to the assessment of the Ministry of Agriculture and Rural Development, several units have used digital technology in cultivation, animal husbandry, fisheries and forestry. Typical in farming is software that analyzes data about the environment, plant growth stages, allowing access and monitoring of these parameters in real time. In animal husbandry, the application of Internet of Things (IoT) technology, block chain, biotechnology in large-scale farms. In forestry, applying DND technology to manage forest varieties and products; GIS technology and remote sensing images to build software for early detection and warning of forest fires, deforestation, and forest degradation. In seafood, fish detectors using ultrasonic waves, flow meters, satellite phones, GIS technology and global positioning systems (GPS) help manage offshore fishing fleets. Several large enterprises (VinEco, Hoang Anh Gia Lai, NAFOOD, DABACO...) have applied high technology and IT to operate production, distribution and consumption of products.

As for agricultural cooperatives, according to a 2017 report by the Department of Economic Cooperatives and Rural Development, there are 199/12,600 agricultural cooperatives (accounting for 1.5%) that apply high technology using high technology. In which, 164 cooperatives applied farming, rearing and preservation techniques, 17 cooperatives applied irrigation automation technology, 17 cooperatives applied biotechnology, 1 cooperative applied technology in the production of materials. In addition, many rural areas have applied IT in a simple way, such as installing a security camera system instead of self-managed militia patrolling, which has significantly reduced the level of law violations. Some typical new rural communes have applied IT in management, supervision and administration of public affairs. According to the Central Steering Committee for the Census of Rural - Agriculture and Fisheries, digital transformation solutions in agricultural production - forestry - fishery such as greenhouses, net houses, and greenhouses have been applied in many localities. Typical are the provinces and cities such as Hanoi, Hue, Da Nang, Ho Chi Minh, Lam Dong.

### **3. CONCLUSION**

Digital transformation in agriculture is becoming an inevitable trend that requires businesses, production facilities and even farmers to transform to adapt. In recent years, the Party and State have issued many specific mechanisms and policies to attract high investment in agriculture. The country's digital infrastructure has been gradually improved, creating the basis for the digital transformation process in economic sectors in general and the digital transformation in agriculture in particular. In fact, many localities have applied information technology in production, work management and supervision. However, it can be seen that the digital transformation in agricultural enterprises and farmers is still at a low level. Enterprises participating in digital transformation are few. The quality of human resources with high expertise in digital agriculture is still limited, making it difficult to access and master advanced



technologies. Experts are weak in practice. Farmers are still afraid of digital transformation. The rate of labor aging in the agricultural sector is rapid. Both farmers and businesses lack understanding of e-commerce business. In addition, the agricultural sector has not yet attracted FDI. It is difficult for both farmers and businesses to access domestic credit. Synchronous scientific database on environment, market and technology is lacking. Data collection is also difficult. Therefore, in order to promote digital transformation in agriculture, it is necessary to have specific solutions focusing on improving the quality of human resources, applying technology to land management, improving access to capital, building a database platform.

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# RESEARCH INTERNATIONAL MANAGEMENT PRINCIPLES APPLIED TO PUBLIC ADMINISTRATIVE ACCOUNTING IN VIETNAM

Associate Professor, Dr. Ngo Thanh Hoang<sup>1</sup>

**Abstract:** *Completing the Vietnam public sector management accounting system in general and public administrative accounting in particular to ensure efficiency and effectiveness, especially in the process of public finance and accounting reform in Vietnam, is a requirement. necessarily objective in both theory and practice. This article researches and explains global management accounting principles compiled by CGMA organization. Analyze the current state of public management accounting in Vietnam, compare similarities and incompatibilities with international management accounting principles, and then make assessments on achieved results and existing problems, limitations need to have solutions to overcome and evaluate the ability to apply international management accounting principles in Vietnam's public sector in general and administrative and public service units in particular. Proposing directions and solutions to apply international management accounting principles to the public sector in Vietnam, with a focus on management accounting in administrative and public service units*

**Key word:** *Global management accounting principles; Public management accounting, applying global management accounting principles.*

## 1. PRINCIPLES OF GLOBAL MANAGEMENT ACCOUNTING.

Management accounting is the finding, analysis, communication and use of decision-relevant financial and non-financial information to create and maintain value for organizations.

The Management Accounting profession requires a thorough understanding of the accounting unit and its operating environment to understand the risks and opportunities of that unit. By appropriately managing and responding to risks, entities can exploit opportunities and create value for stakeholders over time. Management accounting is the heart of a unit, the intersection of finance and management. Management accountants provide systematic solutions to unsystematic problems, by translating complexity into simplicity and providing advice to administrators and managers in the simplest way possible, helps units make better decisions by extracting value from information. Making decisions based on evidence or informed judgment rather than guesswork makes for high and certain success. All Management Accounting principles are established for the above reasons.

The following are global management accounting principles researched and published by the CGMA organization.

### 1.1. Communication conveys an influential vision

If this principle is good, it will ensure the unit makes better decisions about strategy and executes the strategy well at all levels.

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With this principle, Management Accounting begins and ends with conversations. This functionality improves decision making by exchanging meaningful information at all stages of decision making. Good communication of key information allows Management Accountants to connect operational clusters and support integrated thinking. The consequences of one department's activities on another department will be easier to recognize, accept, or adjust.

By discussing the needs of decision makers, the most relevant information can be identified and analyzed. This means that the recommendations will be useful and meaningful to the decision maker.

This principle is concerned with regulating communication in a manner appropriate to the decision being considered, to the person making the decision (or others) and to the manner or processes in which the decision is made. The principle requires transparency and simplicity in the presentation of management accounting information. When information is received by the right people at the right time, they will have a better perspective to make decisions that create greater value in the long term. That is how Management Accounting impacts information-based decision making.

Discussion content: (1) Discussion about strategy development and implementation. Communication about strategy execution occurs at every level of the organization and involves all employees.

Communication gives the most relevant, comprehensive and balanced view of the organization's past performance, current financial situation, future potential and planned innovations. Accounting reports Management is always based on the concept of transparency, prudence, management responsibility, reliability and eliminating: Unimportant information; Information chaos; Terms; Status unclear; Poor direction.

Management accounting also requires a good understanding of the decisions the entity needs to make. This impacts data collection and analysis in accordance with the "Relevant Information" principle. The amount and analysis of information is not useful if it does not deliver impact and create and protect the long-term value of the entity.

## **1.2. Appropriate information**

With the goal of helping units plan and find the necessary information to establish strategies and methods of implementation, Management Accounting is to provide appropriate information to decision makers in a timely manner. According to the principle of Communication, it is necessary to communicate and understand the decision to be made and the needs of the decision maker. This principle is therefore concerned with identifying, collecting, recognizing, preparing and storing information. This requires achieving the right balance between: (1) Information relating to the past, present and future; (ii) Internal and external information; (iii) Financial and non-financial information.

Appropriate information content includes:

(1) Past information: The results of decisions become reality in the future. Therefore, to ensure it is relevant, the information must have predictive elements and a material influence on the outcome.

Irrelevant information will often include issues such as committed or sunk costs, continuous improvement based on information about activities that are or are not performing well in situations in the past to be able to repeat good decisions and avoid bad decisions.

Management accountants go through the best available sources of information relevant to the decision to be made, the decision makers and the decision-making style or process to be used. By understanding the needs of those involved - as outlined in the Communication principles - the most relevant information for the decision is identified, collected and prepared for analysis.

(2) Information is reliable and accessible

To prepare data for analysis, information is organized, classified, and refined. The value of information is based on its quality, accuracy, consistency, and timeliness. Timely information relating to decisions made or to be made during a specific period. Data is protected to avoid the risk of manipulation and loss. If incomplete or unreliable data are presented, care should be taken so that decision makers can determine how much they can trust the data.

(3) Information has context

Management accounting uses information with three main characteristics: (i) Time-related: Information is drawn from the past and present as well as from predictive visions of the future. (ii) Boundary-related: Information is not limited by the traditional boundaries of the unit. Information is drawn from internally and externally, including financial and operational systems, customers, business partners, suppliers, markets and macroeconomics. (iii) Data related: Information is quantitative (both financial and non-financial - including environmental and social issues) and qualitative.

Quantitative and qualitative skills are needed in Management Accounting, for use in decision-making on the basis of past and present data and predictive horizons.

### **1.3. Value impact analysis**

Objective - To simulate different situations to illustrate cause and effect relationships between inputs and outputs.

This principle focuses on the interaction between Management Accounting and the operating model. By modeling the impact of opportunities and risks, quantifying the impact on strategic outcomes, and assessing the likelihood that a required outcome will create, sustain or destroy value treat.

Management accountants use relevant information, as defined in the “Relevant Information” principle, to develop scenario models. The effort in evaluating situations must be commensurate with the importance of the decision being made. Some situation models will be simple and require little effort while others are more complex and require more complex factors to be considered.

This discipline requires a thorough understanding of the operating model and the broader macroeconomic environment. It involves analyzing information along the path to value creation, evaluating opportunities, and focusing on the risks, costs, and value creation potential of the opportunities.

Management accountants convert information into vision by analyzing the impact on outcomes of considered scenarios. These options have different impacts on the costs, risks and value of the entity. Scenarios describe trade-offs between options so that opportunity costs are also considered in decisions.

Management accountants prioritize actions using rigorous reasoning from models. A thorough understanding of strategic objectives, stakeholder needs and agreed organizational goals means actions are ordered by value rather than cost.

#### **1.4. Management responsibility creates trust**

Objective - Proactively manage relationships and resources to protect the entity's financial and non-financial assets, reputation and value.

As analyzed above, effective Management Accounting functions become a reality when people apply the principles to their units. People who consistently follow good values and best practices become trusted guardians of an organization's values.

Effective and efficient planning and management of resources ensures their availability for future generations. Relationships help organizations gain access to resources. Trust is the stepping stone to good relationships, whether between colleagues or between organizations and customers, investors, suppliers and wider society.

This principle involves being alert to potential conflicts of interest and not placing short-term or personal interests above the long-term interests of the entity or its stakeholders. The Principles require Management Accounting professionals to behave with (and encourage colleagues to behave with) integrity, objectivity and to constructively challenge any decisions that do not follow the established standards. value of the unit.

Accountability and credibility: (i) Management Accounting professionals must have the ability to answer questions to their direct clients and other relevant parties regarding decisions made in which they are involved. (ii) Accountability for decisions reduces the risk of carelessness or making wrong decisions. Management Accounting professionals are committed to balancing the needs of different stakeholders in the decision-making process and answering questions from any individual or group that impacts - or affected by the decision. (ii) Recognizing conflicting interests improves stakeholder management and is an important consideration when prioritizing stakeholder groups. Proactively seeking feedback and responding to questions or complaints will support stakeholder oversight of the entity's operations. This enhances trust, credibility and legitimacy of the organization, and has a positive impact on improving processes and reputation.

Sustainability: Sustainable entities achieve long-term economic performance while creating positive value for society and minimizing environmental impact.

Integrity and ethics: When implementing strategy, management accountants align their actions with the organization's values. The organization's core values can provide filtering criteria for decisions to escape decision dilemmas.

## **2. CURRENT STATUS OF PUBLIC SECTOR MANAGEMENT ACCOUNTING IN VIETNAM IN THE FIELD OF PUBLIC ADMINISTRATION.**

Through research and analysis of the current status of management accounting in the Vietnamese public sector in the period 2017 - 2021 in general and at the administrative accounting unit in particular, we conclude and draw important assessments after:

Most accounting units in the field of state accounting in general do not pay much or no attention to the organization of their Management Accounting apparatus, as well as understand



the importance of Management Accounting. in providing information to help administrators make operating decisions, thereby leading to unit development strategies and unit management and operations that are not really effective.

Legally: In the period 2017 - 2021, administrative and public service units will perform accounting tasks based on legal regulations on accounting according to the 2015 Accounting Law and the administrative and public service accounting regime issued. according to Circular 107. Both of these legal documents do not require details about Management Accounting tasks.

Regarding the implementation of the management accounting cycle: (i) Collecting input information is the initial stage, playing an important role in the accounting cycle in general. However, currently, regulations related to Public Management Accounting in Vietnam are still unclear and incomplete, making the collection of information inconsistent and inconsistent. (ii) Management Accounting information sources are not updated fully, continuously, and accurately from the first stage of the accounting cycle, which has significantly affected the stage of processing and analyzing Management Accounting information. treat. In addition, the processing of Management Accounting information in the Vietnamese public sector still does not have standard processing procedures and methods. This causes Public Accounting units to have to establish their own processes and methods for processing Management Accounting information, making information processing not yet synchronous and effective.

Regarding the implementation of some contents of Management Accounting: (i) Collecting, processing, systematizing and providing cost and price accounting information: The content closest to the current cost accounting task is carried out at public administrative units are: units that have the ability to determine total costs through calculating the total amount incurred on the group of accounts reflecting costs (accounts 154, 611, 642). (ii) Administrative units in general only prepare financial statements and management reports according to the requirements of Circular 107/2019/TT-BTC, cost accounting products and service cost calculations such as reports. Cost reports and price reports have not yet been formed. Therefore, accounting information about costs and service prices is a huge gap.

Building economic - technical norms for public service services: is facing many challenges, including: Lack of accurate information and data; Changes in the business environment; Shortage of human resources; Using public management accounting information: The accounting information system in general is still weak, gradually approaching the private sector, cost accounting information and service prices are almost non-existent, what to do? Can be used for unit administration.

Weaknesses of Vietnam Public Sector Management Accounting in a number of aspects such as: The current situation of public management accounting in Vietnam is still developing and has not met the requirements of a growing market economy. strong growth; Not fully developed, lack of focus on Management Accounting; Lack of standardization and systematization; Lack of processes and control systems; Not meeting unit management requirements; There is no system of principles; Lack of focus and professional management; Lack of transparency and independence.



### **3. PROPOSING AND RECOMMENDING THE APPLICATION OF GLOBAL MANAGEMENT ACCOUNTING PRINCIPLES TO THE PUBLIC SECTOR IN VIETNAM IN GENERAL AND MANAGEMENT ACCOUNTING FOR PUBLIC ADMINISTRATIVE UNITS**

#### **3.1. Proposed Solutions**

- Develop and promulgate cost accounting procedures and standard service prices before implementation. This process requires the participation, agreement and approval of all relevant departments and divisions such as the warehouse department, departments directly involved in providing services, management board, etc.

- Develop economic-technical norms as a basis for determining costs and service prices based on the consensus of all relevant departments: before determining cost norms, there needs to be a discussion, not only with superiors but also allowing subordinates and relevant departments to discuss and discuss specifically. This shows that communication that conveys an influential vision is communication that aims to improve and enhance the quality of accounting information in general and management information in particular.

- Applying this principle in cost accounting and public service prices, administrative units can consider choosing different cost allocation models in calculating costs and prices; or application as a foundation for building a reasonable selling price policy.

#### **3.2. Request**

Recommendation 1: Quickly promulgate a system of legal documents regulating management accounting in the public sector.

***Basis and arguments of the recommendation:*** The lack of a supporting legal system is the main reason leading to the situation where Management Accounting plays a blurred role in both the public and private sectors.

***Anticipate the impact (effectiveness) of recommendations and proposals when accepted and implemented:*** Promulgate public management accounting policies, regulations and processes in a standardized and synchronized manner to facilitate the implementation of public management accounting. apply and apply Management Accounting in practice. Specifically, promulgating a synchronous system of legal documents regulating Public Management Accounting policies, regulations and processes helps:

- Ensuring openness and transparency: helping the unit's activities to be carried out in accordance with the law and avoiding violations, abuse of rights, and financial fraud

- Increase the effectiveness of financial management: The system of legal documents on management accounting helps guide the financial management activities of the unit. It defines processes, regulations and procedures to ensure effective financial management and make operational decisions more accurate.

- Support for supervision and inspection: The system of legal documents on management accounting helps supervision and inspection agencies perform their work more easily.

Recommendation 2: Focus on training and improving the professional qualifications of management accounting staff

***Basis and arguments of the recommendation:*** In current practice, the training and supply of highly qualified human resources, expertise and professional skills in the field of Public

Management Accounting in Vietnam is still limited. This leads to a lack of quality human resources and does not meet the requirements of Management Accounting jobs in public units.

***Expected impact (effectiveness) of recommendations and proposals when accepted and implemented:*** Training and coaching management accounting staff with strong professional knowledge, especially in accounting law and accounting Management accounting, economics, corporate governance, finance... are the foundation of perfecting accounting in general and Management Accounting in particular.

Recommendation 3: Build a synchronous support system such as: establishing an internal control system, performing performance evaluation, using information technology... to serve Management Accounting

***Basis and argument of the recommendation:*** Management accounting is a branch of accounting in general, and is also a tool for unit management. However, Management Accounting cannot do a good job in providing information for management and administration without the cooperation and support of relevant parties.

***Expected impact (effectiveness) of recommendations and proposals when accepted and implemented:*** Building a synchronous Management Accounting support system will help increase the efficiency and accuracy of the management accounting process, while minimizing errors and increasing the transparency of financial information. Specifically, synchronizing management accounting support systems can bring the following benefits:

- Save time and costs: A synchronized management accounting support system will help automate many simple and repetitive tasks, reducing time and costs for the unit.

- Increase the accuracy and reliability of financial information: The synchronous management accounting support system helps ensure the accuracy and reliability of financial information, thereby helping managers make informed decisions. more accurate and effective decisions.

- Increase financial management and control capabilities: The synchronized management accounting support system provides financial management and control tools, helping managers to monitor the unit's operations quickly. more rigorous way.

- Minimize risks: The synchronized management accounting support system helps minimize risks related to the unit's financial management, ensure legality and minimize legal issues.

Increase the transparency of financial information: A synchronized management accounting support system helps ensure the transparency of financial information, helping stakeholders such as partners and customers to evaluate operations. of the unit accurately and correctly.

**Conclusion:** Management accounting is a new branch of the accounting industry in general and is promising to become a new trend of modern accounting. At the same time, it affirms that the role of Management Accounting is extremely essential to provide information, organize information analysis, and propose solutions to serve the management requirements and economic and financial decisions of the organization. taste. On the other hand, public management accounting is an important tool for units to determine their strengths and build long-term development strategies. Stemming from the analysis of Management Accounting's ambition to help units make better decisions by extracting value from information, making decisions based on evidence or informed judgment rather than judgment. guess.

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# INVESTMENT CAPITAL ALLOCATION OF THE CENTRAL BUDGET FOR THE DEVELOPMENT OF HE IN VIETNAM

MA. Pham Thanh Ha<sup>1</sup>

**Abstract:** Vietnam has made significant progress in adapting to changing needs and external and internal factors in developing and expanding higher education (HE) provision over the last 20 years with significant growth of the private university sector and increases in the number of students taking part in tertiary education. Change has not been without its challenges, and while Vietnam has successfully identified reform measures for the HE sector, the gap between policy intent and policy implementation has hindered the effectiveness of many of the identified reforms. Through the collection of both secondary and primary data from desk research, in-depth interviews and expert conferences, the author's research results show that the central budget capital is still not sufficient and effective for the development of HE. Based on the research results, the author have given some discussion and assessment of the current state of central budget allocation and investment plan for HE development in comparison with the development requirements of the sector, and proposed investment orientations to improve investment efficiency, actively contribute to the development of HE to meet the requirements set forth.

**Keywords:** higher education, central budget, investment capital allocation, medium-term public investment plan

## 1. INTRODUCTION

HE plays a core role in developing high-quality human resources and developing science and technology; creating a key driving force for the country's socio-economic development. The overall goal of HE development in Vietnam is quality, efficiency, fairness, transparency and modernity, meeting the requirements and leading the country's socio-economic development, meeting the learning needs of the country. of the people. By 2030, Vietnam will be among the four countries with the best HE system in Southeast Asia.

Investment in HE is development investment and is prioritized in the national investment plans. Investment capital for HE is mobilized from a variety of funding sources, of which investment capital from the central budget accounts for a major proportion.

It is necessary to have grounds for ministries, sectors and localities in an effort to evaluate and select investment projects to enhance the efficiency of using investment capital from the central budget for HE development through the criteria and eligibility conditions for selecting projects for investment so as to navigate investment capital in line with priority directions.

The Vietnamese government has been gradually reducing funding for the country's public HE system for several decades while implementing a cost-sharing structure. Public universities in Vietnam are looking for alternative cash flows under this scheme. There is not much empirical support for Vietnam's current public HE financing system, despite its strong focus on the need to diversify revenue streams in HE.

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## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Vu Cuong and Hoang Thuy Nguyet (2019) explored international experiences in HE capital financing, analyze the current mechanism in Vietnam, and proposed a new mechanism and roadmap for reform suitable for Vietnam. The research was based on the collection and analysis of data on the allocation of capital financing funds from 2011 – 2015. The study produced several key findings. First, capital allocation is still conducted conventionally - with the increase of 8% in student enrollment each year, regulations are changing slowly and incomprehensibly in small steps, despite the completely different situation in HE compared to the early 2000s. Second, the grave misunderstanding that capital funding mechanism is the sole approach to meet strategic orientations in university's educational reform is to lead to the misconception that "autonomous university" means "no allocation of State budget".

Khanh Vao Dao (2015) pointed out that the capacity of the Government to invest even more heavily in the HE system is widely regarded as being limited, and so increased tuition fees seem to be the only option available in order to pay for future growth and improvements. The whole HE system does not have adequate funds needed to enable academic staff to be more committed to teaching and research. Research results have suggested that nothing will change at the University, or at others like it, without there being an improvement in terms of access to increased funds.

## **3. METHODOLOGY**

The paper presents the author's research to meet the requirements of improving the efficiency of central budget allocation for different sectors and agencies, including agencies in the field of HE. This study collected both secondary and primary data from desk research, in-depth interviews and expert conferences. The literature review included the collection and analysis of funding allocation data for the 2016-2025 period. Laws, directives, policies as well as scientific articles were analyzed. The in-depth interviews were conducted with officials from line ministries in charge of direct review, screening and allocation of capital finance to universities. After establishing preliminary focus areas for a proposed reform on investment capital allocation, based on the interviews and desk research, a conference of experts (scientists, research institutions personnel and university leadership) was held to evaluate and further develop the concepts.

## **4. RESEARCH RESULTS AND DISCUSSION**

This discussion consists of four parts. The first part presents an overview of the results of HE development in Vietnam. The second part examines the process of planning and allocating central budget investment HE development in Vietnam in the 2016-2020 period and the 2021-2025 period. The third part presents the current status of central budget allocation and investment planning for HE development in Vietnam as compared with the development requirements of the sector. The last part assesses the central investment capital allocation for HE in Vietnam.

### **4.1. Overview of results of HE development in Vietnam**

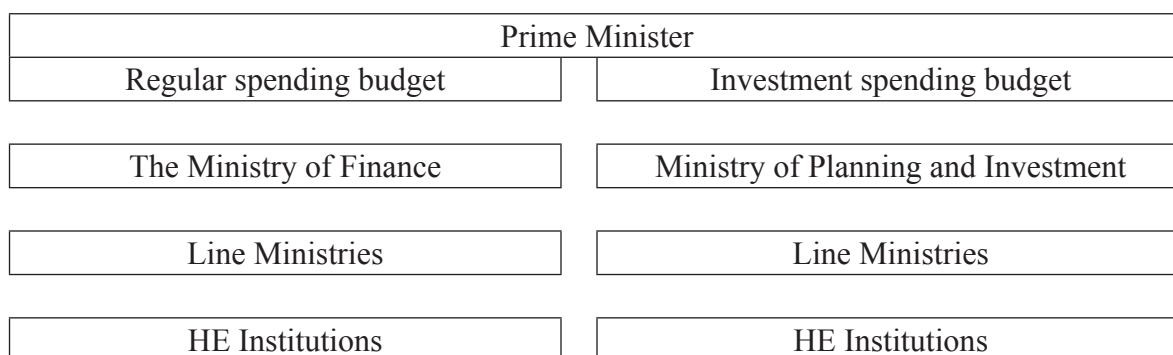
The quality of HE has gradually been raised and approached international standards. In 2019, Vietnamese HE ranked 68/196 countries in the world (up 12 places compared to 2018). By August 2023, there are 261 HE institutions that have completed external assessment according to domestic standards; 194 HE institutions are accredited according to domestic

standards; 9 HE institutions are accredited according to foreign standards. In 2020, for the first time, Vietnam has 3 universities ranked in the top 1,000 best universities in the world (Vietnam National University, Ha Noi; Vietnam National University, Ho Chi Minh City; and Hanoi University of Science and Technology); 8 Vietnamese universities have been included in the list of top universities in Asia. In 2019, the total number of Vietnamese scientific articles published on the ISI/ Scopus system was 12,475 articles, ranking 49th in the world with an increase of 2.7 times compared to 2015. In 2020, the proportion of lecturers with professor and associate professor titles in the entire Vietnamese education system was 6%, and the proportion of lecturers with doctoral degrees was 22.7%.

Besides achievements, Vietnamese HE still has limitations. The quality and effectiveness of education and training are still low compared to the country’s socio-economic development requirements. In 2020, Vietnam has 225,000 bachelors, engineers, and masters graduates but have not found a job, or accepted to do the wrong profession. Resources for HE are still very limited. In recent years, the budget spent on HE has only been around 17,000 billion, accounting for 0.27% of GDP, but the actual amount spent is less than 12,000 billion. Calculated in terms of actual expenditure, it has not reached 0.78% of GDP, much lower than other countries in the region and the world. Vietnam’s universities still rely mainly on tuition fees. Vietnam currently has about 9,000 professors and associate professors, 24,000 doctors and more than 100,000 masters, but the number of international publications is still quite limited. The impact index of Vietnam’s scientific research projects is also lower than that of some countries in the region, such as Thailand, Malaysia, Singapore...

**4.2. The process of planning and allocating central budget investment for HE in Vietnam**

The National Assembly has promulgated the Law on Public Investment in 2019 providing for the content, process, approval of investment policies and investment decisions. The Government and the Prime Minister have issued documents detailing and guiding the implementation of the Public Investment Law in 2019: Decree 120/2018/ND-CP amending Decree 77/2015/ND-CP on medium-term and annual public investment plans; Decree 40/2020/ND-CP guiding the Law on Public Investment.



**Figure 1. Current mechanism for allocating investment capital from the state budget to HE**

The formal project selection process specified in the Public Investment Law consists of two levels.

The first level is to select projects to include in the medium-term public investment plan (MTPIP).



- The MPI and the MOF appraise the MTPIP proposed by the line ministries and sectors. The appraisal and selection of the projects is based on the expected spending ceiling to ministries and sectors, the pre-feasibility report for large projects (Group A) and the investment proposal report (Group B and C).

- The list of investment projects for HE in the MTPIP is built on the following main bases: HE development strategy and planning; investment needs of HE institutions; ability to balance investment capital from the central budget; the project is decided on investment policy.

- The principle of formulating a MTPIP is that the total investment capital needs must be within the ceiling of the public investment budget for 5 years as prescribed.

The second level is to select projects to include in the annual public investment plan (APIP).

- Based on the proposed allocation in the annual budget estimate, only projects included in the *approved medium-term public investment plan portfolio* will be selected for inclusion in the APIP.

- Every year, the line ministry determines the list of projects and the amount of capital allocated for each project in that year based on the following main bases: HE development orientation in the year; total capital, capital structure assigned by the Prime Minister; investment needs of HE institutions; the project has been included in the MTPIP; the project has been decided to invest.

The process of planning and allocating central budget investment capital for HE is normally carried out in three steps below.

The first step is to establish, appraise and decide on investment policy.

- The authority to decide on investment policies of central budget capital belongs to the National Assembly, the Government, the Prime Minister, the heads of ministries and branches based on the scale and nature of the program or project.

- HE institutions must make a report on investment policy proposals or a pre-feasibility study report. These reports must be appraised as a basis for deciding on the project investment policy. This is the basis for synthesizing the project portfolio, approving the total investment and capital allocation plan in the MTPIP.

The second step is to formulate, appraise and decide to invest in a public investment program or project.

- The authority to decide on investment in a program or project funded by the central budget belongs to the Prime Minister and heads of ministries and branches, depending on the scale and nature of the program or project.

- HE institutions make feasibility study reports and finalize public investment projects, programs and submit them to competent authorities for appraisal (organized and assigned by investment deciders).

- Competent persons make investment decisions on public investment programs and projects on the basis of appraisal results. Activities and cost estimates for implementation of activities within the framework of programs and projects will be clarified annually and during the entire implementation period of the program or project based on the total investment and capital allocation plan in the MTPIP.

- Only programs and projects already included in MTPIP (except for emergency projects) and approved for investment will be included in the APIP.

The third step is to formulate, appraise, approve and assign public investment plan.

- Based on the approved APIP, the Prime Minister will assign the total capital and capital structure to the line ministries. The line ministries shall allocate in detail the capital level of the central budget investment plan for the following year, the list and the allocated capital level of each project to the HE institutions.

#### 4.3. Status of allocation and planning of central budget investment capital allocation for HE development

Overall, selected investment projects for HE development identified are in line with strategic priorities defined in high-level strategic documents such as Resolution No. 29-NQ/TW issued by the Communist Party of Vietnam, the strategy for development of education issued by the Prime Minister.

However, the central budget investment capital allocated to these projects does not guarantee the implementation of the high-priority projects identified in the strategy. For example, the HE development strategy has set a priority to invest in building a number of excellent universities with international quality. Construction investment projects of Vietnam National University, Hanoi in Hoa Lac were always allocated very low budget compared to investment needs.

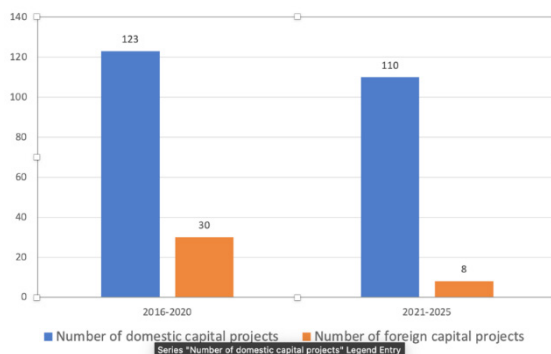
The HE development strategy also prioritizes the establishment of universities in strategic locations in the northern mountainous and midland regions. The Northwestern University construction project was approved to implement this priority, but the budget allocated to the project did not meet the demand and the project was over 10 years behind schedule.

Investment of central budget capital for HE development in the period 2016 - 2025 has increased, reflected in the increased scale of central budget capital allocated to investment projects although the number of projects has decreased. The number of projects and total scale of allocated investment capital of the projects are shown in Table 1, Figure 1 and 2.

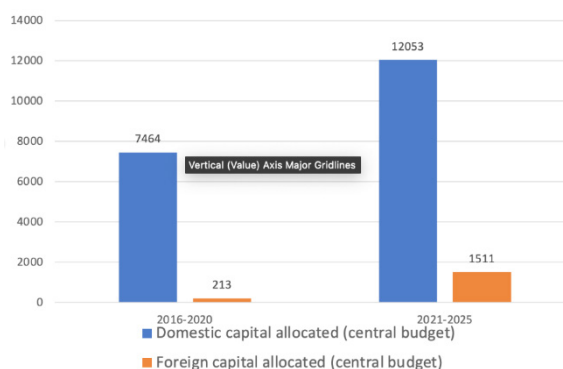
*Unit: Million VND*

Period 2016-2020					
Number of projects		Expected investment capital allocated			
Domestic capital	Foreign capital	Domestic capital investment projects		Foreign capital investment projects	
		Total	In which: central budget	Total	In which: central budget
123	30	11,735,619	7,464,461	5,403,556	213,185
Period 2021-2025					
Number of projects		Expected investment capital allocated			
Domestic capital	Foreign capital	Domestic capital investment projects (central budget)	Foreign capital investment projects		
			Total	In which: central budget	
110	8	12,052,958	12,877,222	1,511,109	

**Table 1. Number of investment projects identified and total amount of investment capital allocated for HE development**



**Figure 1. Number of investment projects identified for HE development**



*Unit: billion VND*

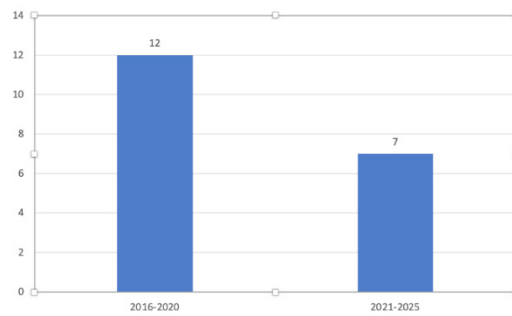
**Figure 2. Total amount of investment capital from central budget allocated for HE development**

Although the central budget is the main source of capital for investment in HE development, the allocated central budget is still very low compared to the investment needs of HE institutions, expressed as follows:

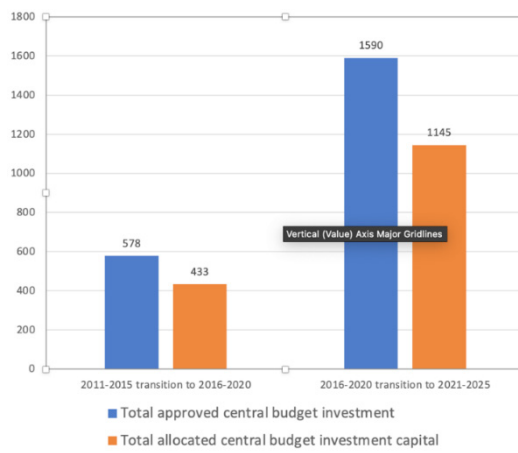
Among the detected investment projects for HE development, 12 projects in the period 2011-2015 were behind schedule and had to be transferred to the 2016-2020 period and 7 projects in the period 2016-2020 were behind schedule and had to be transferred to the period 2021-2025. The central budget allocated less than 75% of the investment needs to these projects. Details of these projects are shown in Figure 3 and 4.

In particular, the project “Investing in the construction of technical infrastructure system of the university urban area in Dong Ngac commune, Co Nhue commune, Xuan Dinh commune, Tu Liem district, Hanoi city - University of Mining and Geology” missed phase up to two times when the accumulation of allocated central budget investment capital has been only 22.1% by the end of 2015 and 67.8% by the end of 2020 compared to the investment needs.

Additionally, the project “Invest in complete construction of Northwestern University” has an initial time frame of 2004-2010, but by the end of 2020, the accumulation of allocated central budget investment capital has been only 90% of the investment needs.



**Figure 3. Number of miss-phase projects**



*(Unit: billion VND)*

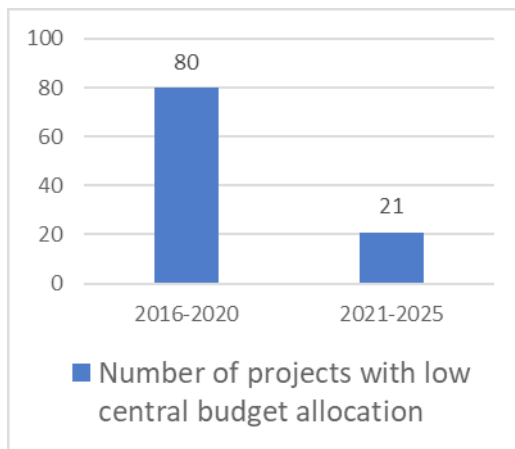
**Figure 4. Comparison of total approved central budget investment and total allocated central budget investment capital of miss-phase projects**

A large number of projects were allocated central budget capital lower than the investment needs:

In the period 2016-2020, there were 80 projects with investment capital allocation lower than investment needs, of which 64 projects are allocated investment capital from the central budget lower than central budget investment needs. The project “Construction investment project of Vietnam National University, Hanoi in Hoa Lac” was the project with the largest shortage of investment demand, with the central budget investment needs in this period is 10,375 billion VND but the central budget allocation was only 308 billion VND, the gap is 10,067 billion VND.

In the period 2021-2025, there are 21 projects with investment capital allocated from the central budget lower than investment needs. The project “Construction investment project of Vietnam National University, Hanoi in Hoa Lac”, which divided into several projects, continues to be the project with the largest shortage of investment demand. For these projects, the central budget investment needs in this period is 4,586,030 million VND but the central budget allocation is only 1,676,000 million VND, the gap is 2,910,030 million VND.

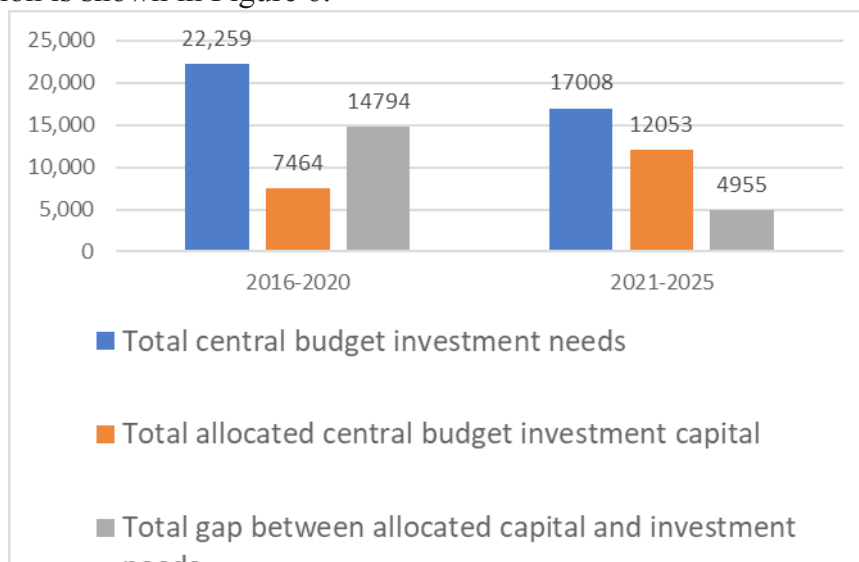
The number of investment projects allocated with central budget investment capital that is low compared to investment needs in the period 2021-2025 has decreased sharply compared to the period 2016-2020, reflected in Figure 5.



**Figure 5. The number of investment projects with low central budget investment allocation compared to investment needs**

*(Unit: billion VND)*

For domestic capital investment projects, central budget allocation only meets 33.5% and 70.9% of investment needs respectively for the period 2016-2020 and 2021-2025. The gap between the expected allocated central budget capital and the investment needs was 14,794 billion VND and 4.955 billion VND respectively for the period 2016-2020 and 2021-2025. This information is shown in Figure 6.



**Figure 6. Comparison of the investment needs and allocated central budget capital of the domestic capital investment projects**

**4.4. Assessment of central investment capital allocation for HE in Vietnam**

*The principles and order of precedence in allocating central budget investment capital for HE has not been specified.* Vietnam has not yet issued a document specifying the order of priority for allocation of state budget development investment capital for the field of HE. Vietnam only stipulates general principles in allocating development investment capital from the central budget, there are no specific regulations on criteria and norms for allocation of development investment capital from the central budget to each individual industry or field.

*Determining the relevance of proposed projects is difficult to do.* The condition for deciding investment policy is to be consistent with the strategy, socio-economic development plan, sector plan, however, the contents of these documents are quite broad, lacking the action plan according to the framework. management by results (development goals, timelines, activities and output targets). This makes it difficult to assess the suitability of each proposed project with the strategy and development plan of HE. The Law on Public Investment has provided for the principle of project selection that applies to all projects using state budget capital, There is no specific criteria or process to quantify the criteria for selecting priority projects for the education sector in general and universities in particular. There is no official grading or ranking system for projects proposed by the education sector according to their overall strategic fit, economic and social costs and benefits, and ability to balance capital and readiness for deployment.

*Allocating investment capital to projects is not according to the principle of market competition.* Projects that have been decided on investment policies by competent authorities will be included in the list of medium-term public investment plans as a basis for making investment decisions on programs and projects. However, the criteria for allocating public investment capital in this period have not yet followed the principle of market competition. The projects in the medium-term public investment plan are a list of projects that have been preliminarily appraised, and also have been preliminarily approved to allocate capital in the budget. There is no clear regulation on the responsibility of “gatekeeper” at this stage so that projects that do not meet socio-economic efficiency can be eliminated.

*The appraisal of investment projects lacks independence and scientific analysis.* The Public Investment Law prescribes the steps to be taken in the appraisal, but there is no officially published appraisal methodology and documentation nor does it provide for an independent review of the appraisal report of the projects in HE. The legal framework for project appraisal does not systematically require risk assessment and benefit-cost analysis. There is no systematic requirement to perform a cost-benefit analysis for investment project appraisal.

*The principles and grounds for public investment planning are general, not clear-cut.* Preparation of MTPIP and APIP must be based on the situation and results of socio-economic development and public investment plan in the previous period. This regulation does not clearly define which agency’s report on the situation and implementation results must be considered valid and lawful to use as a basis as well as the extent to which these bases are used. This will lead to the subjective and formal use of this basis in the formulation and appraisal of public investment plans. Public investment planning must be consistent with development goals in the socio-economic development strategy, five-year and annual socio-economic development plans of the country, sector, field, etc. localities and approved plannings, 5-year financial plans, 5-year plans for borrowing and repaying public debt. However, to have a scientific basis to determine the appropriate level is difficult to do. The allocation of public investment capital must comply with the principles, criteria and norms for the allocation of public investment capital in each period approved by competent authorities. However, Vietnam does not have criteria and norms for the allocation of public investment capital from the central budget for the education sector. The State Budget Law provides for the development of a rolling 3-year state budget plan, but documents on public investment do not require a rolling 3-year



investment plan even though this is a tool to re-prioritize in annual investment planning over a 3-year medium-term time frame, but still within the framework of the MTPIP. The legal documents on public investment and the state budget do not have regulations on prioritizing budget allocation for the operation and maintenance of assets in the future.

*There has been an improvement in focused investment in HE development.* The average investment capital of each project has increased significantly.

*The number of projects behind schedule and the gap between the amount of investment allocated compared to the investment needs tend to decrease significantly.* The main causes are: (1) The scale of central budget investment capital for projects in the 2021-2025 period has increased sharply compared to the 2016-2020 period; (2) The government drastically rejected proposed projects without clarifying the feasibility of capital sources, so the total proposed capital requirements of many projects have decreased markedly compared to previous periods and closer to the total allocated capital as planned.

*Despite substantial progress, the central budget capital is still not sufficient and effective for the development of HE.* Investment capital from the central budget allocated to investment projects is spread out, not focused on priority projects, and projects many years behind schedule. The main causes are: (1) Universities have not relied on objective criteria to develop project proposals: There are no good project proposal criteria, including cost-benefit analysis; commitment of counterpart funds and solutions for management, maintenance, use and exploitation after the end of the project, etc.; There is no list of investment projects in the planning and strategy for the development of HE institutions; The project proposal has not been associated with the expansion of enrollment scale and training quality of universities; (2) University leads to a lack of focus, lack of strategy and lack of adequate capital allocation to development requirements; (3) The process of appraising and approving investment policies and allocating state budget investment capital for projects has not been based on these criteria. In addition, the priority criteria for allocation of state budget investment capital in general are still lacking in quantitative, specific and detailed, especially there is no system of priority allocation criteria specific to the education sector; (4) The network of HE institutions has been slowly reviewed, screened and rearranged to serve as a basis for focused development investment. (5) The method of allocating investment capital from the central budget is still traditional, whereby the investment capital allocated for the following year by each ministry increases more than the previous year at a common rate. This method can lead to “equalization” in the allocation of investment capital and difficult to promote the achievement of priority goals in HE development; (6) The monitoring and evaluation of the allocation, management and use of central budget investment capital are ineffective.

## **5. RECOMMENDATIONS**

*It would be desirable to have one central entity manage recurrent and capital budget allocations to enhance efficiency and effectiveness of central state funding.*

*The principles and order of precedence in allocating central budget investment capital for HE should be specified.* Criteria and norms for the allocation of public investment capital from the central budget for the education sector should be formulated.

The quality of project appraisal should be ensured. Independent appraisal of investment projects needs to be carried out. Performing a cost-benefit analysis for investment project appraisal should be required. Formulate priority criteria for allocation of central budget capital to public investment projects for HE development.

*The relevance of the project should be evaluated.* Clear regulations on responsibility for reporting the results of the previous stage as a basis for the preparation of MTPIP and APiP. Build a scientific basis for determining how a project aligns with strategic priorities. A yearly re-evaluation of the priorities of projects should be performed. Implement a rolling 3-year investment plan to re-prioritize in annual investment planning. Establish regulations to ensure the principle of market competition in the allocation of HE investment capital. Rules for the allocation of funds for maintenance should be incorporated into law or at least in the MTPIP. The network of public HE institutions should be reviewed and rearranged.

*Develop and issue detailed and uniform guidelines on appraisal of public investment projects for HE development.* The content of guidance on appraisal of public investment projects should focus on analyzing and assessing the suitability, effectiveness, efficiency and sustainability of public investment projects in accordance with the specific characteristics of HE.

*Develop and issue detailed guidelines on the selection of public investment projects based on specific criteria.* Ministries develop a set of criteria for selecting investment priority projects in the allocation of investment capital from the state budget by sectors and fields of management.

*Strengthen inspection, supervision, monitoring and evaluation of allocation, management and use of central budget investment capital.* The specialized public investment management agency shall organize the monitoring and examination of the public investment plan under the management agency with the following contents: the implementation of the provisions of the law on public investment; The formulation, appraisal, approval and assignment of public investment plans; The formulation, appraisal, approval and implementation of programs and projects are arranged in the public investment plan; The implementation of the public investment plan; Situation of outstanding debt in capital construction, waste and loss in public investment.

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# REINSURANCE AND FIRM PERFORMANCE: EVIDENCE FROM NON-LIFE INSURANCE FIRMS LISTED IN VIETNAMESE STOCK EXCHANGES

Dr. Nguyen Thi Thanh <sup>1</sup>, MSc. Le Hai Anh<sup>2</sup>

**Abstract:** *The paper investigated the effect of reinsurance on the profitability of non-life insurance firms operating in Vietnam by using a balanced panel data during 7-year period from 2016 to 2022. The authors adopt 2SLS regression model together with using firms' characteristic factors and macro-economic factors as control variables to explore reinsurance-financial performance relation. Our results show that use of reinsurance have U-shape non-linear relation to firm's profitability (ROE). We also find the "reinsurance threshold" of reinsurance ratio at 41.79% in which insurers' ROE gains a maximum level. We also find that the reinsurance-financial performance relation is moderated by the effects of firm size, annual interest rate and stock exchanges where insurers listed on reinsurance.*

**Keywords:** *Reinsurance, firm performance, insurance industry, . . .*

## 1. INTRODUCTION

This paper intends to study the effects of using of reinsurance – a common risk management technique which is widely applied in the insurance industry on the financial performance of non-life insurance firms listed in Vietnamese stock exchanges. Examining the factors affecting the firm performance is popular topic, but it is always salient since it reflects not only firm's financial capabilities, but also the firm's trade-off between various factors like risks, expenses, opportunities and returns over decisions-making. The financial performance usually plays as a critical variable used in corporate valuation, is one of the most important managerial performance targets and integral condition for insurers to survive and grow sustainably (Chia-Ling Ho, et al (2011). Many existing literatures have determined different factors impacting insurers' financial performances including both internal factors like firms' financial and operational characteristics (Mayers and Smith (1990), Garven and Lamm Tennant (2003)), organization form, ownership structure, corporate governance, compensation structure (Mayers and Smith (2010)) and external factors like gross domestic product, inflation rate, interest rate,..(Kanwal and Nadeem (2013), Hailegebreal (2016)). There is, however, a lack of evidence on the impact of risk management on the business performance of insurers, which is one of the most concerning issues causing the poor insurance business performance (Vineet Upreti et al.,2022), due to the insurance firms' unique financial structure, financial cycle, financial reporting and active risk-trading/risk-bearing activities (Larsen and Resutek, 2017).

Furthermore, recent decades and even past few years, our world has witnessed the increasing frequency of environmental perils such hurricanes, droughts, floods or social-health issues like

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Covid-19 pandemic, which have created a trend of rising wide-scale economic losses for all the world. Under these circumstances, insurance companies have frequently confronted with the increases in insolvency and liquidity risks and a down trend in profitability as these can undermine the insurers' capital adequacy to settle claim payment and challenge the underwriting ability at competitive premiums (Froot, 1999). Therefore, considering risk management as a critical pillar in operation management is necessary for all non-life insurers. One of the most dominant risk management tools for insurance businesses is the use of reinsurance. For insurers, reinsurance is considered as a hedging tool to reduce the business risks by ceding a part of risk against unexpected losses to other insurers. Normally, reinsurance is used as a protection mechanism from expected huge catastrophes or reduce the insolvency risk. Especially, in Vietnam, to monitor and control the solvency and liquidity risks of insurance firms, Decree 73/2017/TT-BTC providing the guidance on implementing Law on Insurance Business clearly stipulated the compulsory requirement for primary insurers to take reinsurance to ensure that the net insurance premium per risk unit or per individual loss is not able to exceed 10% of owners' equity. However, reducing risks always accompanies with increasing expenses. If insurers are overcareful and fail to make proper risk assessment, overuse of reinsurance could lead to a decline in net insurance premium and funds for financial investment, then affect significantly to the firm profitability. Henceforth, the decision for using reinsurance is a trade-off between risk management and profitability. The study therefore contributes to the literature by providing empirical research on the relationship between reinsurance – one of main aspects in risk management of insurance industry and financial performance.

In order to explore the reinsurance and firm performance association, we used a panel data modelling to analyze both financial and non-financial information of listed insurance firms in Vietnamese stock exchanges during 7-year period from 2016 to 2022. We adopt 2SLS regression model together with using firms' characteristic factors and macro-economic factors as control variables to explore reinsurance-firm performance relation. The results show that the use of reinsurance lowers the firm performance however using at appropriate level exposes an opposite result. It means that using reinsurance at appropriate level could create more added-values, but that its efficiency diminishes when being overused. We also find that the reinsurance-firm performance relation is moderated by the effects of firm size, annual interest rate and stock exchanges where insurers listed on reinsurance.

This paper contributes the significant insights on the linkage between the financial performance and reinsurance, then propose recommendations that could be useful for insurers' managers, stakeholders including shareholders, policymakers and industry regulators to suitably take considerations on different internal and external factors to maximize the financial performance.

The remainder of paper contains 6 sections. Section 2 demonstrates institutional background on the Vietnamese non-life insurance market and justify why we should conduct this topic in the context of Vietnam. Section 3 provides literature review and develops the research hypotheses. Section 4 describes the methodology and research design comprising description of applied methods, data and research model. Section 5 is empirical results discussion and section 6 provides recommendations for relevant stakeholders and make conclusion for the paper.



## 2. INSTITUTIONAL BACKGROUND

The Vietnamese non-life insurance industry established in 1993 according to “Decree 100CP dated December 18, 1993 of the Prime Minister on insurance business. After 30-year establishment and development, the industry has gained many dominant results, comprising 31 active domestically-owned and foreign-owned insurers, subsidiaries of a rapid increase in size, considerable change in ownership structures, diversified insurance products to meet customers’ demands, pioneering in the National digital transformation strategy and currently generates approximately VND 68.201 billion in gross insurance premiums by the end of December 2022, increased by 199,43% compared to last 10 years, contributing approximately 3% to national GDP and investing back into the economy increased sharply and reached more than VND 52.000 billion (National Institute for Finance, 2023). Therefore, after 30 year of development, Vietnamese non-life insurance industry has firmly assured its role as a solid shield against risks for individuals, organisations and the national economy as a whole, which shows the significant potential for sustainable growth in the future.

Although gaining referred dominant achievements, non-life insurers remained many limitations, weaknesses and have not fully taken advantages and potentials to develop. In fact, almost insurers in Vietnam follow similar business operating model which is appraised as failure in determining market segments and operational cores. Besides that, the annual general report of Vietnamese insurance industry issued by Nation Institute for Finance indicated many limitations of insurers in corporate governance, financial management, risk management and information transparency, which led to the low operating insurance profit lasting in many years. Apart from that, although in the Vietnamese context, there is many available finance literatures regarding firm performances conducted in other industries, little evidences exist in insurance market. So, it is necessary to conduct research in terms of firm performance and affected factors in non-life insurance industry, and then propose suggestions and recommendations to enhance the financial performances as well as business performance for firms operating in this market.

Since 2012, the Government and Ministry of Finance implement the comprehensive restructure strategy for Vietnamese insurance firms. During the period, the insurance industry has also witnessed many regulatory implementations such as Law on Insurance Business No 24/2000/QH10, Decree No 45/2007/ND-CP detailed regulations on the implementation of articles of the Law on Insurance Business, Circular No 232/2012/TT-BTC providing accounting guidelines applicable to non-life insurers, reinsurers and branches of foreign non-life insurers, Circular No 195/2014/TT-BTC providing guidelines on the assessing and ranking insurers. Although keeping alignment with international regulations, insurance regulation in Vietnam has been relative more strict system compared to other regulatory regimes like UK, Australia which have tended not to intervene the insurance industry’s capability to innovate new products, raise equity on cost-effective terms. In Vietnam, although government attempts to international co-operation, encourages domestic insurers to attract foreign international investors, the major non-life insurance corporations have state concentration like Bao Viet insurance Corporation, Bao Minh Insurance Corporation, Military Insurance Corporation,



BIDV Insurance Corporation, so these corporations are subject to gain premiums on certain business lines as monopoly. Moreover, despite there are 39 firms operating in non-life insurance market, only 10 non-life insurers listed in Vietnamese stock exchange in which 5 insurers listed in HOSE, 2 insurers listed in HNX and 3 insurers listed in Upcom. This exposes the challenge to approach the accounting and financial reports of insurers, because only 10 firms are regulated by Circular 155/2015/TT-BTC which is now amended by Circular 96/2020/TT-BTC on the information disclosure. These attributes of Vietnam's non-life insurance market facilitate the necessary to conduct research on business performances of non-life insurers. Although the literatures on investigating reinsurance-financial performance have been conducted in the context of some developed insurance markets like the UK, US, Australia or Twain, Kenya,... the evidence in Vietnam is still limited. This paper could be a basis to develop more studies based on the differences in regulatory systems in terms of comparing the results of this study with similar other countries-focused research.

### 3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The empirical evidence on reinsurance-financial performance relation is still mixed. On the one hand, the modern theory of corporate insurance, Mayers and Smith (1982) agreed that the use of reinsurance is able to control and reduce the frictional costs arising in imperfect markets, this method could create more added values for insurance firms. For example, when a firm facing an increase in costs of bankruptcy, it is highly chance for agency problems occur. Prudent risk management (such as direct controlling by insurer, determining appropriate level of insurance premium ceded to other insurers – reinsurance) could lower agency incentive conflicts and cost of external finance, thus enhancing the firm performances. A study on the relationship between internationalization and firm performance of the property-liability insurance firms conducted by Ma and Elango in 2008 suggested that firms who enhance level of using reinsurance achieved better performance indicators. There are several reasons to explain the positive effect of reinsurance on firm performance of an insurer. Reinsurance allows primary insurers to reduce the adverse effects of rising losses, improve capital allocation, thus lower insolvency risk and create “tax shields” through maintaining period earnings and reducing taxation margin, which then enable record an increase in profitability (Abdul Kader et al., 2010). Stulz (1996) agreed that adopting reinsurance as a method to mitigate the downside financial risks are useful to reduce cost of equity and corporate debt capacity, then enable to boost financial performance. Moreover, the occurrences of catastrophes have wide-scale effects on not only human life but also economic and financial conditions, thus these events could be the huge challenge for insurance firms to fully settle claim payments for policyholders and lead to a substantial reduction on capital reserves to cover the losses. Under these circumstances, reinsurance could be effective for primary insurers to share a part of risks for other insurers, then avoid a substantial increase in net insurance claim which might result a high combined ratio and lower profitability. Based on the analysis above, it could propose the first hypothesis that:

*H1a: As the level of reinsurance increases, financial performance of insurers increases.*

On the other hands, Andoh et al., 2021 and Choi and Weiss (2005) showed the adoption of high reinsurance level have no clear evidence for the higher firm performance measured

by ROA, ROE and Solvency ratio. Besides that, Hsu-Hua Lee and Chen-Ying Lee in 2012 conducting investigation in the sample of Taiwan non-life insurance market from 1999 to 2009 proposed the interdependent relationship between firm performance and reinsurance. They found that insurers holding higher reinsurance dependence gain lower firm performance and conversely insurers with higher ROA tend to use less reinsurance. Although reinsurance is compulsorily regulated by Vietnamese agents to protect insurers from insolvency and liquidity risk, ceding written gross insurance premiums to other insurers and reinsurers is not as free basis. Doherty and Lamm-Tennant (2009) described reinsurance as a leverage financing mechanism that could be used to reduce potential risks of rising losses and insolvency, pretend a substantial increase in the combined loss ratio and the negative effects on profitability. However, if this method is overused, it could expose an opposite side effect. It means that determining reinsurance premium ceded per a loss or risk unit exceeding the necessary level lower net insurance premiums, lower the funds for investing backed into the economy, which could cause a reduction in gross insurance operating profit and profit from financial activities, thus reduce the firm profitability as well as firm performance. Besides that, overuse of reinsurance exposes a weak risk assessment before issuing insurance policy as well as a weak underwriting capacity. Adams and Baker (2021) affirmed that reinsurance level is decided by the way firms' managers behave and are regulated. Therefore, from time to time, level of reinsurance could not be totally determined on the basis of sufficient and appropriate risk assessment and firm risk appetite, this is decided based on the managers' behaviors and characteristics (Ho and Lai, 2011). Vietnam is a young and small non-life insurance market whose regulatory insurance system and mechanism have gradually shaped, simultaneously under changing and implementing accounting and financial system, together with a small insurer community. These attributors could create motivations for insurers' managers to do not use reinsurance with aim to reduce potential losses, lower cost of equity and taxation cost to enhance profitability, but they might intent to take themselves benefits and ignore the risk of lowering growth in net premium and financial investment yield. Based on all the arguments above, the second hypothesis is:

*H1b: Financial performance decreases non-linearly as the level of reinsurance increases.*

Combining 2 hypotheses H1a, H1b, we would like to propose a combined hypothesis for reinsurance-firm performance relation, which is ***“Reinsurance has a non-linear U shape relation with in financial performance”***.

## **4. RESEARCH DESIGN**

### **4.1. Data**

The paper conducted a reinsurance and firm performance study based on the Vietnamese non-life insurance companies. The data used in this study comprises a balanced panel of 10 non-life insurance firms currently listed in Vietnamese stock exchange over the 7-year period from 2016 to 2023. We use statutory financial statement and annual report of insurers listed in 3 Vietnamese stock exchanges including UPCOM, HNX, HOSE to calculate financial performance, reinsurance and other relevant financial and non-financial ratio used as control variables in the analysis model. Up to now, there are total 12 insurance firms listed in Vietnamese

stock exchange in which has 10 non-life insurers and 02 reinsurers. Therefore, to ensure being alignment of research topic, we excluded these 02 reinsurers from the sample. We chose the time period covered by the paper (from 2016 to 2022) since the data of all 10 insurance firms above are only available from 2015, and there are some financial ratios needed to be calculated on the average basis. In addition, because there is a small number of firms and investigated time period of 7-year is not too long, we decided to collect data on quarter basis. As a result, we conducted an analysis based on the sample of 280 observations.

## **4.2. Methodology and Analysis model**

### **4.2.1. Empirical model**

To test proposed hypotheses, analyzing data sample to the following model:

In which:  $i$  and  $t$  denote the cross-sectional (firm) and time-series dimensions respectively.  
– firm-specific control variables; – macro-economic control variables.

#### ***Dependent Variables***

The study used “Return on Equity” (ROE) as a dependent variable to represent for the firm performance. ROE is a common accounting earning ratio the measures the returns of shareholders in the firms. ROE is one of the most dominant indicators for profitability that is used to appraise the efficiency of employing owners’ equity to generate net profits. Therefore, in this analysis, ROE could not only be a firm performance indicator, but also be a useful cross-firm comparator of value creation for investors (Adams et al.,2021).

#### ***Variables of Interest***

As the research aims to study the effect of reinsurance on the firm performance of the insurers, the principal explanatory variables have to present for the decision to take reinsurance or extent of reinsurance. In order to take considerations in both aspects of reinsurance usage and extent of reinsurance usage, the reinsurance ratio (REINS) could be more appropriate than a dummy reinsurance participant variable or total amount of insurance premium ceded. This ratio measures the relative comparison between the amount of premium ceded to total gross premiums written.

As the hypothesis H1b the insurance performance has a non-linear relation to reinsurance, in this model we added “Square Reinsurance Ratio” (REINS) as variable of interest.

#### ***Firm-specific controls (***

The reinsurance – firm performance could be impacted by firm’s characteristics (Adams et al, 2021). We therefore control for the effects of 8 relevant firm characteristic variables in the analysis model, which are: firm size (SIZE); Liquidity (LIQ); ownership concentration (CONC); large foreign investors (FOR); Listed stock exchange (STOC); firm age (AGE); combined ratio (COMB); investment yield (IVY).

According to economies of scale theory, the large firms usually take advantage of economic scales to reduce operational cost per unit. In terms of insurance industry, the larger insurers normally have greater capacity to address adverse situations derived from external factors like market fluctuations or unexpected events (Shiu, 2004). Apart from that, large firms are able to approach new customer segments as well as introduce and implement diversified insurance products relatively easily compared to small insurers. Moreover, in the ear of digital

transforming, large insurance firm have more advantages to recruit professional employees and invest in cutting edge technology that make the customer services, selling process, claim process....,become more rapidly compared to small firms. Overall, larger insurers are expected to gain the better performances. Therefore, we propose a positive relation between firm size and performance (SIZE). In addition, Carneli et al., (2011) determined that the long-history of establishment firms are likely to have competitive advantages over other new entrants regarding to financial capability, stronger cash flow, industry and market knowledge, well-established networks to distributors, supplier and customers. So, the firm performance is likely to enhanced along to the length of insurers' operating time (AGE).

Liquidity is one of important ratio in managerial target setting for insurance firms. Insurers need to maintain liquidity ratio at least at a statutory level required, that enable them to meet unexpected claim costs, especially for the unexpected catastrophes like droughts or floods, pandemics (usually happen in Vietnam). The higher liquidity ratio, the lower liquidity risks for insurers (Shiu, 2004). However, an over high liquidity ratio normally goes along with keeping overhigh amount of cash and cash equivalence, that could lead to waste of capital, increase cost of equity, then negatively affect to firm performance. Therefore, the liquidity – firm performance could be negative or positive (LIQ).

Combined ratio plays as critical financial indicator for non-life insurance industry, which reflects the efficiency in monitoring and controlling underwriting expenses. The higher combined ratio, the lower underwriting profitability and vice versa (Circular 195/2014/TT-BTC). As underwriting is a core business of a non-life insurance company, underwriting profitability plays as integral role in insurance performance. Thus, the combined ratio is expected to have negative relation to firm performance (COMB).

Besides underwriting as a core business, differences from non-financial industry, financial investment is considered as critical business sector in insurance industry, which significantly contribute to total insurers' performance. So, the higher investment yield likely to increase firm performance (IVY).

Adams and Baker (2021) strongly affirmed a significant relation between corporate governance factors with firm performance. Cornelli et al.,(2014) indicated that the large shareholders tend to pay more attentions on the BoD responsibilities and their decisions. Based on that, it would be predicted concentrated ownership (CONC) will positively influence on insurers' financial performance. Based on this argument and other factors like the location distance and asymmetric information as well as the differences in language, large foreign investors are also likely to concern BoD activities and performance. As a result, large foreign investors have positive relation to insurers' financial strength (FOR).

According to restructure strategy for Vietnamese insurance firms commencing in 2012, insurance companies have been encouraged to reform and to be listed in stock changes. Listed in stock exchanges (SEs), especially large SEs like HOSE, insurers are required to accurately and transparently disclose information. They are also motivated to gain better performances to attract more valuable investors and boost the companies' market values. Therefore, the larger stock exchange is likely to enhance financial performance (STOC).

### *Macro-economic control variable (*

Apart from internal factors, macro-economic factors could influence on the relation between reinsurance and firm performance. In this paper, we use “Interest Rate Level” (IRL) as macro-economic control variable. The reason for that is financial investments account a considerable proportion in insurers’ balance sheet. Because insurance market in Vietnam is highly regulated and insolvency risk is strictly controlled by regulations, the main part of Vietnamese insurers’ investment portfolio is bank deposit. Thus, the higher interest rates mean the higher financial income, that will result in an increase in financial activities’ profit as well as overall firm performance.

Variable	Name	Represents	Description
<b>Dependent variables</b>			
ROE	Return on equity	Firm performance	Net profit before taxes/average equity
<b>Variable of interest</b>			
REINS	Reinsurance ratio	Level of reinsurance ceded	Amount of reinsurance premiums ceded divided by the gross insurance premiums written
REINS2	Square Reinsurance ratio	Square level of reinsurance ceded	
<b>Firm characteristic Controls</b>			
SIZE	Firm size	Firm size	Natural logarithm of the total assets
LIQ	Liquidity	Level of liquidity risks	The ratio of cash and cash equivalents to total assets
CONC	Concentrated ownership	The level concentration of ownership to the firm	% shares in issue held by the large shareholders who hold more than 5% of total shares.
FOR	Large foreign investors	Foreign investment	Dummy variable equal to 1 if the firm has at least 1 foreign investor holding more than 5% of total shares, 0 otherwise
SE	Listed stock exchange	Stock exchange that insurance firms listed	HOSE, HNX, UPCOME or not listed yet
AGE	Firm age	Insurance firm age	Length of time operating
COMB	Combined ratio	Profitability of insurance firms	(Net claim expenses + Other operating expenses + General and administrative expenses – Commission on reinsurance ceded and other insurance income)/Net insurance premium.
IVY	Investment yield	Investment returns of insurance firms	Net investment income divided by average investment assets
<b>Economic control variables</b>			
IRL	Interest rate level		

**Table 1: Variable definitions**

#### **4.2.2. Methodology**

Previous studies on the reinsurance-financial performance topic usually indicate the problem of endogenous explanatory variables in regression models (Adams and Bakers, 2021; Hsu-Hua Lee and Chen-Ying Lee, 2012). The analysis model also exposes the endogenous problem for 03 explanatory variables including firm size (SIZE), listed stock exchange (STOC) and interest rate level (IRL). Based on previous studies and contemporary insurance market in



Vietnam, large firm size and listed in large stock exchange could affect positively to the level of reinsurance, since reinsurance requirements and conditions for Vietnamese insurers are relatively strict and well regulated, thus financial soundness and transparent widely published information enable insurers to use reinsurance easier. Interest rate level is one of important component that insurers need to consider before making reinsurance decision, since ceding gross premiums or keeping and investing backed to economies to gain more financial incomes are the trade-off decision. Eventually, the firm size, listed stock exchange and interest rate level is likely to significantly influence the level of reinsurance, therefore we encounter the endogenous through an IV analysis by using the two stages least squares method 2SLS. In this model, we set Reinsurance ratio (REINS) as endogenous variable and 03 explanatory variables (SIZE, STOC, IRL) as instrumental variables and others as independent variables. The Anderson LM test with p-value of 0.0000 and Sargan statistic with the significantly greater than 92% indicated our model is not overidentified. Cragg-Donald Wald F statistic equal 30,401 which is greater than all critical values, thus this result affirmed a strong instrument test. The result of IV redundancy test also showed no evidence of instrument redundancy. We also adopt Hausman test to test the favor of 2SLS or OLS, the result has Prob>chi2 of 0.8654. It means that 2SLS is better to explained the reinsurance-firm performance relation.

## 5. EMPIRICAL RESULTS

According to the descriptive statistic in table 2, ROE over the period of analysis is 0.048 (~4.8%) on the quarter basis, so annual ROE could be appropriate 19.2%, which represent relatively sound returns on investors' equity. Over the period, ROE has low value of -0.22 and high value of ~0.30 with a standard deviation of 0,057. These results show ROE of insurance industry is relatively appropriate the mean except from firms in some periods are unprofitable. During the analysis period, all insurance companies used reinsurance except only 1 observation of PTI on quarter4/2016 at the average level of 0.2873 which is quite similar to average reinsurance level of UK non-life insurance market over the 15 years 1999 to 2013. However, reinsurance ratio varied from 0 to 0.7838, with standard deviation of 0.157, that might indicate the huge differences in reinsurance usage and extent of reinsurance usage between different companies. The insurance firms in the analysis panel gained an average liquidity ratio of 0.0533, which means they hold average 5.33% amount of cash and cash equivalent compared total assets, but this ratio varied from lowest point of around 0.13% to highest point of around 29.71%. This average level is quite reasonable for firms operating in insurance industry since it is required to maintain a safety level of cash and cash equivalence to settle the claim payment in time. On average, the insurance firms in this panel gained approximately 4.2% investment income compared to average short-term and long-term financial investments on the quarter basis. This yield could be around 16.8% per year and which presents a relative medium result in financial investment. The average combined ratio of analyzed insurers is 0,9954, which is relatively high compared to other non-life insurance industry in the world. The ratio varied significantly from 0.641 to 1.51 with standard deviation of 0,118. This indicates the operational efficiency of Vietnamese non-life insurance firms is low and they are still struggling in management of underwriting expenses including claim expense, operating and administrative expenses. The insurance firm size given in Table 1 is



calculated as the natural logarithm of total assets reported by insurance firms in a quarter. The size of the firms measured by the log of value of total assets, ranges from 6.88 (VND 977 billion) to 12.2 (VND 201,610 billion). A similarity between mean and median values at 8.77 and 8.58 respectively proved “well-behaved” distribution of this variable. However, the standard variable at 1.21 suggests this variable has variation relative to its mean. The average ownership concentration of 10 listed insurers during 7 years from 2016 to 2022 is 71.94%, ranging from 0 to 92.01% and standard deviation at 0.216. These figures means that almost non-life insurance firms in Vietnam are ownership concentration. In another way, their large proportion of shareholders are still owned by major institutes. Moreover, on average, 64.28% of the insurers in this panel sample have foreign investors who hold more than 5% of the total shareholders. Listed stock exchange variable has average of 2.45 ranging from 1 to 4, which means this variable is not normally distributed. In the panel sample, from 2016 to 2022, the number of observations which have firms listed in UPCOM accounted the largest proportion (42.86%), following is HOSE (28.21%). There is 20% of observations is that firms had not listed in any stock exchange yet. The average age of insurance firms from 2016 to 2022 is 21.9 years, however this variable varied from 8 years to 57 years with a high value standard deviation at 12.2. Thus, regarding to history of establishment and development, there could be the big gaps between insures. The company whose longest period of establishment is Bao Viet Insurance at 57 years and the youngest firm is Vietnam National Aviation Insurance with 8 years of establishment. The final variable is interest rate level which has average at 7.5% varying from 7% to 8% with standard deviation of 0.034 and having a similarity of mean and median. So, the interest rate level is likely to distributed normally.

Pair-wise Pearson correlation coefficients are shown in Table 3. This table show a clearly signal for the potential of endogeneity and multicollinearity problems. Therefore, an ordinal least square (OLS) model could contain heteroscedasticity and autocorrelation problems.

### Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	280	.048	.057	-.221	.298
REINS	280	.287	.157	0	.784
SIZE	280	8.769	1.21	6.885	12.214
LIQ	280	.053	.058	.001	.297
CONC	280	.719	.216	0	.92
FOR	280	.643	.48	0	1
SE	280	2.454	1.103	1	4
AGE	280	21.9	12.207	8	57
COMB	280	.995	.118	.641	1.51
IVY	280	.042	.037	-.044	.351
CPI	280	.03	.006	.018	.035
IRL	280	.075	.003	.07	.08

**Table 2: Vietnamese non-life insurers, 2016-2022: descriptive statistics**

*Source: The table extracted from Stata 14*

### Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ROE	1.000										
(2) REINS	-0.135	1.000									
(3) SIZE	-0.024	-0.022	1.000								
(4) LIQ	-0.004	-0.011	-0.350*	1.000							
(5) CONC	0.122	0.164*	0.432*	-0.161*	1.000						
(6) FOR	0.030	0.065	0.593*	-0.489*	0.398*	1.000					
(7) SE	0.127	-0.373*	-0.577*	0.462*	-0.369*	-0.715*	1.000				
(8) AGE	-0.054	-0.222*	0.838*	-0.101	0.439*	0.415*	-0.316*	1.000			
(9) COMB	-0.736*	-0.105	0.227*	0.098	-0.129	-0.101	0.011	0.312*	1.000		
(10) IVY	0.016	0.080	-0.096	0.279*	-0.293*	-0.204*	0.157*	-0.072	0.367*	1.000	
(11) IRL	0.040	0.179*	0.191*	-0.087	-0.051	0.163*	-0.006	0.159*	-0.095	-0.022	1.000

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 3: The pairwise Person correlation between variables**

Source: Data extracted from Stata 14

### Multivariate Results

Independent variables	Expected sign	2SLS	GLS
	ROE	ROE	
REINS	-	-.47*** (.074)	-.185*** (.039)
REINS2	+	.562*** (.103)	.178*** (.055)
LIQ	-/+	-.097*** (.036)	-.049 (.036)
IVY	+	.663*** (.055)	.642*** (.05)
COMB	-	-.457*** (.018)	-.476*** (.016)
CONC	+	.019* (.01)	.018* (.01)
FOR	+	-.013** (.005)	-.01* (.005)
AGE	+	.001*** (0)	0 (0)
SIZE	+		.012*** (.004)
SE	+		.008*** (.003)
IRL	+		-.915* (.54)
_cons		.536***	.466***

		(.02)	(.05)
Observations		280	280
R-squared		.753	.z
Control variables		Yes	Yes
Standard errors are in parentheses			
*** p<.01, ** p<.05, * p<.1			

**Table 4: Regression to analyse the effect of reinsurance on the insurers' performance.**

*Source: The data extracted from Stata 14*

Table 4 presents the 2SLS results for examining the relation between reinsurance and insurer's performance. We found a consistently strong fit of model with the Prob>F is 0.000. The results of 2SLS method show that the coefficient of REINS and REINS2 with ROE are -0.4695 and 0.5617 respectively with the significant level of 1%. This result strongly supports for the hypothesis H1. It means that reinsurance usage in non-life insurance firms has the U-shape non-linear relation to ROE. So, based on these coefficients, we calculated the "reinsurance threshold" at 41.79% in which ROE get the highest result. These arguments proposed that in the case, the reinsurance ratio is under 41.79%, if the reinsurance ratio increase by 1%, ROE will increase by 0.56%, however when reinsurance ratio is greater than the "reinsurance threshold" (41.79%), if the reinsurance ratio increase by 1%, ROE will decrease by 0.47%. This finding is innovative since it suggests for insurers to use reinsurance as a leverage mechanism. It once again affirms that the non-life insurance firm could use reinsurance as a method to reduce insolvency risk, decrease cost of equity and ultimately enhance ROE, however if reinsurance is overused, this could expose an adverse effect.

Regarding to control variables, we also find evidence of the negative link between liquidity ratio and the profitability of the firm at the significant level of 1%. This suggests that the increase in the liquidity ratio could lead to a slight decrease in firm performance measured by ROE. The result also indicated a substantial positive relation between investment yield and ROE. It shows that an increase in investment yield by additional 1% could result in an additional increase by 0.663% of ROE. Another significant evidence with p-value at 0.000 is found for a negative relation between combined ratio and ROE. In alignment with previous studies (Shiu, 2004), the finding affirms an important role of underwriting expense management as well as monitoring and controlling the efficiency of underwriting operation. In addition, we observed significant evidence (p-value=0.006) of a positive effect for insurer maturity (AGE) on ROE. This suggests that long history of establishment and development is the advantage for non-life insurance firms to generate more profits from taking advantage of existing wide networks with suppliers, customers, distributors, brokers as well as a large portion of market shares. We also note contrary evidence (significant level of 5%) with regard to the negative relation between the availability of large foreign investors and ROE. This evidence is different from previous literature (Adams and Baker, 2021). This indicated the increase in foreign investment is not really a useful way to enhance insurers' ROE. Finally, the result presents a positive effect of ownership concentration on ROE at the significant level of 10%. This finding is similar to the evidence found by Adams and Baker in 2021.

### **Alternative regression specifications**

In addition to 2SLS, the authors also estimate the models by adopting ordinary least squares (OLS), random-effect model (REM) and fixed-effect model (FEM). The White, Breusch Pagan and Hausman tests statistics indicate that the most appropriate regression model is fixed-effect (Hausman test: sig level at 1%). However, the Wald test and Wooldridge test results show FEM contains heteroskedasticity at the significant level of 1% and autocorrelation at the significant level of 5%. To address these referred error problems, author continuously use generalized least squares (GLS). In alignment with 2SLS results, at the significant level of 1%, reinsurance is negative relation to ROE while reinsurance square has a positive relation. The results confirm our finding that reinsurance has non-linear U shape relation to firm's performance.

### **6. CONCLUSION**

The paper investigated the relationship between reinsurance usage and firm performance by using a balanced panel design (2016-2022) from Vietnamese non-life insurance market. The paper contributes to finance literature on the topic of reinsurance and firm performance in insurance industry. The empirical results also indicated some innovative findings that have never been found in Vietnam context. Therefore, there are some recommendations for insurers, shareholders, stakeholders and regulators, agencies as below:

Firstly, our finding demonstrates a U-shape non-linear relation of reinsurance on ROE. This suggests that non-life insurance companies should pay more attentions on risk assessment and enhancing underwriting capacity. It is necessary for all insurers to carefully assess the risk unit and then appropriately determine the level of reinsurance. The insurers should aware the mechanism of reinsurance, if use it at appropriate level, this method will have positive effect on firm profitability however if the use exceeding the "Reinsurance threshold" it could expose an adverse effect. Based on 2SLS regression results, we calculated "Reinsurance threshold" at 41.79%", which means that if reinsurance ratio ranges from 0% to 41.79%, increasing reinsurance uses will enhance insurers' financial performance, conversely if reinsurance ratio is higher than 41.79%, using additional reinsurance will have a negative effect to financial performance. The insurers could take consideration to this threshold as a reference before making the reinsurance usage decision.

Secondly, regarding the liquidity risk management, insurance firms need to pay more considerations on the balancing between controlling liquidity risk and generating profits. According to panel data analysis results, listed insurers in Vietnam hold average appropriate 5.3% cash and cash equivalence to total assets during the period from 2016 to 2022. This amount seems to be relative safely for insurers to control liquidity risk, rapidly meet customers' claim requirements especially under current uncertain economic environment. However, holding over amount of cash could has led to decrease firm's performance, detailly increasing 1% of cash and cash equivalence to total assets could lead to a decrease of 0.097% in return on equity.

Thirdly, the overall performance of non-life insurers is negatively affected by the low efficiency in managing underwriting expense. Although the underwriting play central role in insurance business, the analysis indicated a low efficient in underwriting operation. It is urgent for insurers to have a clear plan as well as particular methods to manage and control each type of expenses including claim expenses, operating expense and administrative

expense. For example, managing and controlling claim expenses by classifying them in terms of business lines to determine which lines are occurring the high level of claim and then determine causes and propose suitable solutions. Regarding managing insurance premium, for making reinsurance decision, insurers need to comply legal regulations as well as company's regulations, strategies, plans and especially need to conduct careful risk assessment, taking consideration on the company's risk appetite.

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# STRANDED ASSETS RISKS IN THE CONTEXT OF CLIMATE CHANGE: EVIDENCE OF THE ELECTRIC POWER INDUSTRY IN VIETNAM

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**Abstract:** Vietnam is often viewed as one of the most vulnerable countries to climate change. As the result of environmental risks coming along with climate changes, Vietnam economy are now facing the problem of increased stranded asset risks caused by climate change. In this study we analyzed the causes of stranded assets. Focusing on analyzing the power industry, the article also points out factors affecting stranded assets in the power industry. Studying the case of Quang Trach thermal power plant, the article shows risks to assets of thermal power companies in Vietnam in the future. Results show that coal-fired power plants has the risk of stranded assets due to policy changes on climate change. Since most thermal power projects are implemented by state-owned enterprises with concessional loans, Vietnam needs to consider policies to deal with stranded asset risks caused by climate change in order to meet the net zero emissions target by 2050.

**Keywords:** climate change, stranded assets, electric power industry.

## 1. INTRODUCTION

Vietnam is considered as one of the most vulnerable countries to climate change. The common patterns of climate change are increased temperature, sea level rise and an increase in the frequent of extreme climate events such as storms, heat waves, excessive rainfall, drought, etc. Climate change has strong impacts on economy and society of countries including Vietnam. According to the report of Espagne et al. (2021) the socio-economic impacts of climate change on Vietnam include many aspects from economy, society, and healthcare.

At the international level, more and more governments, organizations and businesses are making commitments and policies on reducing carbon emissions, mitigating and adapting to climate and the environment change. In COP 26, Vietnam also committed to net zero emissions by 2050. This shows that Vietnam cannot stay out of the global trend of energy transition from fossil fuels to renewable energy.

Over the past few years, the topic of “stranded assets” caused by environmental risk factors has received more and more attention. These factors include the physical effects of climate change as well as societal and regulatory responses to climate change. Although this issue is increasingly becoming a topic of considerable interest among researchers, governments and financial institutions and corporations in many countries, there is still very little research on this issue in Vietnam. Given the fact that Vietnam is assessed as a country subject to many challenges in terms of climate change, a country with many environmental-related risk factors, but still using a lot of fossil fuel resources, this is indeed a gap in the literature. Stranded asset risks pose future challenges and opportunities that Vietnam may face.

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In the current operations of banks, lending and mortgage of property is considered a relatively safe approach and is a widely used type of transaction and when establishing a mortgage relationship. What banks are interested in is choosing which assets as collateral and whether it is convenient to handle such assets in the events of default. During the recent development, commercial banks have financed the implementation of a series of coal-fired, or gas-fired power projects, which are likely to be strongly impacted when clean energy technology are more and more developed.

The issue of stranded assets caused by environmental risks in the context of climate change will pose many challenges for both policy makers and commercial banks in Vietnam. This paper aims to provide a deeper understanding of the issue and existing literature on stranded assets, as well as highlight the opportunities and challenges involved in Vietnam. In this paper, we investigate the tree main questions:

1. *What are stranded assets? What causes stranded assets?*
2. *Climate change and stranded assets in the energy sector in Vietnam?*
3. *What factors affect stranded assets in the coal-fired power plants?*

Stranded assets are a new topic, especially in Vietnam, so this study does not expect to examine all related issues. We hope that there will continue to be more in-depth studies on this topic in the future. The remainder of this paper is organized as follows. Section 2 examines the definition and the causes of stranded assets. Section 3 investigates climate change and stranded asset in Vietnam. Section 4 concludes.

## **2. STRANDED ASSETS**

### **2.1. Definition of stranded assets**

Stranded assets are a term that has existed since the beginning of business or investment activity. Across the economic history, there are many examples of stranded asset. For example, in the early 1990s, as the automobile gradually became the preferred means of transportation, the manufacturers of carriage whips or the manufactures of carriages would have a hard time. Or as the advent of smartphones in the early 21st century has caused many other products such as calculators, alarm clocks, digital cameras, or physical newspapers to sink into oblivion. And this is indeed not a good thing for businesses manufacturing these products. From the examples above we can get an idea of what a stuck asset is.

As defined in Stranded Assets Project by Caldecott et al. (2013), stranded assets are “assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities”. This is a general definition of stranded assets, however recently the term “stranded assets” has become widely used in an environmental context where assets are stranded due to environmental factors such as physical climate change or a change in society’s attitude towards the environment.

In the energy industry, Carbon Tracker (2019) defines stranded assets as “assets that at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return (i.e. meet the company’s internal rate of return), as a result of changes associated with the transition to a low-carbon economy (lower than anticipated demand / prices).”

From the perspective of a risk manager, the concept of stranded assets is very important as economic loss could occur when stranded assets are converted into liabilities. Thus, from the point of view of financial and accounting risk, stranded assets can be seen as obsolete or non-performing assets but must be recorded on the balance sheet as a loss of profit. In this paper, we use the term “stranded assets” to refer to assets that are written-down, devalued, or converted into liabilities sooner than expected due to the effects of environmental factors in the context of climate change.

## **2.2. Causes of stranded assets**

There are many causes or environmental factors that affect asset prices. In studies about the causes or risks of stranded assets, the primary causes are financial risk (Blumstain and Bushnell, 1994; Parker and Oczkowskyi, 2003; Gerasimchuk et al., 2013) and policy risks (Price and Krister, 1999; Babiker et al., 2000 Thomas, 2003). Financial risk occurs when the price of a product or demand for that product falls and makes it uneconomical to produce that product, while policy risk occurs when where a change in government environmental policy causes a certain group of assets to become stranded.

However, recent studies on stranded assets have shown that there are many other causes of stranded assets and stranded assets could be formed by a combination of risks. Risks other than financial risk and policy risk include technology risk (new technology makes old products, old technology become “stranded”), environmental risk (climate change causes assets to become “stranded”) or social risk (social norms or consumer behavior change) (Caldecott et al., 2013; Caldecott et al., 2016; Rautner et al., 2016; Gupta and Chu, 2018; Whitley et al., 2018). In Lloyd’s report on stranded assets, the environmental risks that lead to stranded assets can be divided into two main groups: (i) Physical risks, including changes in the natural environment or changes in natural resources. (ii) Social risks, including changes in government regulation, changes in technology, changes in social norms or consumer behaviour, litigation statutory interpretation.

The mainstream research on stranded assets has focused on the relationship between stranding assets and climate change. Since 2010, the concept of stranded assets has been associated with climate change when environmental policies as well as policies on the transition to green energy were introduced and put into practice. The effects of climate change are believed to be the main driver of stranded assets (Rautner et al., 2016; Reddy and Anbumozhi, 2017).

Studies of stranded assets in the energy industry using fossil fuel have received more attention due to concerns about the pollution of fossil fuel and due to many countries’ environmental policy changes from brown to green. Fossil fuel-related businesses and countries with fossil fuel-dependent economies will be affected by these changes (Van der Ploeg, 2016; Welsby et al., 2021).

## **3. CLIMATE CHANGE AND STRANDED ASSETS IN VIETNAM: CASE OF ELECTRIC POWER INDUSTRY**

### **3.1. Overview of the impacts of climate change in Vietnam**

Vietnam is often viewed as one of the most vulnerable countries to climate change. The common patterns of climate change are increased temperature, sea level rise and an increase in

frequency of extreme climate events such as storms, heatwave, rainfall, drought... The average annual temperature has risen across Vietnam with an average increase of about 0.89°C for the period from 1958 to 2018 (~0.15°C/decade). The past decade has seen the highest increase. During the same period, annual rainfall increased slightly with an average increase of about 5.5%, however, there was an opposite trend on specific areas. Furthermore, sea level has also risen, with an average increase of 3.6 mm/year for the period 1993–2018, according to the Ministry of Natural Resources and Environment (2021).

Espagne et al. (2021) estimate that the annual cumulative direct economic loss is about 1.8% of GDP for a 1°C increase in temperature compared to the temperature of pre-industrial period 1851–1900. Losses would be 4.5% of GDP for a 1.5°C increase in temperature, 6.7% of GDP for a 2°C increase in temperature and up to 10.8% of GDP for a 3°C rise. By 2050, the average macroeconomic and cross-sectoral losses could be about 30% larger than direct losses. In addition, the annual GDP loss due to hurricanes for the period 1993–2013 is estimated at 2.4%. In the event of uncertainty about the future impact of a storm combined with climate change scenarios, the minimum damage caused by a storm could equal this number. In addition, climate change will affect household income from agriculture and the negative impact of weather shocks on poor households will be four times larger than the average.

Dasgupta et al. (2007) show that if sea level rises by 1 metre, 10.8 million people in the Mekong River Delta and the Red River Delta, about 10.21% of GDP, 7.14% of the agriculture land, 28.67% of wetlands and 10.74% of urban areas will be affected.

Climate change has impacts on Vietnam's economy in many areas from agriculture, tourism, services, transport, energy... The impact of climate change can directly and indirectly cause stranded asset risks.

Direct impacts include changes in the natural environment or changes in natural resources can impose a risk of stranded assets in several industries. For example, sea level rise can affect agriculture, transportation... The change in rainfall can affect hydropower, irrigation...

Indirect impacts of climate change that can cause stranded assets include changes in government regulation, changes in technology, changes in social norms or behaviour consumers, changes in litigation and statutory interpretation. A typical example is the commitment of governments to zero greenhouse gas emissions that can affect sectors with large CO<sub>2</sub> emissions such as thermal power plant, manufactures of vehicles running on gasoline, oil, etc.

### **3.2. Policy framework regarding to response to climate change of Vietnam**

Since 2008, the Government of Vietnam has implemented the National Target Program to Respond to Climate Change (NTP-RCC). One of the important contents of the Program is to develop and update climate change scenarios. The National Strategy on Green Growth was approved in 2012. The objective of the strategy is to reduce greenhouse gas emissions and propose implementation solutions including the issuance of regulations related to the international carbon market. In 2013, the Law on Natural Disaster Prevention and Control was promulgated to respond to natural disasters affecting the country, mainly phenomena caused by climate change. In addition, the Law on Environmental Protection 2014 and 2020 both contain provisions on climate change.

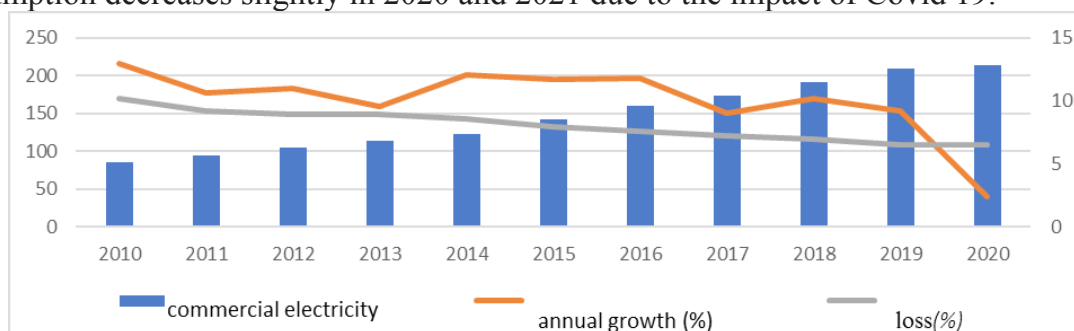
In the 2016-2020 period, the Government has approved the Target Program to respond to climate change and green growth in the 2016-2020 period; approved the National Program on greenhouse gas emission reduction through limiting forest loss and degradation; conservation, enhancement of carbon stocks and sustainable management of forest resources (REDD+) till 2030; and announced Vietnam's Intended Nationally Determined Contribution (INDC). The Government's draft Decree on mitigation of greenhouse gas emissions and protection of the ozone layer is currently being finalized.

According to Decision No. 1658/QĐ-TTg dated October 1, 2021 on Approval of the National Strategy on Green Growth for the period 2021-2030, with a vision to 2050, green growth is an important way to realize sustainable development and to reduce greenhouse gas emissions to archive a carbon neutral economy in the long term.

### 3.3. Stranded assets: power sector case study

#### 3.3.1. Current situation of electricity industry in Vietnam

In terms of electricity demand, in recent years, electricity consumption in Vietnam has increased rapidly. In 2019, commercial electricity output reached 210.5 billion KWh. The average growth rate reached 10.5%/year for the whole period 2011-2019. The rate of electricity consumption decreases slightly in 2020 and 2021 due to the impact of Covid 19.



**Figure 1. Commercial electricity, growth rate and loss rate in the period 2010-2020**

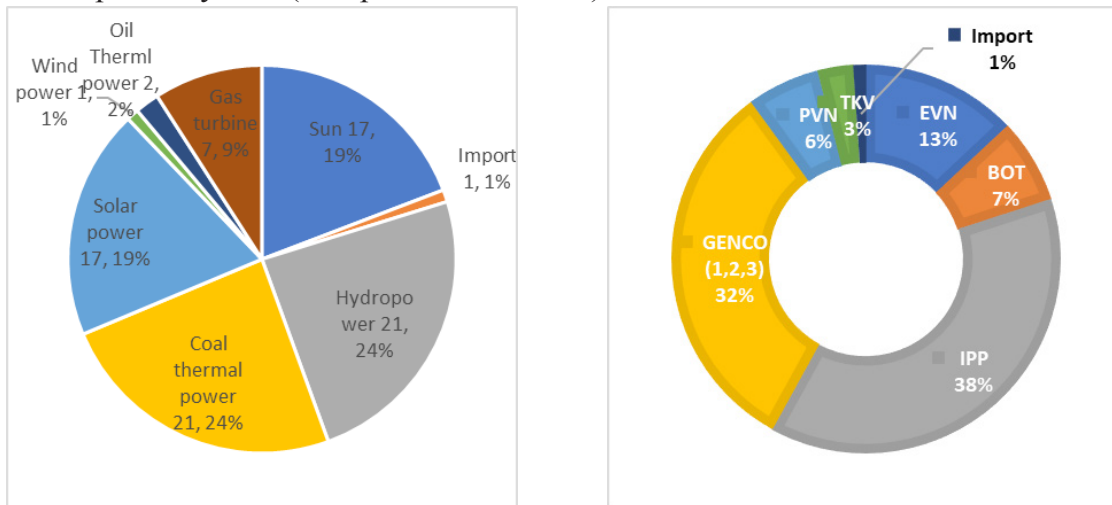
(Source: EVN (2021) Power Plan VIII – National electricity development in the period of 2021-2030 with a vision to 2045)

A good economic growth rate and rapid increased per capita income lead to a high demand for electricity. However, the efficiency of electricity use is still low. One indicator of efficient use of electricity is the magnitude of electricity per GDP. Figure 1 shows that the annual electricity intensity index tends to increase. This can be partly explained by changes in the energy use structure of households and businesses. The main reason is still the inefficient use of electricity in business and manufacturing industries

The elasticity coefficient between electricity consumption and GDP growth tends to decrease slightly in the period 2001-2020. The elasticity coefficient for the period 2001-2010 is 2.17 times, for the period 2011-2015 is 1.84 times and for the period 2016-2019 is 1.49 times. This shows that the trend of electricity use has changed positively. However, electricity use is still inefficient in Vietnam. In 2017, Vietnam's electricity intensity/GDP was 996 Kwh/1000 USD compared to China's 632, Indonesia's 221 and Singapore's 163. This shows that it is necessary to improve the efficiency of electricity use of the economy and especially promote the process of economic restructuring towards green and sustainable growth.



On the power supply side, according to EVN's estimates, by the end of 2020, Vietnam's power system will have a total capacity of about 69 GW (including hydroelectric plants imported from Laos and rooftop solar power plants). In addition, the Northern power system also imports electricity from China via transmission lines with a maximum capacity of about 700 MW. In the structure of national electricity capacity in 2020, coal-fired power will account for about 30%, hydropower about 30%, solar power about 24%, and wind power about 1%. The maximum load capacity of the power system in 2020 is about 38.7 GW, the crude reserve ratio of the power system (except wind and solar) is 34.3%.



**Figure 2. Capacity structure by source (GW; %) and ownership in 2020 (%)**

(Source: EVN (2021))

In the period 2011-2015, the growth of power sources reached 13%/year, of which the fastest growth was coal-fired power (27%/year on average). In the period 2016-2020, the growth of power generation reaches 12%, hydropower (only 5%/year on average) and coal-fired power (only increased by 10%/year on average) have decreased significantly. Renewable energy has experienced a boom in installed capacity (now accounting for 26% of the total installed capacity of electricity).

Up to now, coal-fired power still plays a huge role in Vietnam's electricity supply. However, many thermal power plants use imported coal. Currently those plants account for nearly a quarter of the coal power capacity in operation. For the coal power capacity under construction, this figure is expected to increase to 68%. The increasing reliance on imports could impact the country's energy independence and security.

It is very noticeable that Vietnam is becoming a net importer of coal for energy needs. According to the Vietnam coal industry planning to 2020 with a prospect to 2030 in Decision 403/QD-TTg, coal demand for thermal power is 64.1 million tons in 2020 and up to 131.1 million tons in 2030.

### **3.3.2. Climate change and its impact on the energy industry in Vietnam**

Climate change is expected to have a significant impact on Vietnam's energy system both in terms of electricity supply and demand. The results may vary depending on the forecasting model.



The forecast of the draft Power Plan VIII (IEVN, 2021) estimates that the demand for commercial electricity by 2045 will increase by 3.54 times compared to 2020 in the low scenario and up to more than 5 times for the high scenario. This forecast is calculated based on expected GDP growth rate, economic growth rate, electricity price, ability to save electricity. This scenario does not take into account changes in electricity demand due to climate change

**Table 2.2. Forecast of electricity demand nationwide to 2045**

Year	2020	2025	2030	2035	2040	2045
Commercial Electricity (TWh)						
Low scenario	216,8	330,2	457,6	547,8	678,9	768,4
Base scenario	216,8	335,3	461,3	649,4	774,6	887,1
High scenario	216,8	346,6	530,5	734,7	932	1089

(Source: IEVN (2021) *The Power Plan VIII*)

However, climate change with increasing temperature may further increase the demand for electricity than is normally forecast. Holding other uses constant, Espagne et al. (2021) find that each additional degree Celsius is estimated to increase household electricity consumption by 4.86% (95% confidence interval) and energy demand of businesses increased by 4.31% (95% confidence interval: 0.031–0.056). These effects, plus the expected economic growth rate of 5 – 6% per year, will put great pressure on the power generation sector in the long term.

The research results of Espagne et al. (2021) show that the electricity demand increases significantly compared to the BAU scenario (Business as usual) caused by the increase in temperature. Under the scenarios RCP4.5 and RCP8.5, the demand increases from 2.8% to 5.2% in 2050. The increased demand for electricity resulted in a corresponding soar in the primary energy supply (due to an increase in the input fuel for power generation) from 1.3% and 2.4%. GHG emissions from power generation also increase from 1.9% to 3.6% by 2050 under scenarios RCP4.5 and RCP8.5 respectively. Espagne et al. (2021) suggest that if the current consumption pattern remains unchanged, the residential electricity consumption will increase by more than 80% by 2050.

### 3.3.3. Stranded assets in the energy industry

#### a. Factors affecting stranded assets in the electricity industry in Vietnam

As aforementioned, assets are stranded when they are no longer profitable as expected. From a financial perspective, the determination of the size of stranded assets is primarily influenced by the plant's costs and revenues. These factors affecting revenue and operating costs can be divided into subjective factors (belonging to the enterprise), and objective factors (external to the enterprise).

+ *Subjective factors:*

Subjective factors affecting the risk of stranded assets include:

**(i) Fuel costs:** Fuel costs include costs incurred by purchasing, transporting, and preparing coal. Currently, most of Vietnam's thermal power plants use imported bituminous coal, so if there is a big fluctuation in coal price, it will increase the operating cost of the plant.

**(ii) Technology used by the plant** (installed capacity of the unit, status of the unit, year

of operation of the unit, type of combustion technology, type of coal, heat level, emission factor): Different technologies can be used such as: Subcritical technology (imported coal or domestic coal), supercritical technology, ultra-supercritical technology. Environmental control technologies are installed (for nitrous oxide, sulfur dioxide, dust), as well as the type of cooling technology are also factors that affect the operating costs of the plant.

**(iii) Operation and maintenance costs including fixed and variable costs:** Fixed operating and maintenance costs depend on the boiler's combustion technology. The IEA report (2015) estimates 13 USD/kW for subcritical technology; 17 USD/kW for supercritical technology; 20 USD/kW for ultra-supercritical technology; 31 USD/kW for Integrated Coal Gasification Combined Cycle (IGCC); and 117 USD/kW for circulating fluidized bed combustion technology. Similarly, operating and maintenance costs vary depending on boiler combustion technology and unit capacity: \$5.42/MW for subcritical technology; \$4.34/MW for supercritical technology; \$4.07/kW for ultra-supercritical technology; USD 31/kW for IGCC Technology; and 7 USD/MW for circulating fluidized bed combustion technology.

**(iv) Extraction rate:** A peculiarity of power plants is that the extraction capacity may be different from the designed capacity. The extraction capacity depends on the demand and power transmission capacity at each stage of development. High or low extraction rate affects the factory's revenue.

+ *Objective factors*

Objective factors affecting the operational efficiency of coal-fired power plants include:

**(i) Government regulations to limit pollution:** Changes in environmental and emission standards (dust, emissions, etc.) will increase operating costs and reduce profits of coal-fired power plants. In order to reach the Zero carbon target, the Government will require the closure of coal-fired power plants that no longer meet environmental requirements.

**(ii) Policy on taxes and fees related to greenhouse gas emissions (GHG):** Changes in tax or fee related to GHG emissions can increase the operating costs of coal power plants. Moreover, if Vietnam applies the market for trading GHG emission certificates, it will also increase the operating costs of thermal power plants because most of these plants are net emitters of GHGs.

**(iii) Competitive electricity trading market:** Coal power plants can derive revenue from sources within the market (e.g. wholesale electricity market) and outside the market (e.g. ancillary services, power balance, capacity market). Currently, the electricity market in Vietnam only stops at competitive wholesale electricity purchase.

**(iv) Cost of capital:** The majority of investment capital for coal power plants in Vietnam comes from loans. Therefore, the cost of borrowing has a large influence on the operating efficiency of factories.

**(v) Competition of other types of energy supply:** Until now, the cost of electricity generation from coal power in Vietnam is still considered relatively cheap compared to other forms of electricity generation (mainly plants using old subcritical technology). The main reason is that Vietnam's regulations on environment and GHG treatment are not as strict as other countries. If Vietnam applies a carbon price equivalent to the European emission trading

system and implements air pollution regulations similar to those of developed countries, it is likely that the coal electricity will be much more expensive (Carbon Tracker, 2019).

### **b. Risk of stranded assets: Case study of Quang Trach I Thermal Power Plant**

To better examine the risks of stranded assets, we investigate further a specific case study at Quang Trach I Thermal Power Plant.<sup>1</sup> Quang Trach I Thermal Power Plant was approved by the Prime Minister in Decision 428/QD-TTg dated March 18, 2016 on adjusting the National Power Development Master Plan for the period 2011-2020, with a vision to 2030 (Adjusted Master Plan VII).

The plant is deployed in Vinh Son village, Quang Dong commune, Quang Trach district, Quang Nam province, including 2 units with a total installed capacity of 1,200MW and commercial electricity output of about 7.8 billion kWh/year when connected to the national grid. The project has a total investment of \$1.86 billion, with the goal of supplementing the power supply, contributing to ensuring national energy security, improving the safety and stability of the power grid system, contributing to increasing the proportion of thermal power sources in the structure of the national power system, overcoming the system's dependence on hydroelectric power. Unit I of the plant is expected to operate in June 2024.

Quang Trach I Thermal Power Plant uses ultra-supercritical technology USC with direct flow boiler, direct injection coal fired, traditional steam condensate turbine with supercritical parameters: main steam pressure of 26.9Mpa; main steam temperature of 600oC, re-drying steam temperature of 610oC. This is the most advanced technology and the highest factory parameters in Vietnam today and is used in many developed countries around the world. In particular, the coal conveyor system, desulfurization system, dust removal system ... of the plant all follow European standards, so the concentration of substances in the exhaust gas and wastewater treated before being discharged into the environment will meet the environmental standards of the State and the set of standards of the World Bank - WB. Regarding gas emission, the plant will apply SOx treatment using Sea-FGD technology. This method creates sulfate salts, which are readily available in seawater, thus, there will be no impact on the aquatic environment. Quang Trach I Thermal Power Plant uses imported bituminous coal with burn-out properties, so the residual carbon content in the ash and slag will be extremely low. Based on the collected information, the study develops a scenario about the efficiency of the plant's operation when the plant comes into operation:

**Table 3. Expected business results in the first year (units: million VND)**

No	Criteria	CY1	Coal prices increase by 18%
I	Income		
1	Revenue from electricity sales	12,781,936	12,781,936
2	Other benefits obtained from the project (if any)		
3	Subsidy (if any)		
II	Total cost	12,755,006	13,728,668

<sup>1</sup> This is a project with quite complete information and is in the investment phase and will operate in the period 2025-2045.

1	Fixed operating and maintenance fees	1,077,994	1,077,994
2	Variable fee	5,611,885	6,585,547
2.1	Cost of main fuel (coal)	5,411,225	6,385,245.5
2.2	Fuel cost of oil DO	22,995	22,995
2.3	Cost of limestone auxiliary materials	0	0
2.4	Cost of auxiliary materials NH <sub>3</sub>	36,041	36,041
2.5	Cost of water auxiliary materials	2,194	2,194
2.6	Other costs (regular maintenance and repair)	139,071	139,071
3	Fuel transportation fee	759,566	759,566
4	Fee for using infrastructure	337,982	337,982
5	Depreciation	2,463,637	2,463,637
6	Natural Resources Tax (N/A)		0
7	Interest expenses + fees	2,503,942	2,503,942
II	Profit before tax	26,930	-946,732

It can be seen that, in order to invest in thermal power plants, debt capital accounts for 70% total capital. The debt has interest expense of 10%/year, grace period in the first 4 years of construction and interest payment in the first 10 years when the factory is put into operation. In the first year of operation, the main fuel cost of coal accounted for more than 96% of the total variable costs and make up 52.7% of the total costs (excluding interest expenses and fees). Thus, the cost of coal fuel accounts for a large proportion in the cost structure of thermal power plants. The ratio of expenses (excluding interest and fees) to revenue is 80% and the ratio of coal fuel cost/revenue is 42.3%. Thus, a dollar of revenue generated must cover 0.8 dollar of expenses (not including interest) and 0.423 dollar of coal fuel cost. Currently, in the business plan of the power plant, the selling price of electricity remains unchanged and remains stable and the coal purchase price is estimated at 1,663,302 VND/ton (equivalent to 74.2 USD/ton at the exchange rate of 1 USD=22,400 VND)<sup>1</sup>.

To meet net zero emissions, the coal industry will be mining less and coal prices will be higher. For thermal power plants, emissions requirements meet higher standards. If coal price increases by 18% and all other factors remaining the same, the power plant's pre-tax profit will be negative. Since Quang Trach 1 thermal power plant would use imported bitumen coal, if we calculated net profit using the current price of imported coal (the price of bituminous coal in February 2022 fluctuates around \$240/ton), the net profit of the project will be negative. If the coal price is doubled (equivalent to \$144/ton), the project's profit before tax in year 1 is about -5,383,936 million VND (in the first year the project is exempt from corporate income tax). Thus, the first year's net operating cash flow of the project (Profit after tax + Depreciation) will be -2.900.000 million VND/year. Thus, if we use the market coal price, the project will not generate positive cash flow. In other words, the factory is at risk of stranded assets<sup>2</sup>.

The fact that the factory is at risk of stranded assets puts investors financing the plant at risk of not recovering enough capital invested. The capital structure of the project shows that the capital source for the factory implementation is mainly from debt (70%). If the coal price

<sup>1</sup> This estimated coal price is much lower than the current global coal price.

<sup>2</sup> This is one of the reasons, Quang Trach 2 Thermal Power Plant was converted to use imported LNG gas.

is adjusted up, the cash flow of the plant will be negative, thereby making it difficult for the power plant to pay interest and principal to creditors. From an investor's perspective, investors will face the risk of losing capital.

#### 4. CONCLUSION

Vietnam is one of the countries most affected by climate change. The average annual temperature has increased across Vietnam with an average increase of about 0.89°C for the period from 1958 to 2018 (~0.15°C/decade). The past decade has seen the highest increase in the temperature. During the same period, annual rainfall increased slightly with an average of about 5.5%, sea level also increased with an average of 3.6 mm/year for the period 1993–2018 (Ministry of Natural Resources and Environment 2021).

This paper shows that in addition to the socio-economic effects in general, climate change can also cause property risk in many sectors. One of the industries that will be directly affected when Vietnam implements COP 26 commitments is energy (coal power generation enterprises and sponsoring financial institutions). The issue of stranded assets in the energy industry has received very little research in Vietnam while this is a sector with a very large scale of assets. Furthermore, through a case study of Quang Trach I Thermal Power Plant, we show that among energy industry, coal-fired power plants are the most at risk of stranded assets. At the moment, Vietnam currently does not have its own policy to deal with the risks of stranded assets caused by environmental factors.

Therefore, although there are existing policy frameworks related to climate change, Vietnam still needs specific action programs in each sector, each field and needs more participation of businesses and people.

Vietnam faces great opportunities and challenges when trying to meet the goal of reducing greenhouse gas emissions to zero. Several policies need to be considered in the coming period to limit the negative impacts of climate change and reduce risk of stranded assets as: (i) carefully review loans to coal-fired power plants; (ii) develop risk contingency plans with the current coal-fired power projects.

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# THE RECENT BANK COLLAPSES - LESSON FOR LIQUIDITY RISK MANAGEMENT FOR BANKS IN VIETNAM

MSc. La Viet Anh<sup>1</sup>

**Abstract:** *The 2023 series of bank collapses has underscored the vital importance of effective liquidity risk management in the banking industry. Liquidity risk in bank, with its potential to trigger bank runs and destabilize the global financial system, requires a comprehensive approach that considers market volatility, regulatory changes, and evolving business models. Collaboration among banks, regulators, and stakeholders is crucial at the system level. Lessons from past crises, including the Global Financial Crisis of 2008, highlight the need to improve liquidity risk management practices in bank, particularly for commercial banks facing scenarios of bank runs. Applying insights from foreign bank collapses to Vietnamese banks can enhance their risk management frameworks. Addressing existing gaps in practices, such as contingency funding plans, stress testing, disclosure requirements, and communication strategies, can lead to more robust liquidity risk management. Strengthening resilience to liquidity risk is paramount for individual institutions and for the stability of the financial system. Continuous efforts are needed to develop effective tools and strategies for managing liquidity risk in the banking industry.*

**Keywords:** *Bank collapse, liquidity risk management, bank run.*

## I. INTRODUCTION

The series collapse of banks in the first half of 2023 has sent shockwaves worldwide and offers critical lessons for liquidity risk management in the banking industry. Due to the business model of taking deposits and granting loans, banks are inherently susceptible to various risks (credit risk, operational risk, liquidity risk, interest rate risk...). Among those, liquidity risk stands out because of its potential to trigger bank run, a phenomenon that leads to not only the collapse of any bank but also threaten the stability of the global financial system. The understanding and management of liquidity risk, particularly in distress period, have therefore become paramount in preventing bank collapses and ensuring the robustness of the financial system.

Managing liquidity risk is a complex task that requires a comprehensive approach. Banks must balance the need to maintain sufficient liquid assets to meet unexpected cash outflows with the desire to maximize returns through longer-term, illiquid investments. This balance is further complicated by factors such as market volatility, regulatory changes, and evolving business models. Moreover, the interconnectedness of the financial system means that liquidity problems can quickly spread from one institution to another, leading to systemic risk. Therefore, liquidity risk management cannot be confined to individual banks but must be addressed at the system level. This necessitates cooperation among banks, regulators, and other stakeholders.

Historically, numerous bank collapses have been precipitated by poor liquidity risk management. The Global Financial Crisis (GFC) of 2007-2008 is a stark reminder of the

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devastating effects of liquidity risk. During the GFC, global systemically important banks (G-SIBs) such as Lehman Brothers or Washington Mutual Bank, despite being solvent, faced severe liquidity crunches that eventually led to their downfall. The crisis underscored the importance of liquidity risk management and led to significant regulatory changes, including the introduction of liquidity standards under Basel III.

However, as prudent as the Basel standards sound, the recent chain collapse of Silvergate Bank, Silicon Valley Bank (SVB), Signature Bank, First Republic Bank (FRB), and Credit Suisse (CS) has reminded national supervisors and the financial system of the importance of sound liquidity risk management.

Considering the collapse of these banks, the call for improving liquidity risk management practice becomes vital, particularly for commercial banks in dealing with bank run scenario. Moreover, lesson learned from the foreign banks above can be applied to commercial banks in Vietnam, especially after the recent bank run crisis that threatened the Saigon Commercial Bank (SCB) at the end of 2022<sup>1</sup>.

By identifying gaps in current practices, banks will be able to develop more effective practices and tools for managing liquidity risk in distressed situations. These may include enhancement of contingency funding plan, stress testing, disclosure requirements and communication strategy, among others.

## **II. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

### **1. Liquidity and liquidity risk management in bank**

Before analyzing the recent crisis of banks, the concept of liquidity and liquidity risk management needs to be reviewed. The term liquidity, particularly in the banking industry, is multidimensional and well-defined. Schmitt (2018) approaches liquidity from the time dimension perspective in which liquidity is defined as (i) the capability of a bank to fulfill payment obligations as and when they occur (short term liquidity), or (ii) the capacity to borrow sufficient long-term funds at appropriate spreads to support asset growth (long-term liquidity). Alternatively, Duttweiler (2009) defines liquidity not as a ratio nor an amount, but rather a representation of the degree to which a bank is capable of fulfilling its respective obligations. This definition aligns with the Basel III guideline<sup>2</sup> (2008) where the term liquidity refers to the ability to fund the increases in assets and meet obligations as they come due.

Basel III guideline (2008) refers to liquidity risk (particularly funding liquidity risk<sup>3</sup> related to banks) as a bank's incapacity to fulfill both anticipated and unanticipated present and future cash flow and financial obligation without negatively affecting daily operation or financial condition of the bank. Alternatively, Heffernan (2005) defined liquidity risk as

<sup>1</sup> In December 2022, Saigon Commercial Bank (SCB) – 5<sup>th</sup> largest commercial bank in Vietnam was placed under “special scrutiny” following massive deposits withdrawal induced by potential links of SCB to an investigated real-estate conglomerate.

<sup>2</sup> Basel III is a set of international banking regulations developed by the Basel Committee on Banking Supervision (BCBS) that focuses on risk management framework of banks.

<sup>3</sup> This paper focuses on funding liquidity risk of bank which differentiates from market liquidity risk – risk that an organization cannot access liquidity in the market because of inadequate market depth or disruption.

insufficient liquidity for normal operating requirements, that is, the ability of the bank to meet its liabilities when they fall due. To commercial banks, liquidity risk is inherent due to the fundamental function of maturity transformation - borrowing short-term to lend long-term. While this function is crucial for economic growth, it exposes banks to the risk of bank run, especially during periods of financial distress. Liquidity risk management according to Basel III guideline (2008), therefore, is a crucial process to ensure that banks have sufficient ability to fund increase in its asset and meet financial obligations as they come due at reasonable cost. This guideline for liquidity risk management requires banks to manage intraday liquidity position on an ongoing basis as well as under various scenarios, including adverse conditions such as occurrence of bank run event.

A bank run occurs when customers, fearing the bank's impending failure, start withdrawing their deposits en masse (Heffernan, 2005). This situation disrupts the bank's ability to retain sufficient funding sources for its assets, which are primarily composed of loans. In periods of distress, banks' assets (comprised of long-term loans, fixed income assets, fixed assets, etc.) are not as liquid as cash or cash equivalents (like deposits or reserves at central banks). As a result, when depositor withdrawals increase significantly, banks can struggle to meet their due obligations and/or payments, eventually becoming insolvent. Moreover, the interconnectedness of the banking system means that a contagion effect can occur, where the lack of confidence in one underperforming bank can trigger a series of bank collapses, even spreading to solvent banks.

## **2. Liquidity risk management practices**

The phenomenon of bank collapses stemming from liquidity crises and best practices for liquidity risk management are widely studied among scholars. Some notable publications include Matz (2011), which provides a comprehensive overview of liquidity risk, its measurement, and management as well as the implications of Basel III; Venkat and Baird (2016), which cover liquidity tools such as liquidity metrics, regulatory reporting, operational processes, and stress testing; and La Ganga (2010), which discusses the lessons from the recent financial crisis and effective liquidity risk management and supervision, among others.

National supervisors also understand the importance of banking liquidity crises to the global financial system, hence the implementation of global liquidity risk management standards such as Basel III, Internal liquidity adequacy assessment process (ILAAP). Following these global standards, in recent years, the State Bank of Vietnam (SBV) has issued regulatory requirements on liquidity risk management such as Circular 13 (2018) or Circular 22 (2019) for banks in Vietnam to comply. These circulars mandate Vietnamese banks to implement a liquidity risk management framework that includes establishing risk strategy, setting risk appetite and limits on liquidity risk ratios, early warning system, stress testing, contingency funding plan and risk disclosure to stakeholders. These regulatory requirements from SBV align with the core of the Basel II guidelines to ensure the stability of banks in Vietnam and the global financial system.

## **III. METHODOLOGY**

In the article, the author applied the theory and methodology of dialectical materialism, historical materialism, systemization, interpretation, inductive, comparative method, etc. The

article uses secondary data sources, mainly from reports and information originating from official sources of the State management agencies, scientific research works, books, textbooks, journals, e- information pages, etc.

#### **IV. CASE STUDIES: INTERNATIONAL BANK COLLAPSE**

The Basel III guideline requires banks to comply with liquidity risk standards such as Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) of 100%, with the latter being fully implemented in 2019. Nevertheless, in the first half of 2023, several regional United States (US) banks and the G-SIB Swiss bank, Credit Suisse (CS), all of which had fully complied with the Basel III standards, collapsed. Although the root causes for the listed banks were different, they all faced a liquidity crunch or bank run that led to their collapses. Serious questions about these banks' liquidity risk management practices, particularly in the landscape of digital currency and the evolution of social media, need to be addressed. Below is the summary of how the chain collapse unfolded.

**1. Silvergate Capital Bank** – On March 9th, 2023, Silvergate Capital Bank, the second largest lender for cryptocurrency firms (digital currency) in the US, announced its decision to cease operations and initiate voluntary liquidation. This incident is reminiscent of a quintessential bank run. Silvergate Capital Bank was primarily a conventional regional bank in Southern California, USA. In 2018, it strategically shifted its focus towards the burgeoning field of cryptocurrency. This opportunity allowed Silvergate Capital Bank to bridge the gap between larger banks and innovative companies, which were often met with a combination of skepticism and disregard by other financial institutions. However, Silvergate Capital's decision to immerse itself in the heart of the cryptocurrency sector exposed the bank to the volatility of the crypto market. In March 2023, when FTX – one of the largest cryptocurrency exchanges – collapsed, Silvergate Capital Bank encountered massive deposit withdrawals from customers due to concerns about the bad news from the current cryptocurrency market. Eventually, the bank had to liquidate its assets and became insolvent on March 9th of 2023.

**2. Silicon Valley Bank (SVB)** – Just one day after Silvergate Capital collapsed, SVB's liquidity crisis began. SVB, the 16th largest bank in the U.S. banking system with \$209 billion in assets as of December 2022, specializes in providing financial services to technology startups. The collapse of SVB represents the largest bank collapse in the US since the financial crisis of 2008, and the second largest in U.S. history. From Q1/2020 to Q1/2022, deposits at SVB increased drastically from \$60 billion to \$200 billion. From Q1/2020 to Q4/2021, the size of SVB's securities portfolio increased from \$27 billion to \$128 billion, which comprised long-term fixed-rate bonds financed by short-term deposits. By the end of 2022, as the Federal Reserve began the interest rate hike, SVB's securities portfolio lost its fair value quickly with an estimated loss of \$17 billion, which was the equivalent of the bank's capital. At the same time, the deposits at SVB significantly decreased from nearly \$200 billion at the end of March 2022 to \$173 billion by the end of 2022. SVB's customers, primarily startups and venture capital firms, had struggled to pool market funding for business operation after the Covid pandemic, which led to a massive withdrawal of their deposits at SVB by the end of 2022. The scale of deposits at SVB that are uninsured constitutes a large proportion (~96%).

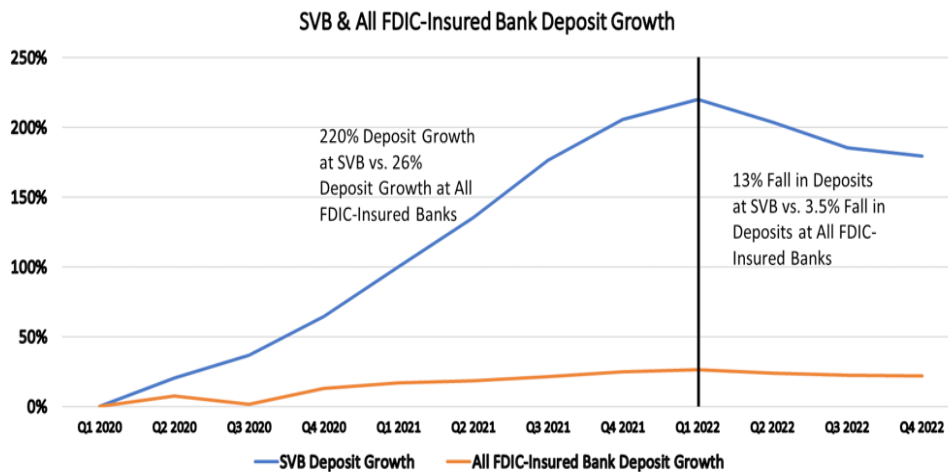


Figure 1: Growth of SVB’s deposit compared to other US Bank’s insured deposit growth<sup>1</sup>

On March 8th, 2023, as the news from Silvergate Capital Bank spread, customers panicked and began to withdraw deposits from SVB. As the bank projected, the rate of deposit withdrawals from the bank could reach double digits. On March 9th, SVB’s stock price dropped 60% and then 45% by the end of the next day. On March 10th, US regulators halted all SVB operations and put the bank under supervisory monitoring. In the period of 48 hours, the 16th largest bank in the US had collapsed from a bank run.

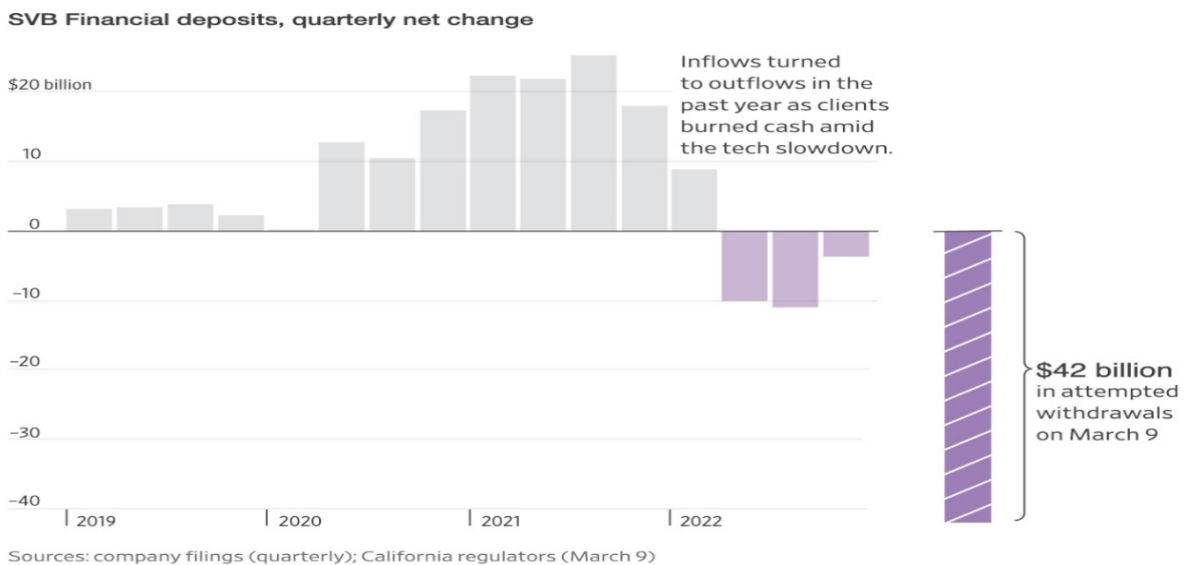


Figure 2: SVB net outflows by quarter<sup>2</sup>

**3. Signature Bank** – After SVB ceased its operations, on March 12th, 2023, another US bank with a customer profile in cryptocurrency failed. As of December 2022, Signature Bank was ranked as the 19th largest bank in the United States by S&P Global with a prominent position in New York’s real estate lending sector. Besides, Signature Bank had also engaged in the cryptocurrency market by being the first FDIC-insured bank to establish a blockchain-based

<sup>1</sup> Source: [www.capitaladvisors.com](http://www.capitaladvisors.com)

<sup>2</sup> Source: <https://www.amynewman.com>



digital payments platform. In the wake of the Silvergate Capital Bank and SVB collapse, the exposure of Signature Bank to the cryptocurrency market became a serious concern for its customers and regulators who feared the contagion failure would spread to other banks. Notably, Signature Bank had reported \$79.5 billion in estimated uninsured deposits as of December 2022—meaning about 90% of all its deposits were uninsured. From March 9th, 2023, as the Silvergate and SVB crisis was ongoing, Signature Bank issued a statement assuring customers of a solid bank rating, strong liquidity, and sound capital. However, as news of the bank run spread, Signature Bank's customers began to withdraw their deposits. On March 10th, the bank lost 70% of its stock price. On March 12th, the US regulator decided to take possession of Signature Bank to protect uninsured deposits of customers and more importantly, to stop the spread of the bank run. In one week, three US banks with total assets of \$330 billion (as of 31/12/2022) had collapsed from massive deposit withdrawals.

**4. Credit Suisse (CS)** – If the three US banks mentioned earlier were regional banks with a focus on serving a specific sector of the market, CS is a G-SIB bank with a larger scale in comparison. Established in 1856, CS operates across three sectors: Investment Banking, Private Banking, and Asset Management and is the second-largest bank in Switzerland. CS's assets were valued at \$569 billion at the end of 2022, with stringent capital requirements. As one of the world's largest financial organizations, it is classified by the Financial Stability Board (FSB) among the group of 30 G-SIBs. Unlike the other US banks mentioned earlier, CS had been struggling with poor management and business decisions before its downfall in 2023. In 2021, CS recorded a \$5.5 billion loss in credit granting to Archegos Capital Management firm, and it also froze its \$10 billion asset in an investment network that involved the default of Greensill Capital firm. In 2022, CS faced charges related to a bribery scandal and money laundering activities in Mozambique and Bulgaria. In Q3 of 2022, the cash outflow of CS was an estimated 6% of its total asset. In Q4 of 2022, due to its poor management and reputation, wealthy clients began to withdraw an estimated \$119 billion in deposits and investments with CS, which led to serious liquidity problems for the bank. In March 2023, amid the US banks' crisis, the Saudi National Bank – the largest shareholder of CS – announced that it would stop funding for CS. Immediately, on March 15th, CS's stock price plummeted by 24%. The estimated daily cash outflow of CS was reported at \$10 billion per day. Despite expert opinions on CS's solvency due to its sufficient stock of liquid assets and ability to access central bank funding, on March 19th, the Swiss authorities approved the deal for UBS<sup>1</sup> (the largest bank in Switzerland) to take over CS, ending the reign of one of the most prestigious and largest banks in the financial system.

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<sup>1</sup> Union Bank of Switzerland



### Credit Suisse goes off piste

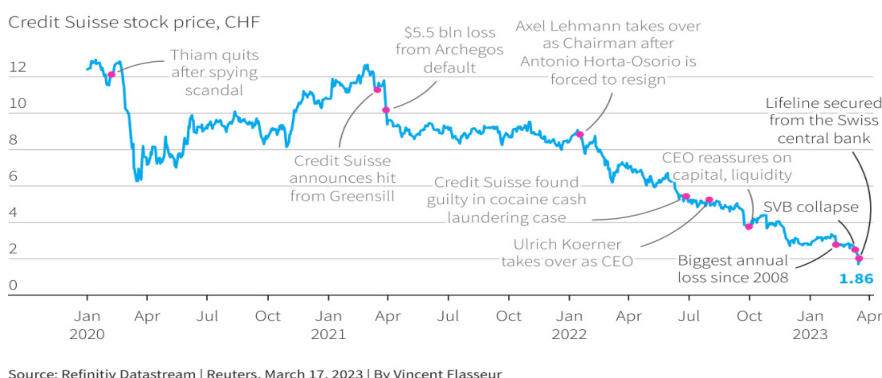


Figure 3: Credit Suisse timeline of collapse<sup>1</sup>

**5. First Republic Bank (FRB)** – After CS was taken over by UBS, the market began to look for another bank failure, and FRB became the next victim of a bank run. The collapse of FRB mirrored the failures of SVB and Signature Bank, largely due to similar underlying issues. These included a substantial volume of uninsured deposits and liquidity challenges. Similar to SVB, FRB catered to startups in Silicon Valley. As of December 2022, an estimated 67% of FRB’s deposits were uninsured, which led to panic among customers when Silvergate Capital Bank and SVB encountered bank runs in March 2023. The lack of liquidity from FRB stemmed from its business model of earning net interest income from real estate loans and municipal securities investments, which were highly illiquid assets. In the middle of March 2023, as other US banks faced runs on deposits, FRB’s rating was downgraded, triggering fear among its depositors. This led other US banks and the Federal Reserve to inject approximately \$135 billion to boost FRB’s liquidity in the last weeks of March 2023. Nevertheless, on April 24th, FRB announced that its deposit base had declined by 41% compared to December 2022. On April 28th, US regulators concluded that FRB’s situation was deteriorating rapidly and there was no time left to negotiate a private sector rescue deal. JPMorgan participated in the auction to acquire FRB at the behest of the FDIC to help stabilize the financial system. On May 1st, 2023, US regulators announced the takeover of FRB by JPMorgan Chase for \$10.6 billion. After acquiring FRB, JPMorgan Chase, already the largest bank in the US by total assets, now exceeded the “too big to fail” threshold, thus raising another growing concern among supervisors and the global financial system.

The beginning of 2023 witnessed the most significant liquidity crisis for banks since the GFC in 2008. In the period of two months, Credit Suisse, a G-SIFI bank, collapsed while the failures of Silvergate Capital Bank, SVB, Signature Bank, and FRB wiped out more than \$500 billion of assets in the US banking system – more than the total assets of all failed banks in 2008 combined. The liquidity management failure of these banks shook the stability of many other banks around the world. On a positive note, this provided a valuable opportunity for banks, including ones in Vietnam, to review their liquidity risk management practices.

<sup>1</sup> Source: <https://www.reuters.com>

## V. DISCUSSION AND ISSUES

The call for action now belongs to national supervisors and other banks in the financial system. The root causes for the demise of the aforementioned banks may not have begun with liquidity risk, but they certainly ended these organizations swiftly. Below are several issues, in the author's opinion, that need to be re-examined and further discussed regarding the practice of liquidity risk management of those failed banks.

*Firstly*, banks should review their liquid assets more frequently. Liquidity is not just a number, but rather the financial capability of any bank to meet due obligations at all times. Besides cash and cash equivalent assets, banks should review the liquidity of their other assets to ensure they can be easily converted to cash in times of distress. Basel III's liquidity coverage ratio requires banks to maintain sufficient high-quality liquid assets (HQLA) to meet the net cash outflow, and all the above banks have met this requirement. However, how often do banks re-evaluate the liquidity of this HQLA? If banks state that their securities portfolio can be liquidated 100% when needed, then is this valuation based on a business-as-usual or distress scenario? Have they incorporated in this valuation the absorption capacity of buyers in the market when a massive flow of securities is being sold? Or in a distress situation, how much of banks' loans can be recalled in time to fund the massive deposit outflow? In the case of the aforementioned banks, it seems that their HQLA or liquidity buffer did not sufficiently support the cash outflow in a distress scenario.

*Secondly*, banks should exercise their contingency funding plans (CFP) periodically. The CFP is a liquidity risk management requirement of Basel, which comprises step-by-step guidance on what each employee of the bank needs to do in a time of crisis. This includes communication from management to customer representatives and external stakeholders, reporting processes between departments, and necessary liquidity measures to remedy the situation. In the cases of the aforementioned banks, their CFPs were clearly not effective in assuring customers and the market, hence the deposit withdrawal. It raises the questions of the practicality of CFPs or how often banks implement this exercise. For the failed banks, was the CFP just a playbook created to satisfy regulatory requirements? Banks may argue that implementing the CFP as a routine exercise can raise sudden concern in the market (i.e., the interbank market may startle to hear bank traders bidding/asking for large quantities of securities), however, it is important that the CFP should be a practical guideline that saves the bank when chaos occurs.

*Thirdly*, relevant to the CFP and its communication process to external parties, the question of managing communication in the digital and social media age should be raised. For banks with a concentrated profile of clients such as SVB, Silvergate, and FRB, who primarily serve the tech sector, negative news spreads quickly through social media. In the past, bank runs typically occurred at a slower rate due to the slow pace of news coverage through traditional outlets. Therefore, banks had more time to prepare and handle deposit withdrawals. In contrast, SVB and Silvergate collapsed within 48 hours as negative news of the banks spread quickly through social media channels. With the development of digital banking, depositors are now able to withdraw funds much faster than standing in line at the bank. The side effect of the digital banking age is a serious issue that bank management needs to address.

## VI. LESSONS AND RECOMMENDATIONS FOR BANKS IN VIETNAM

In retrospective, it is necessary for banks in Vietnam to examine the lessons from the collapse of the above foreign banks in order to strengthen their liquidity risk management capabilities. Post Covid-19 pandemic witnesses a significant influx of funding for Vietnam's commercial banks. Toward the end of 2022, competitive interest rate of banks attracted both retail and wholesale depositors. This couples with limited investment channels (as real estates and bond market continues to struggle in 2023) encourages depositors to keep significant amount of short-term savings (mostly 6 to 12-month tenors) in commercial banks. Per SBV's statistics, retail deposit balance at commercial banks as of June 2023 reached record of 6.3 trillion VND and wholesale deposit was 5.9 trillion VND. However, according to SBV analysis, 88% of deposit will mature within 12 months while 52% of loans from commercial banks are medium to long term. Banks' balance sheets are facing shorter-term funding and longer-term asset which put more pressure on liquidity structure of commercial banks as the deposit matures. Similar to investors, banks in Vietnam also struggles to find investment options to utilize the increased funding from depositors. Credit growth in first half of 2023 was only at 4,7% as the economy continues to face difficulties internally and externally. In addition, non-performing loan rate is rising which further caution banks' lending practice. As solution, several banks resorted to invest in government bonds to (i) increase earning as lending struggles, and (ii) boost liquidity risk ratio since government securities can be held as high-quality liquid asset. The rise in deposit mimics the challenge that Silicon Valley Bank faced before its collapse. SVB also held amount of government securities as high-quality liquid asset only to see its bond portfolio lost value significantly as Fed's interest rate hiked.

Despite of the aforementioned similarities, the current economic and market conditions between the US and Vietnam are different. However, liquidity risk is contagious, thus this is the time for commercial banks in Vietnam to review their current liquidity risk management practice. Following the case studies in the previous section, here are four recommendations for Vietnamese commercial banks:

**Firstly**, banks need to enhance CFP practicality through routine exercises. Circular 13 (2018) issued by SBV requires banks in Vietnam to establish a CFP in the case that obligations are not met. As banks establish their CFPs, risk managers should review and implement trial exercises of the CFP regularly. The exercises ensure that bank employees understand the actions needed in distress situations. Actions need to be clear, concise, practical to implement, from executives to branch representatives. The CFP should include steps to integrate support from SBV if needed. Communication should be handled effectively for different scenarios including negative news spreading on social media. Customer representatives in each branch should know what to communicate to customers to reduce the panic of depositors. In the case of executive unavailability, there should be a backup line of command between management to make decisions. These are crucial actions in times of crisis and were proven effective in the case of Saigon Commercial Bank's deposit withdrawal in 2022.

**Secondly**, banks should perform frequent valuations on their highly liquid assets to understand their liquidity profile. In Circular 22 (2019), SBV mandates banks to hold

sufficient high liquid assets to fund at least 10% of their total liabilities, and at least 50% of net cash outflow during a 30-day period. This regulation ensures that banks meet short-term liquidity levels for their obligations. The high liquid assets consist of cash, central bank reserves, highly liquid securities, and deposits at other banks. Among these assets, banks should perform frequent (at least quarterly) valuations of their highly liquid securities portfolio to understand the extent of these securities' liquidity levels in market distress situations. For example, banks can examine how much of these securities can be liquidated or absorbed by the market or how much of a haircut would be applied to liquidate these securities in distress scenarios. Another practice would be to see how long it takes to withdraw loans/deposits at other counterparties/banks. The evaluation of highly liquid assets should be integrated into various business scenarios in the stress testing process of banks. Banks should perform these evaluations for at least three scenarios: (i) business as usual, (ii) distress scenario of the bank, and (iii) distress scenario of the system. Along with various scenarios, banks should further integrate combinations of different risks occurring at once into the stress testing process. This is a dynamic approach for testing banks' liquidity asset profiles, the most important buffer for banks in crisis periods. In the case of SVB, the negligence in reviewing liquidity profile of its high-quality liquid securities portfolio during financial distress period was one of cause for bank failure. Vietnam's commercial banks with significant securities portfolio should be cautious of this issue, especially during unfavorable market condition.

*Thirdly*, banks should enhance risk management training for employees to establish a resilient risk culture within the organization. In the case of SVB, there were numerous absences of key risk management positions such as the Chief Risk Officer which led to poor oversight of the risk management process. Banks should review and upgrade their training programs not only for risk officers but also for executives and business employees to ensure that risk appetite and risk management processes are understood throughout the organization. Every employee, particularly business representatives, in the organization should be aware of the CFP and the risk level that the banks are exposed to before any business decision is made. The recent collapse of US banks presents a perfect training opportunity for commercial banks in Vietnam to further strengthen their liquidity risk management understanding and practice.

## **VII. CONCLUSION**

The collapse of banks, as illustrated by the cases discussed in this research, provides critical lessons for the banking industry in Vietnam. The importance of effective liquidity risk management cannot be overstated. Banks must ensure that they have robust systems in place to manage their liquidity risk, including maintaining an adequate level of liquid assets, conducting regular stress tests, and implementing effective risk management strategies. The experiences of SVB, Signature Bank, and FRB highlight the dangers of overexposure to a volatile yet concentrated sector and poor liquidity risk management practices that eventually led to runs on deposits. These cases underscore the need for Vietnamese banks to further enhance their liquidity risk management framework to not only meet global standards but also to strengthen their liquidity management capabilities during crises.

In the face of an increasingly complex and interconnected global financial system, Vietnamese banks must learn from these lessons to navigate future challenges and contribute to the stability and growth of the Vietnamese financial system.

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# THE IMPACT OF MACROPRUDENTIAL POLICIES AND CORPORATE FINANCIAL LEVERAGE: EVIDENCE FROM VIETNAMESE PUBLIC LISTED COMPANY

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**Abstract:** *This paper investigates the impact of macroprudential policies on Vietnamese public listed companies' financial leverage over the period of 2007 to 2021. In 2011, Vietnamese Central Bank introduce credit restrictions as a monetary policy instrument to contain net credit creation by the financial sector and to safeguard the financial system as a whole. In this paper, we focus on the impact of such restrictions on the optimal leverage decision of Vietnamese non-financial firms. We use a large set of control variables as well as a dynamic panel models from all Vietnamese non-financial listed firms from the two stock exchanges, HOSE and HNX. Results provide significant evidence in support of the argument that firms' optimal capital structure decisions are negatively affected from the credit restriction regulation. Moreover, the effect of credit restrictions is more prominent on large firms while Small and Medium-Sized Enterprises are unaffected.*

**Keywords:** *Macroprudential policy, credit room regulation, financial leverage, optimal capital structure.*

## 1. INTRODUCTION

In recent years, countries are facing more and more uncertainties around the security of financial systems. For example, the Credit Suisse acquisition of UBS or the bankruptcies of various US banks such as Signature Bank and Silicon Valley Bank had threatened the soundness of the financial system of the respective countries. Thus, more and more countries, especially emerging countries, are extensively relying on macroprudential policies to improve financial stability and to increase the resilience of the financial system (Cerutti et al, 2017). Macroprudential policy framework is considered as a crucial tool by policy makers to mitigate the negative effect of shocks and systematic risks of the financial system. These policies are aimed to improve financial stability and resilience of the financial intermediaries by building buffers, reducing procyclical feedback between credit and asset prices, and containing unsustainable increases in leverage (IMF, 2013).

In Vietnam, State Bank of Vietnam (SBV) has implemented such macroprudential policy in the form of credit restrictions to the financial sectors in 2011. This regulation contains net credit creation by the financial sector and thus, controls the credit growth of the whole financial sectors in order to safeguard the financial system. From 2011, SBV applies a maximum growth rate of the whole financial sectors of 14-15% per year. Each quarter, SBV gives a credit line to each financial institution and restricts the credit growth of those institutions to the quota given to them.

However, the impact of such credit restriction on corporate leverage has rarely been discussed in the literature. In order to provide further evidence and to shed some light on this

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issue, we aim to analyze the impact of *SBV's* use of credit restrictions on corporate financial leverage by utilizing a large set of firm-level data over a long period of time from 2007 to 2021.

Corporate uses external sources of finance to enhance its growth as company seeks external capital to support expansion that otherwise be difficult for the firm to fund on its own. One external sources of finance that firms rely on is debt finance either from bank loans or corporate bonds. Financial institutions such as commercial banks are limited by the credit quota given to them as well as the *sectors* quota that they can give loan to by SBV credit restriction regulation. This indeed is expected to have an important impact on decisions of corporate who are seeking external capital.

In this paper, we investigate the impact of credit room regulation on firms' optimal capital structure decisions. We use a sample of all listed non-financial firms from the two Vietnamese stock exchange, Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX), from 2007 to 2021.

We find that firms' financial leverage is lower after the implementation of credit room regulation in 2011. We argue that since the credit room regulation restrict firms' ability and access to debt finance from financial institution, the cost of debt financing is higher and therefore, firms rely more on other sources of finance such as retained earning and equity rather than debt financing. Furthermore, we also find that the effect of credit room restrictions is only prominent among large firms while SMEs are less likely to be affected by the regulations.

The remainder of this paper is organized as follows. Section 2 represents literature surrounding macroprudential policies. Section 3 reports research design and section 4 explains the dataset and methodologies. Section 5 reports results and section 6 conclude.

## 2. LITERATURE REVIEWS

Given the important of macroprudential policies, pervious literature has explored the impact of macroprudential policies on credit growth. Lim et al (2011) use data from 49 countries to investigate the effectiveness of macroprudential instruments in reducing systematic risks. Their evidence suggests that many macroprudential instruments are effective in mitigating systematic risks. Those instruments are caps on the loan-to value ratio, caps on the debt-to-income ratio, ceilings on credit or credit growth, reserve requirements, countercyclical capital requirements and time-varying/dynamic provisioning. Similarly, Ostry et al (2012) investigate the effect of macroprudential policies and capital controls on enhancing financial stabilities and find that both capital controls and macroprudential policies are associated with lower credit growth and therefore, they are effective to restrain the intensity of aggregate credit booms. Moreover, several studies also find that macroprudential policies are effective in providing financial stability and mitigating systematic risks, especially in emerging countries (Claessens et al, 2013; Cerutti et al, 2017; Fendoğlu, 2017)

With regards to firm level, the trend in the literature is to investigate the impact of macroprudential policies on corporate decisions. Yarba and Guner (2020) study the effect of macroprudential policy on financial leverage of Turkish firms and show that Turkish non-financial firms have reduced the use of financial leverage as well as the ratio of financial debt to total debt decreased when tight macroprudential policies were put into use. That impact is common for small and medium-sized businesses but very weak for large enterprises.

In Vietnam, there have been several studies on macroprudential policy for the economy, such as the study of Quynh (2020) on the influence of macroprudential policy on the stability of banks in Vietnam. In addition, there have also been a number of domestic studies on the impact of bank credit and commercial credit on Vietnam's economy in general and on the efficiency of enterprises in particular. Bui (2017) studies the impact of bank credit and commercial credit on agricultural enterprises listed on the stock exchange and shows a non-linear relationship between commercial credit and commercial credit. revenue growth, business performance.

However, there is no study investigating the impact of credit restriction policy on enterprises on the Vietnamese stock market as well as no topic to make recommendations on credit restriction policy on the quantitative basis.

### **3. RESEARCH DESIGNS**

There are many theories with regards of capital structure decisions. The "trade-off theory" suggests that firms make a trade-off between the "tax shield" benefit of debt financing and the "bankruptcy" cost of debt financing. The "pecking order theory" suggests firms' decision of financing base on the hierarchy of retained earnings, debt and then equity. While "market timing" suggests that firm's choice of financing sources based on the cost of those sources. SBV credit room is expected to have a negative impact on the ability of corporate to access external funds and thus increases the cost of debt for corporate. Thus, with "market timing" theory, corporates are expected to rely less on debt financing as they could be discouraged by the increased cost of debt. Based on this analysis, we proposed the following research hypothesis:

H1-1: *Ceteris paribus*, the credit room has a negative impact on firms' optimal capital structure decisions.

Further, we would like to investigate the impact of credit room on Small and Medium-Sized Enterprises (SMEs) and large firms separately to examine whether the restrictions effect on firms' financial debt changes depending on firm size. Since large firms have easier access to debt finance than SMEs because of their size as well as reputation, we expect the effect of credit restrictions would be stronger on SMEs than large firms.

### **4. DATA AND METHODOLOGY**

#### **4.1. Proposed model**

Previous literature of capital structure suggests that the adjustment costs cause the slow adjustment of firm leverage to the optimal leverage and thus, a lag of firm leverage should be incorporated to control for the prior period's leverage (Flannery and Hankins, 2013). Furthermore, previous literature also shows that a fixed effect dynamic panel model are the most accurate estimators of panel data with endogenous independent variables, second order serial correlation as well as unbalanced panel data when dependent variable is clustered (Flannery and Hankins, 2013). Thus, in this paper, we employed a fixed effect dynamic panel model as following:

$$\begin{aligned}
FLEV_{i,t} = & \beta_0 + \beta_1 C\_ROOM_t + \beta_2 FLEV_{i,t-1} \\
& + \gamma_j \sum_{j=1}^4 CONTROL_{i,j,t-1} + \lambda_k \sum_{k=1}^2 MACRO_{k,t} + \varphi_i IND\_LEV_{i,t} \\
& + \mu_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{1}$$

where  $FLEV_{i,t}$  is the dependent variable for firm  $i$  in year  $t$  (either FD/AT or FD/LT).  $C\_ROOM_t$  is the interested independent variable representing the implemented period of credit room policy.  $CONTROL_{i,j,t}$  is the vector of firm characteristics while  $MACRO_{k,t}$  is the macroeconomic control variables and is the industry control variables mentioned in Table 1.  $\mu_{i,t}$  is the firm fixed effect and  $\varepsilon_{i,t}$  is the idiosyncratic error term.

## 4.2. Variables

This section explains measurements of macroprudential policy: SBV credit restrictions and other variables used in the empirical analysis of this paper.

### 4.2.1. Capital structure variable

In order to assess corporate capital structure, we include two different measure of leverage as dependent variables, namely, ratio of financial debt to total assets – a measure of corporate leverage and financial debt/total liabilities – a measure of share of financial debt in total of firm's liabilities. Welch (2011) argues that the financial debt to asset ratio (FD/AT) and financial debt to total liabilities (FD/LT) are more relevant as a proxy of financial leverage than the ratio of total liabilities to total asset. This due to the existence of non-financial liabilities in total liabilities. In our paper, we calculate the financial debt as the total of short-term debt, long-term debt, convertible debt and preferred shares of listed firms.

### 4.2.2. Macroprudential policies

In 2011, SBV introduces credit room with the Resolution 11 to stabilize the macro-economy, control inflation as well as safeguard the stability of the whole financial system. In the period of 2007 and 2011, credit growth averaged over 33% per year but since the implementation of credit room, credit growth is restricted to only about 14% per year. Since the introduction of credit room is a shock to the economy as a whole, we take advantage of the exogenous nature of its and use it as a proxy for the tightening in macroprudential policy.

is a dummy variable control for the macroprudential policy: credit room. takes the value of 0 for the period of 2007 to 2010 (before the credit room restriction is implemented) and takes the value of 1 for the period of 2011 to 2021. Although the implementation date of the credit restriction is in March 2011, as our firm level data is on a yearly basis, we assume the impact of the regulation is for the whole 2011 and thus variable are starting at 2011.

### 4.2.3. Other variables in the models

Following Frank and Goyal (2009), Yarba and Guner (2020a), Yarba and Guner (2020b), we include a large set of firm specific, industry specific, macroeconomic and economic environment factors as control variables. Calculation and definition of dependent, independent and control variables are explained in Table 1.

**Table 1. Variable definition**

<b>Variables</b>	<b>Definitions</b>	<b>Expected sign</b>
<b>Dependent Variable</b>		
FD/AT	Firm leverage, calculated as total financial debt (short-term debt, long-term debt, convertible debt and preferred shares) divided by total assets	
FD/LT	Share of financial debt in total liabilities, calculated as total financial debt divided by total liabilities	
<b>Interested Variable</b>		
C_ROOM	Credit room regulations, representing the implementation of credit room in 2011 – a dummy variable equal to 1 after 2011 and 0 otherwise.	-
<b>Control Variables</b>		
<b>Firm Characteristics</b>		
SIZE	Firm size, calculated as the nature log of total assets	+
PROFIT	Profitability, calculated as the operating income divided by total assets	-
GROWTH	Growth rate, calculated as the difference in the net sales between current year and previous year divided by the net sales in previous year	+
TANG	Tangibility, calculated as the total net fixed assets divided by total assets	+
<b>Industry specific factor</b>		
IND_LEV	Industry median leverage, calculated as the median of related leverage ratio of all the firms operating in the same industry as the firm, excluding the firm itself. Sector classification is based on the Industry Classification Benchmark (ICB)	+
<b>Macroeconomic factors</b>		
GDP_GROWTH	GDP growth, calculated as the percentage change in annual real GDP from World Bank Database	+
INFLATION	Inflation rate, calculated as the change in the CPI between current year and previous year (World Bank Database)	+

The table reports the definition of the dependent and independent variable used.

### 4.3. Data sample

#### 4.3.1. Sample selection

Our data sample includes all Vietnamese non-financial firms listed from the two stock exchanges, HNX and HOSE, from the period of 2007 to 2021. This firm-level data provided by the FinnPro database consists of annual balance sheets and income statements of Vietnamese listed firms. We exclude financial firms such as commercial banks, insurance institutions, securities company from our sample as the structure of these firms is different from others. Macroeconomic data is collected from the World Bank database.

Our final sample includes about 557 firms and 8,015 unique firm-year observations. Following the common practice, we winsorized the data at the 1% and 99% percentiles in order to minimize the effect of outliers.

#### 4.3.2. Descriptive statistics

Table 2 reports descriptive statistics for the dependent and independent variables used in this paper. Panel A of Table 2 reports the descriptive statistics for the full sample while Panel B and C reports the descriptive statistics for SMEs and large firms, respectively. SMEs are defined as firms with the smaller annual net sales than 300 billion VND and large firms are classified as firms with higher annual net sales than 300 billion VND.

**Table 2. Descriptive summary**

VARIABLES	Obs	Mean	Sd	p25	Median	p75
Panel A: Full sample						
FD/AT	8,015	22.57	19.30	4.23	19.78	36.79
FD/LT	8,012	41.05	29.32	13.13	42.79	65.84
SIZE	8,015	27.04	1.62	25.98	26.96	28.08
GROWTH	6,630	38.14	446.44	-33.99	5.74	50.82
TANG	8,015	20.27	20.10	4.66	13.88	29.49
PROFIT	7,225	7.47	8.19	2.23	5.72	11.08
IND_LEV	8,015	20.11	7.84	15.36	20.19	24.43
GDP_GROWTH	8,015	5.95	1.49	5.50	6.42	6.99
INFLATION	8,015	6.40	5.73	2.80	3.54	8.34
Panel B: SMEs						
FD/AT	2,943	16.72	17.64	0.08	11.34	28.41
FD/LT	2,941	33.99	30.37	0.38	30.88	59.15
SIZE	2,943	25.82	1.24	25.05	25.86	26.57
GROWTH	2,555	41.15	533.97	-46.16	1.97	50.91
TANG	2,943	20.46	21.55	3.36	12.58	31.35
PROFIT	2,943	6.90	8.63	1.61	5.35	10.60
Panel C: Large firms						
FD/AT	4,282	26.43	19.22	9.54	25.08	40.83
FD/LT	4,282	45.58	27.58	23.45	49.08	68.46
SIZE	4,282	27.82	1.28	26.87	27.67	28.59
GROWTH	4,075	36.26	381.52	-27.24	7.67	50.73
TANG	4,282	19.83	18.87	5.53	14.27	27.79
PROFIT	4,282	7.85	7.85	2.58	6.02	11.34

The sample consists of non-financial firms from the two Vietnamese stock exchanges, HNX and HOSE. The table reports the descriptive statistics for the dependent and independent variables used in this paper over the period of 2007 to 2021. Panel A reports the descriptive statistics for the full sample, while Panels B and C report the descriptive statistics for SMEs and large firms, respectively. Definitions of variables are given in Table 1. Firms are divided to SMEs and large firms based on net sales criterion.

The financial debt to total assets ratio for the whole sample is 22.57% on average while the financial debt to total liabilities ratio is 41.05%. On average, financial leverage of SMEs are smaller than those of large firms. Moreover, firm growth rates have the largest variance for the full sample as the standard deviation for growth rate is extremely high 446.44%. The difference in the firm growth rate and variance in firm growth is also remarkable between SMEs and large firms. SMEs have a higher growth rate and variance in growth rate on average than large firms.

Table 3 reports the correlation matrix of dependent and independent variables used in the paper. The correlation coefficients between all variables are generally not high (smaller than 0.6) except for the two dependent variables, FD/AT and FD/LT (with the coefficient of 0.87). This is expected as FD/AT and FD/LT are simply different definition of financial leverage and share similar calculations.



**Table 3. Correlation coefficients of dependent and independent variables**

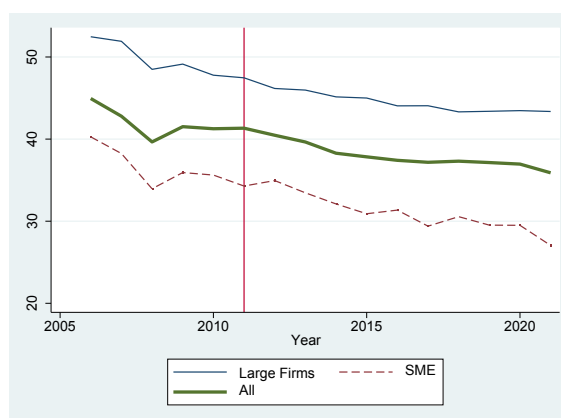
	FD/AT	FD/LT	SIZE	GROWTH	TANG	PROFIT	IND_LEV	G D P - GROWTH	INFLATION
FD/AT	1.00								
FD/LT	0.87***	1.00							
SIZE	0.33***	0.31***	1.00						
GROWTH	-0.03*	-0.02	-0.01	1.00					
TANG	0.24***	0.29***	0.03**	-0.02	1.00				
PROFIT	-0.34***	-0.27***	-0.10***	0.13***	0.06***	1.00			
IND_LEV	0.28***	0.25***	0.09***	-0.01	0.11***	-0.01	1.00		
GDP_GROWTH	0.03*	0.02	-0.08***	-0.00	0.02	0.06***	0.09***	1.00	
INFLATION	0.01	-0.01	-0.17***	0.00	-0.00	0.05***	0.15***	0.06***	1.00

The table report the correlation matrix of dependent and independent variables. \*\*\*, \*\*, \* denotes for 1%, 5% and 10% significant level, respectively.

Figure 1 represents the means of financial leverage of listed firms for the whole sample as well as for SMEs and large firms. Panel A shows the mean level of financial debt to total assets ratio and Panel B shows the mean level of financial debt to total liabilities ratios. The vertical line represents the year of 2011 when the credit room regulation was introduced. As can be seen from the graph, there are a remarkable negative trend of financial leverage after 2011 for the whole sample as well as for SMEs and large firms. This suggests that firms rely more on non-liabilities capital as well as capital after the restriction of credit access. Another remark is that large firms on average more rely on financial debt than SME both before and after 2011.



**Panel A. The mean of financial debt to total assets ratio**



**Panel B. The mean of financial debt to total liabilities ratio**

**Figure 1. Vietnamese listed firms’ financial leverage from 2007 to 2021**

**RESULTS**

First, we investigate the effect of credit room on firm’s leverage by estimating equation (1) using financial debt to total assets ratio as the dependent variable. Table 4 presents the results of the estimations for the full sample.

There are a significantly negative association between credit room regulation and corporate leverage (column 1 to 4). This suggests that during credit room regulation period (from 2011 to

2021) corporate leverage is decreasing. The coefficient of C\_ROOM are negative and highly significant at 1% level across different variation of estimated model. Hence, the results provide significant support for the argument that the credit room regulation is a relevant factor affecting leverage decisions of Vietnamese listed firms. The negative effect of credit room regulation could be the result of the limitation access to source of credit lead to increase the cost of debt and therefore, driving firms to find cheaper and suitable source of finance. This is consistent with the “market timing” theory. Besides, firms could rely more on internal source of fund like retained earnings as retained earnings is higher up the “pecking order” hierarchy than debt financing. This is supported by the coefficient of L.PROFIT is negative and highly significant suggesting firms with higher profitability are less likely to rely on debt financing as they are more likely to use retained earnings first.

**Table 4. Corporate leverage and macroprudential**

VARIABLES	Financial Debt/Total Assets (FD/AT)			
	(1)	(2)	(3)	(4)
C_ROOM	-1.463*** (-3.60)	-5.428*** (-5.89)	-4.196*** (-3.06)	-4.196*** (-3.06)
L.SIZE	2.883*** (10.25)	3.585*** (11.61)	3.817*** (12.09)	3.817*** (12.09)
L.FD/TA	0.315*** (26.57)	0.304*** (25.27)	0.308*** (25.26)	0.308*** (25.26)
L.TANG	0.002 (0.14)	0.002 (0.13)	0.007 (0.57)	0.007 (0.57)
L.GROWTH	-0.000 (-0.47)	-0.000 (-0.38)	-0.000 (-0.82)	-0.000 (-0.82)
L.PROFIT	-0.141*** (-6.07)	-0.147*** (-6.30)	-0.143*** (-5.99)	-0.143*** (-5.99)
Industry specific control	Yes	Yes	No	No
Macroeconomic control	Yes	No	No	No
Sector fixed effects	No	No	No	Yes
Year fixed effects	No	Yes	No	Yes
Sector x year fixed effects	No	No	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Constant	-61.329*** (-7.35)	-74.591*** (-8.57)	-81.203*** (-9.03)	-100.123*** (-12.22)
Observations	6,167	6,167	6,167	6,167
Adjusted R-squared	0.756	0.758	0.759	0.759

The sample consists of non-financial firms from the two Vietnamese stock exchanges, HNX and HOSE from 2007 to 2021. The table represent results from alternative model specification of dynamic panel model in Eq. (1): where is the dependent variable for firm  $i$  in year  $t$  (Financial debt to total assets ratio - FD/AT). is the interested independent variable representing the implemented period of credit room policy. is the vector of firm characteristics while is the macroeconomic control variables and is the industry control variables defined in Table 1. Statistical significance at the 1%, 5% and 10% levels is indicated by \*\*\*, \*\*, and \*, respectively.

We re-estimate the models with financial debt to total liabilities (FD/LT) as dependent variables as an alternative definition of financial leverage. The estimated results are reported in Table 5. As we can see from Table 5, the credit room regulation is negatively associated with the share of financial debt in total liabilities of all the firms. These results are consistent with the prior results, suggesting that both financial leverage and financial debt to total liabilities of Vietnamese listed non-financial firms are decreasing with the implementation of credit room regulation.

**Table 5. Corporate financial debt share and macroprudential**

VARIABLES	Financial Debt/Total Assets (FD/AT)			
	(1)	(2)	(3)	(4)
C_ROOM	-3.218*** (-4.54)	-9.719*** (-6.07)	-11.566*** (-4.86)	-11.566*** (-4.86)
L.SIZE	5.437*** (11.10)	6.944*** (12.93)	7.592*** (13.87)	7.592*** (13.87)
L.FD/TA	0.254*** (12.28)	0.229*** (10.93)	0.235*** (11.11)	0.235*** (11.11)
L.TANG	0.103*** (4.66)	0.103*** (4.70)	0.110*** (5.01)	0.110*** (5.01)
L.GROWTH	0.000 (0.60)	0.000 (0.63)	0.000 (0.21)	0.000 (0.21)
L.PROFIT	-0.266*** (-6.57)	-0.278*** (-6.85)	-0.276*** (-6.68)	-0.276*** (-6.68)
Industry specific control	Yes	Yes	No	No
Macroeconomic control	Yes	No	No	No
Sector fixed effects	No	No	No	Yes
Year fixed effects	No	Yes	No	Yes
Sector x year fixed effects	No	No	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Constant	-101.372*** (-6.98)	-132.139*** (-8.72)	-148.297*** (-9.51)	-182.336*** (-12.83)
Observations	6,167	6,167	6,167	6,167
Adjusted R-squared	0.687	0.690	0.694	0.694

The sample consists of non-financial firms from the two Vietnamese stock exchanges, HNX and HOSE from 2007 to 2021. The table represent results from alternative model specification of dynamic panel model in Eq. (1): where is the dependent variable for firm  $i$  in year  $t$  (Financial debt to total assets ratio - FD/AT). is the interested independent variable representing the implemented period of credit room policy. is the vector of firm characteristics while is the macroeconomic control variables and is the industry control variables defined in Table 1. Statistical significance at the 1%, 5% and 10% levels is indicated by \*\*\*, \*\*, and \*, respectively.

Final, as a robustness test, we re-estimate equation (1) for SMEs and large firms separately to investigate whether there is any difference in impacts of credit room regulation for firms in different size classifications. We use net sales criterion to differ SMEs and large firms.

Table 6 presents the results of the robustness test. The coefficient of C\_ROOM are negative and significant at 5% level for the leverage of large firms but insignificant for the leverage of SMEs firms. This suggests that the credit room regulation only affect the optimal capital structure of large firms while SMEs are less likely to be affected by it. This could be because large firms more heavily rely on debt financing than SMEs as can be seen from Figure 1. And since credit room restrictions limit their access to debt financing, large firms are more likely to be negatively affected by the regulation than SMEs.

**Table 6. SMEs and large firms**

VARIABLES	FD/AT		FD/LT	
	SME	Large firms	SME	Large firms
	(1)	(2)	(3)	(4)
C_ROOM	-0.038 (-0.06)	-1.290** (-2.57)	-1.196 (-0.98)	-2.021** (-2.48)
L.SIZE	1.352*** (2.75)	1.602*** (4.34)	4.636*** (4.61)	2.316*** (3.86)
L.FD/TA	0.268*** (14.86)	0.578*** (38.28)	0.299*** (8.08)	0.726*** (29.60)
L.TANG	-0.010 (-0.51)	-0.057*** (-3.55)	0.050 (1.27)	0.048* (1.86)
L.GROWTH	-0.000 (-0.41)	0.000 (0.65)	-0.000 (-0.53)	0.001* (1.78)
L.PROFIT	-0.060* (-1.79)	-0.001 (-0.05)	-0.141** (-2.05)	0.023 (0.47)
Industry specific control	Yes	Yes	No	No
Macroeconomic control	Yes	No	No	No
Firm fixed effects	Yes	Yes	Yes	Yes
Constant	-41.338*** (-3.09)	-31.035*** (-2.90)	-123.939*** (-4.52)	-27.814 (-1.60)
Observations	2,236	3,828	2,236	3,828
Adjusted R-squared	0.734	0.812	0.650	0.765

The sample consists of non-financial firms from the two Vietnamese stock exchanges, HNX and HOSE from 2007 to 2021. The table represent results from alternative model specification of dynamic panel model in Eq. (1): where  $y_{it}$  is the dependent variable for firm  $i$  in year  $t$  (Financial debt to total assets ratio - FD/AT).  $x_{it}$  is the interested independent variable representing the implemented period of credit room policy.  $\beta$  is the vector of firm characteristics while  $\gamma$  is the macroeconomic control variables and  $\delta$  is the industry control variables defined in Table 1. Firms are divided into SMEs and large firms based on their net sales. Statistical significance at the 1%, 5% and 10% levels is indicated by \*\*\*, \*\*, and \*, respectively.

## 5. CONCLUSION

Although the study of macroprudential policies and corporate leverage are importance, there are hardly any discussion about this topic in the literature and the evidence is limited. In order to shed some light on this issue for Vietnamese markets as well as emerging markets, we investigate the impact of the credit room regulation on Vietnamese non-financial firms listed on the two stock exchanges, HOSE and HNX.

We argue that the restrictions to credit due to the credit room regulation could have a negative impact on leverage decisions of Vietnamese firms. In order to access the validity of this argument we employ a fixed effect dynamic panel model with a large data sample of all listed non-financial firms. Results from dynamic panel regressions provide significant evidence in support of the argument that leverage are negatively affected from the implementation of credit room regulation. Most strikingly, this is the case only for large firms but not for SMEs.

The results of this study also support earlier literature about the financial constraints on corporation that restrict their economic potential. A study by Mutluer Kurul and Tiryaki (2016) utilizing data from the Business Environment and Enterprise Performance Survey, which was jointly performed by the World Bank and the European Bank for Reconstruction and Development, the credit constraint is severe for corporation. Results of this study show how crucial it is to create appropriate macroprudential policies and the necessity to broaden the external financing options available to firms rather than only bank loans to help firms reaching their full potential and continuing to play their vital role in investment, employment, and innovation.

Aside from the research findings, there are some limitations: the study includes all listed Vietnamese firms in HOSE and HNX, meaning all listed firms are included. However, there are significant number of firms are non-listed firms, especially SMEs. Because of the lack of publicly disclosed information on non-listed firms, the result of the study is limited to listed firms.

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# FINANCIAL SOLUTION FOR THE TRANSITION TO A LOW-CARBON ECONOMY IN VIETNAM

Ph.D. Nguyen Thuy Linh<sup>1</sup>

**Abstract:** *This paper aims to propose financial solutions to support Vietnam in making the transition to a low-carbon economy as committed at COP 26 - 2021. By using statistical methods and analyzing secondary financial data, the author has indicated three financial challenges that Vietnam is facing, which are: (i) the lack of public investment capital in the transition fossil energy to renewable energy; (ii) the immaturity of the green financial Market; and (iii) the paucity of foreign green investment capital sources. From there, the author proposes five financial solutions to overcome those challenges, to successfully transition to a low-carbon economy. Outstanding proposals are: developing green capital markets and green credit; mobilizing foreign green investment capital sources and promoting Public-Private Partnership in green investment.*

**Keywords:** *low-carbon economy, decarbonizing, renewable energy, fossil fuels*

## 1. INTRODUCTION

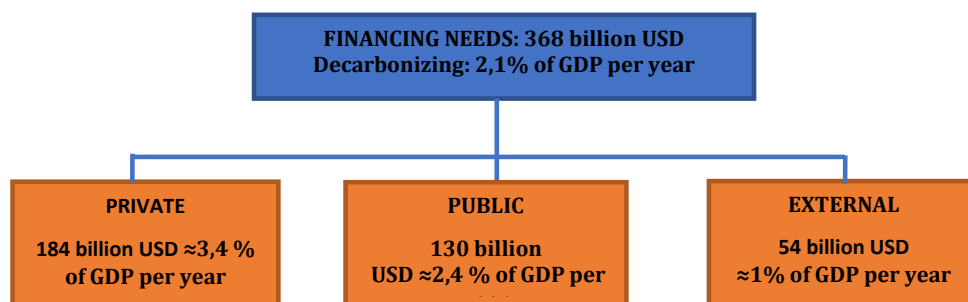
Carbon emissions are the cause of climate change. Most of the carbon dioxide released into the environment remains in the atmosphere, causing the greenhouse effect and increasing the global temperature. Vietnam is one of the five countries most vulnerable to temperature rise, which threatens to increase saltwater intrusion in the Mekong Delta. At the same time, Vietnam is also one of the twenty most emitting countries globally, with CO<sub>2</sub> emission doubling in the past 10 years. If nothing changes, Vietnam's energy production will increase by 10% per year in the next 10 years [9]. From there, Vietnam can become the country that emits the most greenhouse gases in the world. Therefore, the Vietnamese Government has decided to transition to a low-carbon economy to limit the negative impacts of climate change and the greenhouse effect on the environment and human health. At the UN Climate Change Conference in Glasgow in November 2021 (COP 26), Vietnam's Prime Minister made several commitments, including an ambitious target of reducing emissions to Net Zero by 2050. The key to a successful low-carbon economy is to switch from fossil fuels to renewable energy. That requires a huge financial resource. According to statistics by the Intergovernmental Panel on Climate Change, a country needs to spend about 0,6% of GDP per year between now and 2030 and 0,5% of GDP by 2050 to reach Net zero target [9]. In the case of Vietnam, the sectors that need the largest capital investment to promote renewable energy use are energy and industry. Vietnam needs 114 billion USD for the 2022-2040 period in total, mainly to support the decarbonizing roadmap. Investing in renewable energy and managing the energy transition could cost about 64 billion USD, 17 billion USD for industry, transport and agriculture, while about

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33 billion USD is used for social assistance programs [9]. Even with a promising scenario of Vietnam's economic growth rate of 5-7% per year, that is still a massive number.

Moreover, after declaring the Net Zero commitment, many financial policies to support green projects and encourage mobilization and investment in environmental protection projects have been decided such as tax incentives, State budget spending on the environment, developing green credit and green bond market. Because the State budget is limited, it is necessary to find other sources of green investment capital. Recommendations from the OECD showed that it is necessary to have policies to develop ways to mobilize capital, and promote co-financing for large-scale projects in the field of renewable energy [6]. Those are also suggestions for Vietnam to overcome the difficulties of lack of capital.



**Figure 1: Financing needs and potential sources of funding 2022-2040**

*Source: [9]*

## 2. LITERATURE REVIEW

Most of the studies on green growth and green investment share the same view that to move and develop a low-carbon economy, it is necessary to have macro policies to create an effective green investment environment. Some studies suggest the rejection of investment projects in fossil fuels and the application of financial incentives to promote private investment in renewable energy [9]. For example, the green tax policy had a positive impact on economic growth and net tax revenue in the Netherlands in the period 1995-1999 [8].

Studies all agree that to realize the process of reducing carbon emissions, it is necessary to invest a huge amount of capital. The green bond market has been mentioned as a major funding method for green investment projects or projects to respond to climate change. Green bonds are arguably the financial instrument that can best expedite the green investment necessary to meet the challenges posed by the transition to a low-carbon economy [3]. For investors, green bonds are mentioned as an instrument to help reduce the risk of investments in low-carbon assets, so they will be more interested in investing in a low-carbon economy [1]. Studies have agreed that the issuance of green bonds has positive effects on the financial and green innovation results of the issuing firm [1]. Regarding green FDI inflows, empirical studies have shown that green FDI inflows have a positive impact on the sustainable development of the European Union [7]. Gao and Zhang (2013) studied the impact of FDI on environmental performance in China and the empirical results showed that FDI can improve environmental quality and enhance the country's innovation capacity [4]. Some other studies also prove the positive role of FDI in decarbonizing through improving tech-

nology and financing green projects, ensuring green economic growth, and reducing risks from climate change. Thanh Quang Phung *et al.* have proven by empirical results that FDI has a positive impact on the green growth process of economies, which the impact is stronger in the group of Eastern economies in South Asia [7].

Given the above brief review, two observations can be made: many countries use green bonds as a funding instrument for green projects and mobilize green FDI inflows to reduce emissions and protect the environment. How is that happening in Vietnam and what policies does Vietnam need for that? This research will therefore attempt to answer two questions.

### 3. METHODOLOGY

This paper uses qualitative research methods such as: document analysis; statistics and analysis of secondary financial data.

### 4. RESEARCH RESULTS

After signing the Net Zero commitment, the Vietnamese Government actively implemented many financial measures to promote the transition to a low carbon economy. *First*, design a tax policy to protect the environment in two directions, which are: (i) *tax on environmental pollution activities* (tax on consumption of petrol, coal, HCFC solution, bags nylon, herbicides, preservatives for forest products, fossil fuels); and (ii) *reduce taxes for environmental protection activities* (apply Corporate Income Tax rate of 10% instead of 20% for enterprises investing in environmental protection projects and green projects within 15 years; 50% reduction in Income Tax payable for the next 9 years; VAT exemption for issuance and sale of CER carbon credit; VAT exemption for electric bus services and bio-energy car services...).

*Second*, the expected annual State budget expenditure for environmental protection activities is 1,35% of the total, equivalent to about 21 trillion VND.

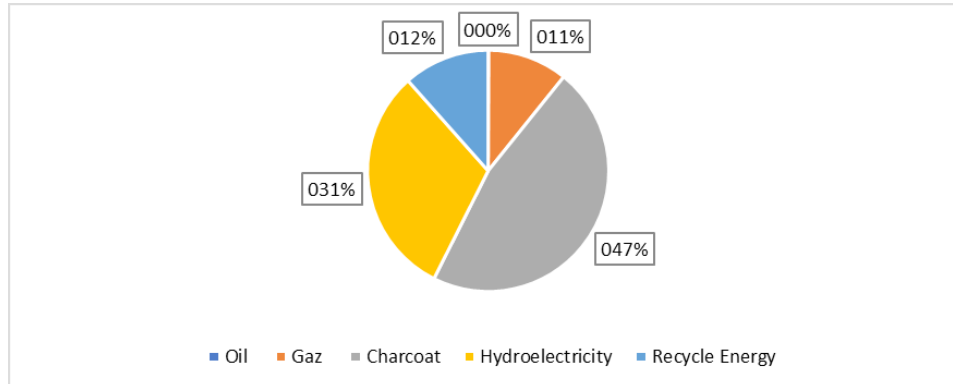
*Third*, mobilize green capital from ODA and FDI. In 2022, Vietnam signed an agreement with international donors on an ODA of USD 8,4 billion within 3-6 years. By the end of 2022, there were 83 FDI projects in Vietnam for water supply and wastewater treatment with a total registered capital of 3 036 million USD (accounting for 0,69% of committed FDI capital). In the recent period, several green FDI projects have been realized in Vietnam such as LEGO's carbon-neutral factory project in Binh Duong, which is completely solar powered; La Gan offshore wind power project in Binh Thuan; Liquefied natural gas (LNG) power plant project in Bac Lieu; and Project of T&J high-tech domestic solid waste treatment plant in Bac Ninh.

*Fourth*, develop the green bond market. From 2019 to June 2023, green bond issuance reached 1157 billion USD to finance wind power projects, solar energy projects, hydropower projects, and environmental protection projects.

*Fifth*, accelerate the green credit market. Vietnam's green credit market is considered the second largest market in ASEAN with a size of about 1 billion USD, just behind Singapore,

of which the majority of green debt is for the energy and transportation industries. By 2023, more than 40 credit institutions have provided loans to green projects with a scale of over VND 500 trillion, accounting for over 4% of the economy's total outstanding loans, with an average growth rate of nearly 23%.

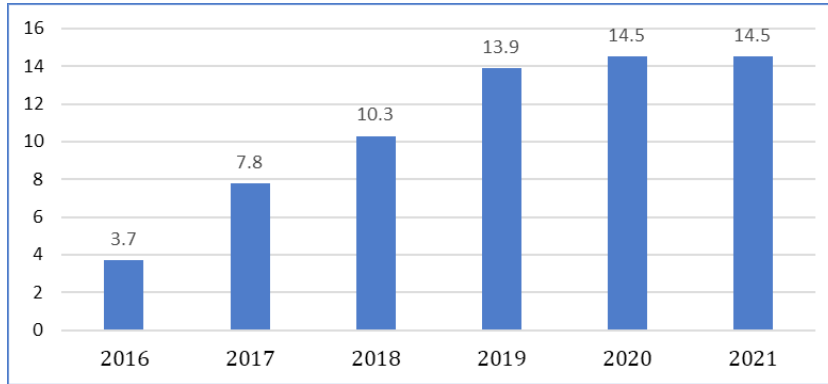
However, there are still many challenges that Vietnam must face. On the technical aspect, to transition to a low-carbon or no-carbon economy, the key is to switch from using fossil fuel energy to renewable energy (energies from wind power and solar power). This is the huge challenge because of the current energy sources of Vietnam, thermal energy (energies from coal, oil, and gas) is still the largest (accounts for 58%) while renewable energy is only 11,6% [5] (Figure 2). In term of finance, Vietnam needs a huge amount of capital to invest in technology while resources are extremely limited. Public investment is only enough for 30% of investment capital needs and there are not strong enough measures to make significant changes in Vietnam's fiscal policy. For example, some progress has been made in the development of carbon pricing instruments, but not on large scale. The existing carbon tax (the Environmental Protection Tax) is around 0,5 USD per tCO<sub>2</sub>e on coal, 77,6 USD per tCO<sub>2</sub>e on gasoline, and 32,9 USD per tCO<sub>2</sub>e on diesel, lower than most countries and too low to incentivize large-scale decarbonization. Furthermore, green public procurement is also just in its infancy, as existing legal and institutional frameworks need to be aligned with international best practices.



**Figure 2. VietNam's Energy source in 2021 (Total 244,8 TWH)**

*Source: [5]*

On the other hand, the green finance market in Vietnam is in its early stages. The green capital market is only reach 1.5 billion USD in 2021. Green credit only reached nearly 15 billion USD. The main problem is lack standard to identify green projects for banks to decide whether to lend or not. While the State Bank of Vietnam (SBV) in 2018 approved a program on green bank development and an action plan to realize Vietnam's sustainable development goals by 2030, climate financing was only about five percent of total financing provided by Vietnamese banks (or about 0,2% of GDP) in 2020. Vietnam banks are in the early stages of their understanding of green bonds and other capital market instruments. This implies that green finance has potential but the ability to raise capital is still below potential (Figure 3).

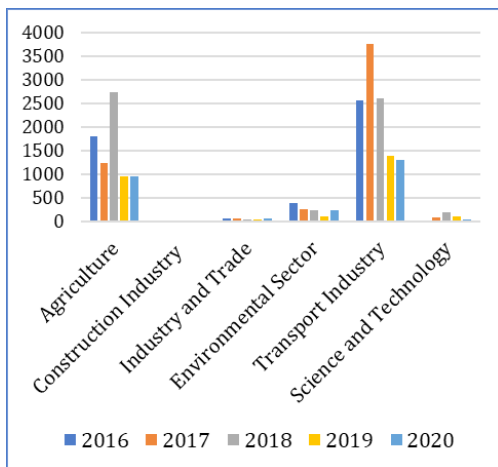


**Figure 3. Green credit outstanding from 2016 to 2021 (billion USD)**

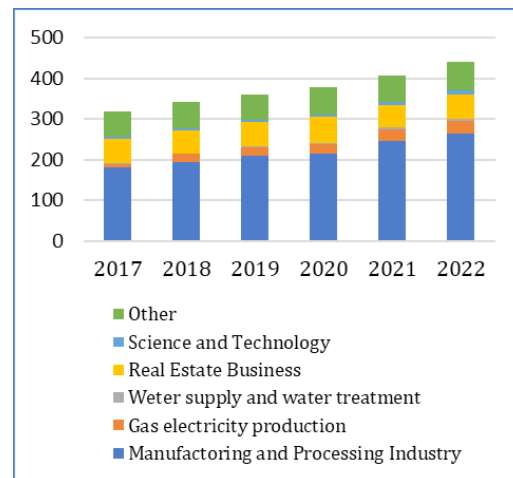
Source: [9]

The lack of internal procedures for and expertise in green finance assessment is a key challenge for many banks. Of eighty-five banks reporting to the SBV, seventy-two lack a dedicated business unit for green finance, and seventy-four lack a specific procedure for green credit appraisal. Other banks have substantial challenges in developing green finance expertise and integrate green finance procedures into their existing operations. Another problem has been the mismatch between the short terms of most deposits and the longer terms typically required by green projects. This mismatch increases the funding liquidity risks for banks, undermining their motivation to finance green projects. Banks also need clearer information about the requirements for incorporating environmental and social risk assessment into credit underwriting policies and operations [6].

Another challenge for Vietnam is that mobilizing foreign green investment capital sources is still difficult. Total investment from green FDI in 2022 is 437 618 billion USD [2]. Green FDI inflow mainly focused on non-environmentally friendly and high-emission sectors. Green ODA capital tends to decrease, and green ODA capital for the energy sector still account for a small proportion. (Figure 4 & Figure 5).



**Figure 4. Green ODA in Vietnam (billion USD)**



**Figure 5. Green FDI in Vietnam (billion USD)**

Source: [2]

## 5. RECOMMENDATIONS AND CONCLUSION

Based on the situation analyzed in Section 4, there are five proposed solutions for Vietnam:

*Firstly*, strongly attracts FDI in the field of renewable energy. Allows buying and selling of green energy directly from the supplier. This solution aims to promote production and use of renewable energy.

*Secondly*, accelerate the growth of the green bond market and the green credit market by setting green standards. That will be an important basis for the banks to identify real green projects to lend or invest in. As a result, it is possible increase the flow green investment capital to Vietnam.

*Thirdly*, promote the carbon credit market. A carbon credit is a certification that is commercially traded about the right to emit one ton of carbon. Thus, one side will pay for another side for the least amount of greenhouse gas emissions. Currently, the value of the world carbon market has reached 52 billion USD. Therefore, now is the right time to develop a carbon market. Many countries have already committed to Net Zero, so the market capacity will be quite large. Vietnam is currently a country with many opportunities to sell carbon credits thanks to a forest area of about 14.7 million hectares. With forest coverage of 42%, it is estimated that Vietnam's forests can absorb an average of about 69,8 million tons of carbon (CO<sub>2</sub>) per year.

*Fourth*, adjusting the Public-Private Partnership (PPP) legal framework to create incentives for greater private sector participation in climate-resilient infrastructure projects by allowing risk-sharing on investments in new technologies and innovative business practices.

*Fifth*, consider tax incentives to increase corporate social responsibility; encourage private investors to spend on environmental protection projects.

Transition to a green economy and to a low-carbon economy is becoming more and more inevitable. This transition offers many opportunities for socio-economic development by saving energy, strengthening energy security, promoting economic growth, reducing greenhouse gas emissions and protecting the environment. However, it also comes with a huge capital requirement. Therefore, Vietnam needs to find appropriate financial solutions to mobilize financial resources to reach Net Zero in 2050.

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# THE EFFECT OF MACROECONOMIC VARIABLES ON THE FINANCIAL RESOURCES OF ENTERPRISES IN VIETNAM

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**Abstract:** In recent years, along with the development of science, technology and innovation, the investment in financial resources of enterprises in Vietnam has made many important contributions to economic growth. This study uses the VAR model to analyze the influence of macroeconomic variables on the financial resources of enterprises in Vietnam in the new context. The result shows that all the above macroeconomic variables have positive and negative impacts on the growth of financial resources of enterprises in Vietnam, and the economic growth rate have the strongest influence. Based on that result, some policies to improve the quality and quantity of financial resources of enterprises are proposed in the coming time.

**Keywords:** Macroeconomic variables, financial resources, enterprises in Vietnam, inflation,

## 1. INTRODUCTION

Financial resources are not only a key factor in the operation of the entire economy, but also have a vital influence on many businesses. In particular, for Vietnamese enterprises to move towards integration and globalization, more and more sustainable financial resources are required. However, in the context of the current volatile macroeconomics with the innovation of the market economy and the increasingly fierce competition among economic sectors, it has caused many difficulties and problems to the financial resources of businesses. According to the Vietnam Chamber of Commerce and Industry, nearly 10% of Vietnamese enterprises are in a situation of shortage of capital and business cash flow, especially those of medium, small and micro-sized scale. This has become even more evident recently, when the whole world had to face the consequences of the Covid 19, the Russia - Ukraine war, high inflation, and a sudden increase in the price of raw materials.... Under that pressure, domestic trade activities are also affected, especially inflation, exchange rate, production costs increase, export market demand shrinks,... All of these have an impact on financial resources of enterprises operating in our country. To stabilize the economy, the Government has been closely monitoring macro indicators to ensure the balance of the economy. Thanks to that, the situation is gradually stabilizing again, and market sentiment and confidence are gradually being consolidated. It can be seen that, all macroeconomic variables have more or less impact on the financial resources of enterprises. The topic *“The effect of macroeconomic variables on the financial resources of enterprises in Vietnam”* was selected to make clear this effect.

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## 2. LITERATURE REVIEW

Research by Abdulbaset M. Hamuda et al. (2013) in “ARDL Investment Model of Tunisia” used the ARDL model to examine the investment determinants in Tunisia by using annual data for the period 1961 - 2011. The importance of this study arises from the need to identify the important factors affecting domestic investment in Tunisia. The Autoregressive Distributed Lag (ARDL) model was used to examine the impact of gross domestic product GDP, money supply, and the openness of the economy on Tunisian investment. The results show that these variables largely explain the financial resources of enterprises in Tunisia.

In the study of Lee (2007) and Nuntila Derusia (2012), there are quite a lot of external factors affecting the flow of foreign investment into domestic enterprises, affecting the financial resources of enterprises. Some indicators are mentioned such as the economic growth rate, inflation, interest rates and exchange rates. Onuorah and Akujuobi (2013) study the impact of macroeconomic variables on foreign investment flows in Nigeria from 1980 to 2010, the research results show GDP indicators, exchange rate, money supply have a direct impact, but interest rates and inflation have a negative impact on the foreign investment flows of this country. However, the endogenous phenomenon occurs, so the authors have shown that interest rates and inflation still affect on foreign direct investment (FDI) inflows in the short term.

In Viet Nam, Le Thi Lanh, Huynh Thi Cam Ha and Le Thi Hong Minh examines the impact of macroeconomic variables on foreign indirect investment in Vietnam during the period 2005 - 2012. FPI is defined as the investment cash flow of foreign investors through indirect investment funds, such as Exchange Traded Fund (ETF), mutual funds, foreign securities investment funds, and equity investment funds. The data are collected from the International Monetary Fund's IFS database. ADF and Philips - Perron test with delay 3 is used to test the properties of time series variables, GLS regression method is applied instead of OLS to increase the efficiency of the model. Macroeconomic indicators considered include: GDP, inflation, interest rates, exchange rates and stock market index of stock prices. Among macroeconomic variables, GDP and inflation are statistically significant in explaining FDI inflows in Vietnam, but GDP and inflation have opposite reactions to foreign portfolio investment (FPI). The remaining macro variables are exchange rate, money supply and interest rate are not statistically significant in the model. The study recommends that the implementation of a reasonable macroeconomic policy and the planning of the country's investment strategy will enhance the efficiency in obtaining foreign portfolio investment. This study uses a Multivariable Linear Regression Model. This is a method used in scientific research to determine the relationship between a dependent variable and many independent variables. In this study, the dependent variable is FPI and the independent variables are macroeconomic indicators such as exchange rate, interest rate, GDP growth and inflation.

The multivariate analysis method in this study was carried out using a Multivariable Linear Regression Model. First, the dependent and independent variables are collected and built into a data table. Then, the parameters in the multivariable linear regression model were estimated using the least squares method. The estimated results will show the impact of the independent variables on the dependent variable. In this study, the independent variables are

macroeconomic indicators and the dependent variable is FPI. The independent variables are measured using macroeconomic indicators collected from various sources, such as the Central Bank and national statistical offices. The dependent variable is FPI measured by data on investment cash flows of foreign investors through indirect investment funds.

Research “Effect of macroeconomic factors on investment: Evidence in Vietnam” by Le Thanh Tung (2013) aims to evaluate the influence of macro variables on the investment decisions of firms in Vietnam. The author used the Panel data analysis method and collected data from 60 Vietnamese enterprises listed on the Ho Chi Minh Stock Exchange in the period from 2005 to 2010. The macro variables selected for the study include GDP, interest rates, exchange rates and stock market prices. The results show that GDP and stock market prices have an influence. The study also shows that the impact of macro variables on business investment varies depending on the specific economic sector.

### **3. METHODOLOGY AND PROPOSED MODEL**

#### **3.1. Methodology and data**

The data included in the model are time series (in the period of 21 consecutive years from 2002 to 2022). The test results showed that the VAR model was selected for regression. The detailed test results are presented in Part 4. The authors chose this time period for the following reasons. First, time series data are used for the study, and the time series must be long enough to ensure reliability and that the results are not biased by the number of variables in the model. Second, the Vietnamese economy experienced many fluctuations during this period, with macroeconomic indicators and financial resources changing due to the impact of the context as well as the government’s regulatory policies. Detailed data descriptive statistics are shown in Appendix 1 .

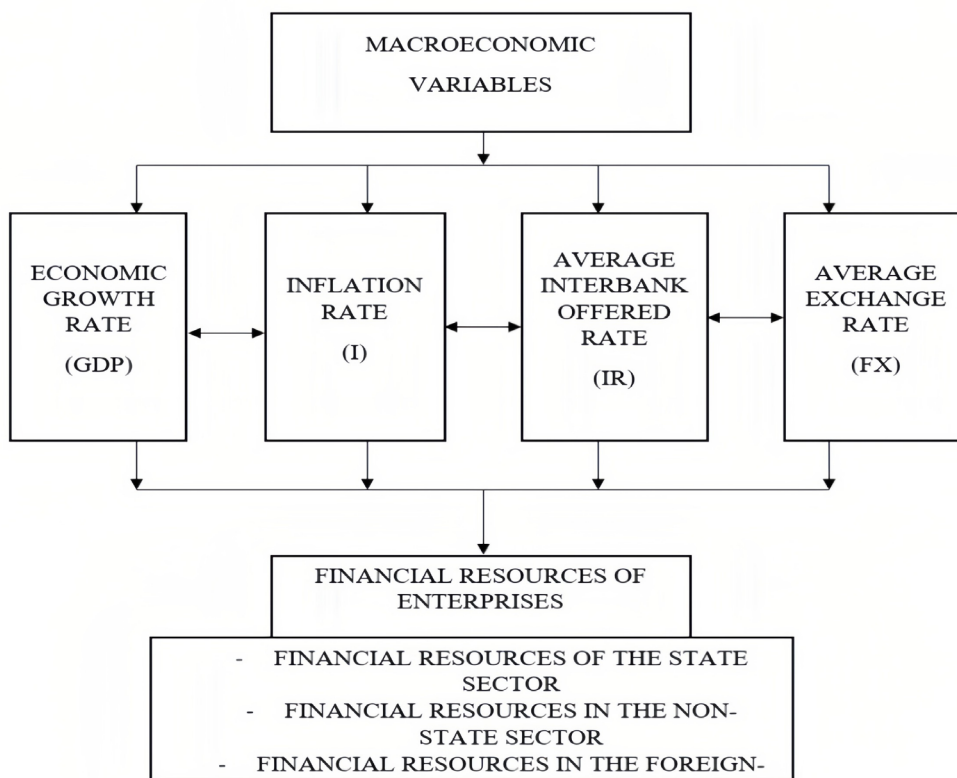
In term of methodology, Vector Autoregressive (VAR) models are widely used in time series research to examine the dynamic relationships that exist between variables that interact with one another. The development of these models is the subject of much ongoing research that follows the seminal contribution of Sims (1972), which established a framework for modelling endogenous variables in a multivariate setting. Following the development of this framework, a number of statistical tests were derived to determine inter-dependencies and the nature of the dynamic relationships between variables. The structure of VAR models enables one to explain the values of endogenous variables from their past observed values. In addition, important contributions by Engle and Granger (1987) endowed econometricians with powerful tools for modelling cointegrated relationships between variables.

#### **3.2. Proposed model**

As analyzed on a theoretical basis, it can be seen that there are many macro factors affecting the financial performance of enterprises. However, due to the limitation of data, the study selected factors to be included in the model, including the economic growth rate (GDP), inflation rate (I), the average interbank offered rate for 6-month term (IR), average exchange rate VND/USD (FX) and invested capital or financial resources (LIC). To increase the accuracy in assessing the relationship between macroeconomic variables and the financial

resources of enterprises, the authors consider the dependent variable in 3 separate areas: State Sector (LSIC); Non - State Sector (LNIC) and Foreign Invested Sector (LFIC). The research model and detailed variables are described as below:

$$LIC = f(GDP, I, IR, FX)$$



(Source: Proposal from the authors)

Figure 1: Research model

Table 1: Description table of variables

Variable	Measurement method	Expectation sign	Source
<b>Dependent variable</b>			
Ln(SICt)	The value of natural logarithm of the financial resources of the State Sector in the year t		GSO
<b>Independent variable</b>			
Ln(NICt)	The value of natural logarithm of the financial resource of the non-state sector in year t		GSO
Ln(LFICt)	The value of natural logarithm of the financial resources of the foreign-invested sector in year t		GSO
Ln(GDPt)	The value of the natural logarithm of Vietnam's GDP at a time t	+	GSO
Ln(I <sub>t</sub> )	The value of the natural logarithm of Vietnam's inflation at a time t	-	GSO
Ln(IR <sub>t</sub> )	The value of the natural logarithm of Vietnam's average interbank offered rate	-	Vietstock
Ln(FX <sub>t</sub> )	The value of natural logarithm of Vietnam's average exchange rate	-	Vietstock

(Source: Proposal from the author's team)

## 4. RESEARCH RESULTS

### 4.1. Testing Stationarity

Augmented Dickey – Fuller (ADF) Unit root tests and Phillips – Perron tests are used to test the stationarity of the variables.

**Table 2: Result of stationarity test**

Variable	ADF	P-value	Stop chain	Result	Critical value (t-statistic)		
					1%	5%	10%
Ln(SIC)	-3.925275	0.0115 (**)	DLn(SIC)	Stop	-4.004425	-3.098896	-2.690439
Ln(NIC)	-8.519854	0.0000 (**)	DLn(NIC,2)	Stop	-3.959148	-3.081002	-2.681330
Ln(FIC)	-5.083147	0.0011 (**)	DLn(FIC)	Stop	-3.920350	-3.065585	-2.673459
Ln(GDP)	-3.889516	0.0106 (**)	Ln(GDP)	Stop	-3.920350	-3.065585	-2.673459
Ln(I)	-5.182122	0.0011 (**)	DLn(I)	Stop	-3.959148	-3.081002	-2.681330
Ln(IR)	-3.673192	0.0161 (**)	DLn(IR)	Stop	-3.920350	-3.065585	-2.673459
Ln(FX)	-3.286406	0.0377 (**)	DLn(FX)	Stop	-4.057910	-3.119910	-2.701103

*Source: Synthesized results from Eviews 10 software*

Testing the stationarity of the series at 5% significance level, using the unit root test method ADF and Phillips – Perron shows that at the 5% level of significance (\*\*), we see SIC, FIC, I, IR, FX stops when taking the first difference and NIC stops when taking the second difference. Particularly, GDP stops when taking the difference of order 0 at 5% significance level (\*\*).

### 4.2. Test for Optimal Lag Structure

**Table 3: Results of Optimal Lag Structure testing of 3 areas**

#### ○ State sector

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-231.3160	NA*	4643246.	29.53949	29.7809*	29.55186
1	-202.4541	36.07736	3469979.*	29.05676*	30.50536	29.1309*

#### Non-State sector

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-241.9240	NA	1.37e+08	32.92320	33.15922	32.92069
1	-201.4415	48.5789*	2198724*	30.8588*	32.27497*	30.84378*

#### ○ Foreign-invested sector

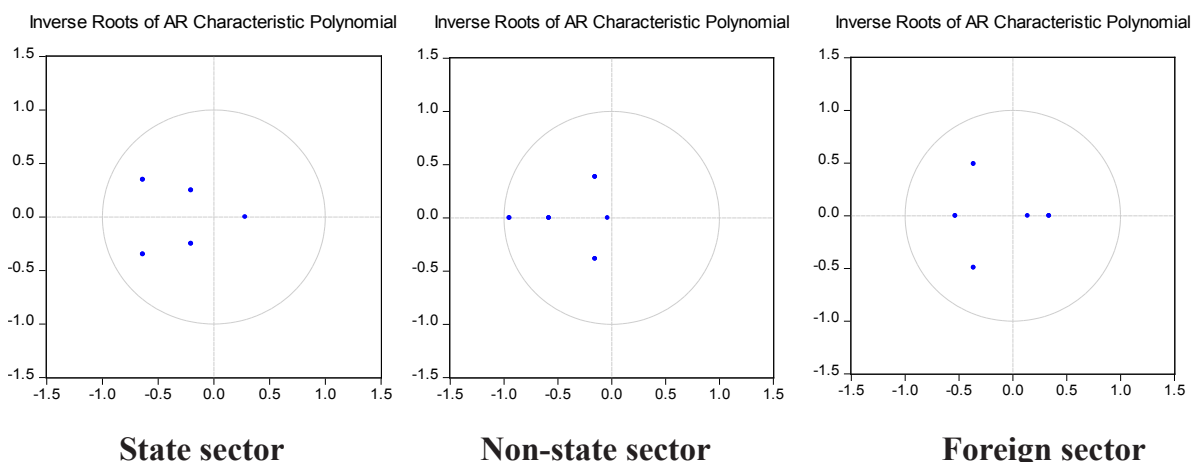
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-224.8561	NA*	2070807*	28.73202*	28.97345*	28.74438*
1	-205.6303	24.03226	5161274.	29.45379	30.90240	29.52797

*Source: Results from Eviews 10*



Based on AIC (Akaike’s information criterion), the results show that the model has an optimal delay of 1. From the results of the stop calculation and the optimal delay, the VAR model is selected as a suitable model to analyze the impact of macroeconomic variables on the financial resources of enterprises in different regions.

**4.3. Assessing Stability of the VAR Model**



**Figure 2: Stability of the model**

*Source: Results from Eviews 10*

The results of testing the stability of the VAR model through the Inverse Roots of AR Characteristic Polynomial test. The eigenvalues are all in a single circle (or they are all less than 1), which implies that the VAR model is stable and the estimated results from the VAR model can be trusted.

**4.4. Testing for Residual Autocorrelation**

**Table 4: Results of residual test of 3 areas**

○ **State sector**

Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	38.75098	25	0.0390	1.910643	(25, 5.2)	0.2369

○ **Non-State sector**

Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	151.1759	25	0.0000	6734.916	(25, 1.5)	0.0012

○ **Foreign-invested sector**

Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	32.04044	25	0.1568	1.209924	(25, 5.2)	0.4531

*Source: Results from Eviews 10*

The results of the autocorrelation test show that the P-values of the State sector and the foreign-invested sector in Lag1 are both more than 0.05. So, at the significance level of 0.05, the model in these two regions has autocorrelation. Meanwhile, in the non-state sector, the P-value is less than 0.05. So at the significance level of 0.05, the model does not have autocorrelation.

#### 4.5. Evaluating Granger Causality

In the multivariable VAR model, the Granger causality test tells us which variable a change in the model is affected by. The results of the causality test in the VAR model are as follows:

**Table 5: Synthetic of Granger causality relationship of variables to financial resources of the State sector**

<b>Biến phụ thuộc</b>	<b>D(LNSIC)</b>	<b>LNGDP</b>	<b>D(LNI)</b>	<b>D(LNIR)</b>	<b>D(LNFX)</b>
D(LNSIC)		0.0974	0.6390	0.9174	0.5194
LNGDP	0.0378		0.1077	0.6020	0.9479
D(LNI)	0.1168	0.5463		0.5551	0.8003
D(LNIR)	0.7002	0.5375	0.5574		0.6622
D(LNFX)	0.0847	0.0350	0.8056	0.6575	

*Source: Results from Eviews 10*

**Table 6: Synthtic of Granger causality relationship of variables to financial resources of the non-state sector**

<b>Biến phụ thuộc</b>	<b>D(LNNIC)</b>	<b>LNGDP</b>	<b>D(LNI)</b>	<b>D(LNIR)</b>	<b>D(LNFX)</b>
D(LNNIC)		0.0004	0.2864	0.1095	0.9966
LNGDP	0.0007		0.1024	0.2223	0.9674
D(LNI)	0.1607	0.6136		0.5138	0.8284
D(LNIR)	0.6773	0.3915	0.3075		0.8177
D(LNFX)	0.5134	0.0047	0.8406	0.6408	

*Source: Results from Eviews 10*

**Table 7: Summary of Granger causality relationship of variables to financial resources of Foreign-invested sector**

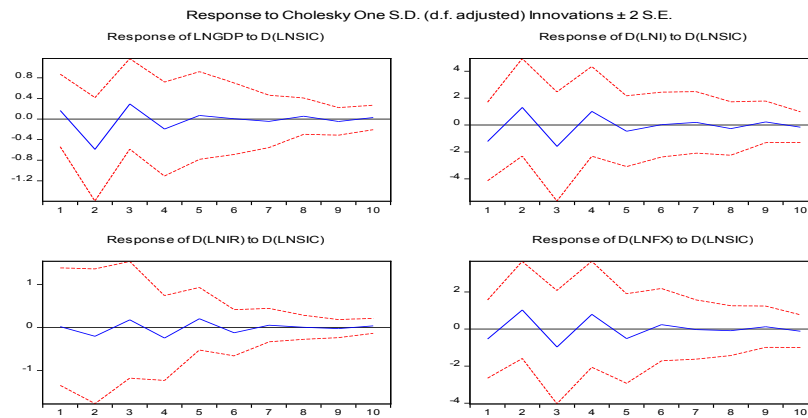
<b>Biến phụ thuộc</b>	<b>D(LNFIC)</b>	<b>LNGDP</b>	<b>D(LNI)</b>	<b>D(LNIR)</b>	<b>D(LNFX)</b>
D(LNFIC)		0.6500	0.1827	0.4060	0.7570
LNGDP	0.1828		0.0762	0.5506	0.8986
D(LNI)	0.1559	0.5036		0.5297	0.8333
D(LNIR)	0.1550	0.8088	0.8493		0.9432
D(LNFX)	0.4748	0.0782	0.8306	0.6492	

*Source: Results from Eviews 10*

From the running results, it is shown that, at the 10% significance level, the test results show that Prob of all variables is less than 5%. Therefore, all the independent and dependent variables built in the model are interrelated and affect the financial resources of the enterprise. Specifically, this result shows that economic growth rate (GDP), interest rate (IR), inflation rate (I) and VND/USD exchange rate (FX) all have an impact on the financial resources of Vietnamese enterprises in different regions and vice versa.

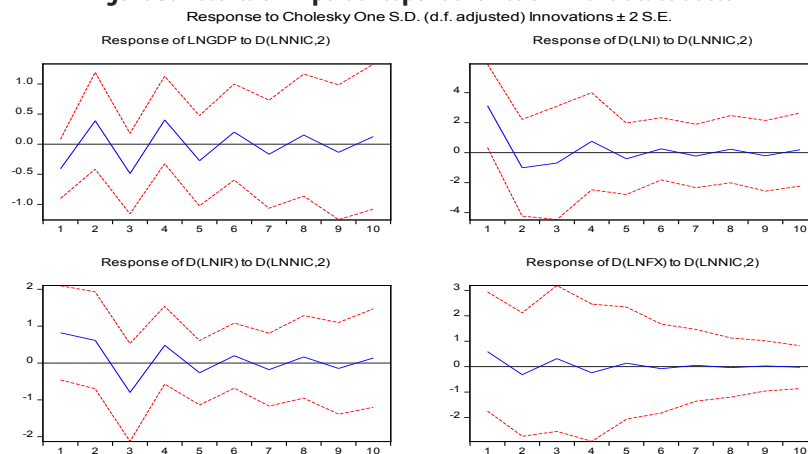
**4.6. Impulse response function (IRF)**

To test the dynamic responses of financial resources in the three sectors to shocks of other variables, we conduct an impulse response function analysis.



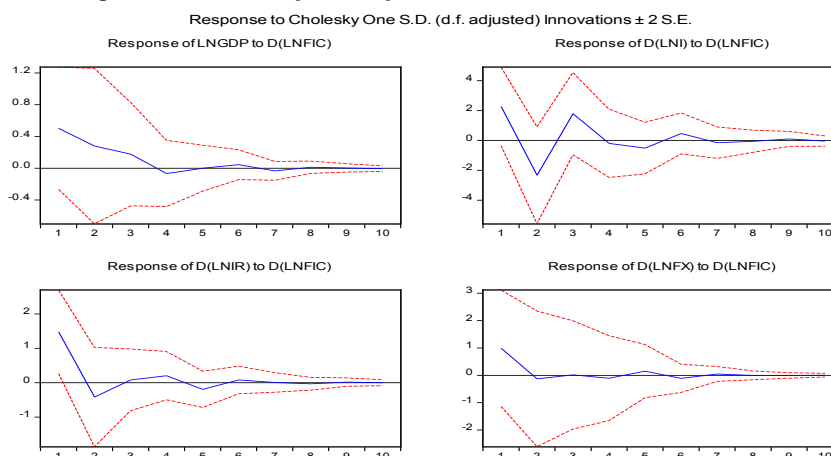
Source: Results from Eviews 10

**Figure 3: Results of impulse response function in the State sector**



Source: Results from Eviews 10

**Figure 4: Result of impulse response function in the non-State sector**



Source: Results from Eviews 10

**Figure 5: Result of impulse response function in the foreign-invested sector**

From the graph, it can be seen that the responses of financial resources in the sectors to changes from the economic growth rate, the inflation rate, the average interbank offered rate, the average exchange rate, and the average exchange rate are not the same.

Overall, the push response results show:

**For the State Sector:** All indicators have strong fluctuations and in the last years, these indicators tend to decrease. The results of the push reaction show that GDP and IR initially cause financial resources of the State sector to decrease in the first year, and from second to fifth year, it fluctuates strongly. However, from the 5th year onwards, it decreased and remained stable. The reason is that from the later period, the economic growth rate decreases while the interest rate increases, causing the economy to grow slowly, thereby negatively affecting the financial resources of enterprises. The results also show that inflation and exchange rate in the first 6 years cause financial resources in this sector to fluctuate erratically and only stabilize when entering the later period.

**For the Non - State Sector:** The results of the push response show that during the whole period, GDP, I and IR have a great impact on the financial resources of enterprises in the non-state sector, making financial resources available. In the past 10 years, there is no stability but always strong fluctuations. The reason for this is that the abnormal growth of the economy makes other macro factors affected, interest rates and inflation can be very high or very low. As a result, the ability of enterprises to mobilize financial resources is also affected and tends to fluctuate between years. However, the exchange rate in this area tends to decrease gradually over the years and is stable in the last years of the period, specifically from the 6th year onwards.

**For the Foreign Invested Sector:** The result of the push response shows the decrease in GDP economic growth in the first 4 years and the FX rate in the first and second years cause the decline of financial resources. The whole period after that, GDP increased but increased slightly, not significantly, mainly maintained stability and slightly decreased at the end of the period. With the proportional impact between GDP and the financial resources of enterprises, from the 5th year onwards, financial resources in the foreign-invested sector also keep a stable level, increase or decrease insignificantly until the final year. In addition, the average interbank offered rate IR and the inflation rate I have a stronger fluctuation band and are not as stable as the previous two indicators, leading to unstable financial resources at this time, but at the end of the period, the response of the financial resources of enterprises in these two sectors is almost the same.

#### 4.7. Variance Decomposition Test

To more accurately assess the impact of the past values of each variable on the financial resources of the sectors, we conduct variance decomposition according to Sim's Recursive Cholesky method.

**Table 8: State sector Variance decomposition results**

Variance Decomposition of D(LNSIC):						
Period	S.E.	D(LNSIC)	LNGDP	D(LNI)	D(LNIR)	D(LNFX)
1	26.21126	100.0000	0.000000	0.000000	0.000000	0.000000
2	39.57710	54.16817	35.86618	3.479257	0.081441	6.404952

3	45.21433	43.51687	33.92071	15.71623	0.166248	6.679943
4	47.98644	38.65816	34.08081	17.85994	0.332206	9.068887
5	48.85029	38.01591	33.48607	17.61054	0.376814	10.51066
6	49.28067	38.37378	32.90432	17.39978	0.372120	10.95000
7	49.62639	38.52522	32.61667	17.61320	0.372161	10.87275
8	49.88506	38.39923	32.55359	17.90260	0.380528	10.76406
9	50.03061	38.22877	32.56763	18.06452	0.388543	10.75054
10	50.09139	38.13638	32.57688	18.10817	0.392532	10.78605

Source: Results from Eviews 10

The result of the analysis of variance shows that, during the 10-year period of the study, the financial resources of the state sector are greatly affected by the shock created by itself. The explanatory extent of financial resources to period 10 is 38.14% of the shock by itself. Among the macro variables, GDP has the most explanatory role for the financial resources of the State sector and has a decreasing role (from 35.87% in the 2nd year to 32.58% in the 10th year) leading to financial resources decline.

The second influencing factor is inflation (I) with the explaining role increasing sharply and keeping at 17 ~ 18%. Along with that, the average FX rate also shows its influence on financial resources. Specifically, FX increased from 6.4 years 2 to 10.79% in 10. The role of IR interest rates explains the increase and stabilization of about 0.3% of fluctuations in financial resources of the State sector.

This result is completely reasonable because financial resources are proportional to GDP and inversely proportional to I, IR, FX. Therefore, when GDP decreases and the remaining 3 variables increase, it makes financial resources in this area decrease in line with the direction of impact between variables.

**Table 9: Non-State Sector Variance decomposition results**

Variance Decomposition of D(LNNIC,2):						
Period	S.E.	D(LNNIC,2)	LNGDP	D(LNI)	D(LNIR)	D(LNFX)
1	128.3677	100.0000	0.000000	0.000000	0.000000	0.000000
2	180.6522	81.79595	12.57223	4.108232	0.750096	0.773485
3	219.9760	68.28964	8.536706	4.040723	4.378176	14.75475
4	267.7432	51.18029	8.482818	3.611459	7.344740	29.38070
5	317.3410	38.60677	10.22702	3.307083	8.815158	39.04397
6	364.1840	30.44830	12.08836	3.062924	9.482947	44.91747
7	406.3386	25.15740	13.61544	2.861938	9.813997	48.55123
8	443.3863	21.60662	14.78226	2.707020	9.998639	50.90546
9	475.6405	19.12476	15.66297	2.591628	10.11049	52.51016
10	503.6694	17.32371	16.33370	2.505205	10.18243	53.65495

Source: Results from Eviews 10

The results of the analysis of variance show that, during the 10-year period of the study, financial resources in the non-state sector are mainly explained by itself and FX. In which, the explanatory level of FX is more than that of other variables (ranging over 14% and reaching

53.65%) by the 10th year. On the other hand, the influential role of FX is completely opposite to financial resources in the non-State sector. While FX tends to increase, financial resources tend to decrease (from 81.8% in 2nd year to 17.32% in 10th year) and by the last year, the role explained by financial resources itself no longer accounted for the largest share.

Next, GDP and IR tend to increase and remain more stable than other variables, but still explain only below 20%. The smallest explanatory role is the inflation rate, which remains below 5% and does not affect financial resources in the non-state sector much. LI explains at least the fluctuations of financial resources in the non-State sector, accounting for only about 0.5% to more than 2%.

**Table 10: Foreign- invested Sector Variance decomposition results**

Variance Decomposition of D(LNFIC):						
Period	S.E.	D(LNFIC)	LNGDP	D(LNI)	D(LNIR)	D(LNFX)
1	28.51348	100.0000	0.000000	0.000000	0.000000	0.000000
2	33.00979	81.94212	5.447036	0.005880	10.07048	2.534483
3	34.57424	74.82744	5.095852	7.386654	9.897933	2.792119
4	35.48177	72.98010	5.088207	7.772615	9.606629	4.552452
5	35.94388	72.40242	4.986601	7.593561	9.415144	5.602272
6	36.06677	72.08461	4.970412	7.660343	9.386320	5.898313
7	36.08922	72.00370	5.000177	7.705708	9.379630	5.910782
8	36.09950	72.00272	5.008574	7.703993	9.376038	5.908672
9	36.10294	71.99924	5.007853	7.706139	9.377548	5.909221
10	36.10394	71.99530	5.008125	7.709707	9.377954	5.908916

*Source: Results from Eviews 10*

The results of the analysis of variance show that, during the 10-year period of the study, the financial resources of the foreign-invested sector are mainly explained by itself. If its own explanation is the largest and decreases gradually (from 81.9% in the 2nd year to 72% in the 10th year), the independent variables I, IR, FX all tend to increase stably although not accounting for more than many roles affecting financial resources in this area. Specifically, in the 10th year, the explanation of inflation I only increased by 0.003% over the previous year, IR increased by 0.0004% over the previous year, and FX reached 5.9%.

Finally, GDP growth rate also has an effect on the financial resources of the foreign-invested sector. However, it accounts for only a small part and unstable over the years and always remains below 5.5%.

## 5. DISCUSSION AND CONCLUSION

From the model results, it can be seen that the financial resources of enterprises in Vietnam are directly and indirectly affected by the economic growth rate (GDP), the average interbank offered rate (IR), inflation rate (I) and average exchange rate VND/USD (FX). In addition, all the above macroeconomic variables have positive and negative impacts on the growth of financial resources of enterprises in Vietnam. In which, the economic growth rate is the macroeconomic variable having the strongest influence.



### 5.1. Some achievements

*Firstly*, in recent years, the macro factors including economic growth rate, interest rate, inflation rate, exchange rate have tended to change positively, leading to the growing and expanding in the financial resources of Vietnam's enterprises. The increase in GDP contributes to increasing income for the economy and to the expansion of financial resources for businesses. Meanwhile, interest rates are kept at a stable level by the State Bank of Vietnam, ensuring that firms can access financial resources from financial institutions to expand production and business activities. Although the level of inflation has fluctuated, basically, inflation is gradually under control.

*Secondly*, from the estimation results, it can be seen that in the macro factors affecting the financial resources of state-owned enterprises in Vietnam, economic growth rate has the strongest impact (explaining for one-third of the fluctuation in financial resources of this sector).

*Thirdly*, in general, for the whole period from 2002 to 2022, the inflation rate is always under the control of the Government, always maintaining the rate not too high and not too low. However, in some periods such as from 2011 to 2014, inflation fell sharply but remained within the allowable adjustment range of the Government, did not make the economy slow down, and at the same time still helped financial resources of enterprise increase slightly.

*Fourthly*, the interest rate relatively decreases and thanks to the market regulation of the Government, it has helped businesses save costs and increase profits. From there, enterprises can access more financial resources. The estimated results show that interest rate has a greater impact on the financial resources of enterprises in the non-state sector and foreign investment sector than that in the state-owned enterprises sector.

*Finally*, the falling exchange rate gets benefits for businesses when they mobilize financial resources, especially import enterprises. The exchange rate explains most of the volatility of non-state enterprises' financial resources, which shows that state-owned enterprises are increasingly active and participate more deeply in international markets.

### 5.2. Some limitations

Besides the achieved results, some limitations still exist. Specifically:

*Firstly*, the influence of GDP on the financial resources of non-state and foreign-invested sector's enterprises are still quite modest while they have much influence on state-owned enterprises, showing positive results that the growth results have not really created a positive transmission mechanism to businesses in these two sectors.

*Secondly*, inflation in the research period fluctuated, showing that despite the government's control policies, the economy is still easily affected by external shocks.

*Thirdly*, interbank offered rates in Vietnam are not stable, increase or decrease erratically, often changing, affecting the business operations of the enterprise.

*Fourthly*, the VND/USD exchange rate in recent years has tended to decrease but remains at a high level, making firms unable to save input costs, thereby reducing profits. The influence of the exchange rate on the financial resources of non-state enterprises is very large, showing the great dependence of these enterprises on the foreign market.

In summary, it is necessary to combine macroeconomic policies, including fiscal policy, monetary policy and other policies, to control macro indicators. In this way, the financial resources of enterprises for their operation and development are ensured.

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## APPENDIX 1

	LNSIC	LNNIC	LNFIC	LNGDP	LNI	LNIR	LNFX
Mean	452.9968	607.6517	287.2348	6.277222	6.778333	7.236111	20.89522
Median	463.6500	439.5000	252.7500	6.445000	5.390000	6.080000	21.04300
Maximum	824.7000	1873.200	521.9000	8.480000	19.90000	14.08000	33.60600
Minimum	172.0000	105.0000	47.00000	2.580000	0.600000	2.860000	15.85900
Std. Dev.	208.5612	503.3233	150.4199	1.653061	5.513213	3.157250	4.216021
Skewness	0.117468	1.441244	-0.011510	-0.781514	1.205250	0.684036	1.288235
Kurtosis	1.776377	4.193833	1.868106	3.226908	3.470995	2.412219	5.654816
Jarque-Bera	1.164336	7.300476	0.961285	1.870909	4.524257	1.662832	10.26468
Probability	0.558686	0.025985	0.618386	0.392407	0.104129	0.435432	0.005903
Sum	8153.943	10937.73	5170.227	112.9900	122.0100	130.2500	376.1140
Sum Sq. Dev.	739461.8	4306683.	384644.5	46.45436	516.7239	169.4598	302.1722
Observations	21	21	21	21	21	21	21

# CURRENT BAD DEBT HANDLING SITUATION AT COMMERCIAL BANKS IN VIETNAM

MSc. Pham Thanh Loc<sup>1</sup>

**Abstract:** *In this article, the author presents the theoretical framework for digital transformation, bad debt, bad debt settlement at commercial banks, and evaluation about the current situation of bad debt handling at Vietnamese commercial banks. Thereby, the article proposes solutions to develop the positive factors and minimize the factors that prevent commercial banks from handling bad debts in the age of digital transformation.*

**Keywords:** *Bad debt, bad debt handling.*

## 1. RESEARCH PROBLEM

Bad debt is one of the key factors that affects the operation of commercial banks profoundly. In Vietnam, although credit accounts for the highest proportion of total assets and provides the largest source of income, it is the most risky activity for the Bank. To develop safely and effectively, commercial banks need to focus on: firstly, the quality of credit extension and service; and secondly, bad debt management. Bad debt management in general, and bad debt handling is crucial problem, because it has great impacts on the Bank's business performance and capital circulation in the economy.

The goal of bad debt management and bad debt handling is different at each bank and at different times. However, in the most general way, the goal of bad debt management in any situation and for any bank is to build and implement a system of management, monitoring, evaluation, bad debt handling in accordance with the operation situation and orientation of the Bank. In recent times, the great influence of digital technology on the financial - banking sector has caused traditional banks in Vietnam to accelerate the change of business models from traditional to digital banking. Digital transformation has been applied in the banking industry and has made huge step of development, expanded the scale and scope, created new transaction trends and it is recognized by many positive achievements. However, besides the benefits, the digital transformation also poses various challenges to the banking industry in completing the legal regulations about managing, ensuring the security, safety and confidentiality of data, as well as credit quality assurance.

Since then, it is necessary to re-evaluate the situation of bad debt handling of Vietnamese commercial banks in the digital transformation period. In that context, this article aims to assess the current situation of bad debt handling at Vietnamese commercial banks comprehensively on the basis of data collection and comparison, thereby creating a scientific framework for planning policies in providing appropriate solutions for debt management in the 4.0 technology period at Vietnamese commercial banks.

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## 2. THEORETICAL FRAMEWORK

Generally, bad debt is considered as the debt that the borrower is unable to pay when it is due to be paid as committed in the credit contract.

According to the regulation of Circular No 11/2021/TT-NHNN of the State Bank of Vietnam, customer loans are classified into five debt groups. In which, bad debt includes debts of group 3, group 4 and group 5, which are debts that are overdue for 91 days or more.

Bad debt reduces the bank's profit, reputation and rating. Bad debt not only affects the ability to open up lending capital adversely, but also affects the development of the economy directly because the opportunities to access to capital sources for business expansion of organizations and individuals are limited. Therefore, any bank needs to pay attention to bad debt management. Bad debt management is the process of planning and implementing credit management and business strategies and policies in order to achieve the goal of safety, efficiency and sustainable development; which strengthens measures to prevent and limit the arising of bad debts, along with measures to handle the arising bad debts, thereby increasing revenue, reducing costs, improving quality and business performance in both short-term and long-term of commercial banks.

Bad debt handling is an important content in bad debt management at commercial banks. Before going to the stage of bad debt handling, banks need to take the following steps: bad debt identification; bad debt measurement and evaluation; bad debt prevention.

**2.1. Bad debt identification:** Bad debt identification is the detection of bad debts on the account of criteria used to identify bad debt customers. Currently, commercial banks identify bad debts through qualitative criteria (based on the degree of doubt about the debt repayment ability), quantitative (mainly based on the overdue time of the debt) or a combination of qualitative and quantification.

**2.2. Bad debt measurement and evaluation:** The purpose of bad debt measurement and evaluation is to determine the level of risk and possible loss of bad debts and evaluate each impact of bad debts on operations and business results of the bank. Consequently, the bank will take appropriate measures to limit and handle. Indicators for measuring bad debts can be: ratio of bad debts to total outstanding loans, ratio of provision for credit loss to total outstanding loans or to bad debts.

**2.3. Bad debt prevention:** *After bad debts are measured and evaluated, the managers of commercial banks will apply measures to control them. Bad debt control aims to prevent and control risks that may arise in banking activities, ensure all departments and employees in the bank comply with the provisions of law, implement strategies and policies to ensure safety and efficiency in banking activities.*

**2.4. Bad debt handling:** *Bad debt handling at commercial banks has three great meanings: releasing outstanding debt to re-invest in the economy, improving the credit environment, improving the financial capacity of commercial banks in the international integration process. Recently, measures to deal with bad debts are divided into two groups:*

*Group 1: Debt exploitation measures*

*Debt exploitation methods are usually required to satisfy the following conditions: The customer is still operating business normally and has the ability to generate revenue; Implementing exploitation measures will help customers restore their debt repayment capacity and fulfill their debt repayment obligations; Customers with goodwill in repaying bank loans: (1) Debt restructuring, (2) Continue lending to maintain business operations, (3) Interest reduction/free, (4) Consulting for customers, (5) Assist customers in debt recovery.*

#### Group 2: Debt liquidation measures

Debt liquidation measures should be applied in the following cases: the customer does not have goodwill to repay the debt or the customer's financial situation deteriorates sharply, irretrievably: (1) Handling collateral assets, (2) Debt sale, (3) Handling from the provision, (4) Converting bad debts into contributed capital, (5) Securitization of bad debts, (6) Government assistance, (7) Attributing responsibility to officers for making mistakes, (8) Sue or request to open bankruptcy proceedings.

In summary, there are many measures to manage bad debts of a commercial bank, nevertheless, when bad debt becomes a common phenomenon of the economy and threatens the safety and security of the system, Macro-management measures will usually have to be prioritized before or in parallel with the handling of bad debts of commercial banks.

### **3. SITUATION OF BAD DEBT IN VIETNAMESE COMMERCIAL BANKS**

**Table 1. NPL (Non-Performing Loan) ratio of individual commercial banks in the period of 2019-2022**

Unit: %

<b>Commercial Bank</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
ACB	0,54	0,59	0,78	0,74
AGB	1,56	1,78	1,87	1,81
BIDV	1,66	1,66	0,93	1,12
CTG	1,15	0,93	1,27	1,24
MB	0,98	0,92	0,68	0,83
STB	1,81	1,53	1,36	0,84
TCB	1,34	0,47	0,69	0,74
TPB	1,29	1,18	0,82	0,84
VCB	0,79	0,62	0,64	0,68
VPB	2,69	2,53	2,01	2,80
Industry-wide	1,63	1,69	1,90	1,92

*Source: Annual reports and financial statements of commercial banks.*

**Table 2. Group 2 debt ratio of commercial banks**

Unit: %

<b>Commercial Bank</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
ACB	0,23	0,18	0,53	0,57
AGB	2,97	2,48	2,16	2,44
BIDV	2,04	0,96	1,02	1,61



CTG	0,60	0,28	1,06	2,35
MB	0,85	0,56	0,64	0,72
STB	0,27	0,19	0,35	1,26
TCB	0,93	0,66	0,65	2,12
TPB	2,02	1,35	1,47	1,92
VCB	0,34	0,33	0,37	0,35
VPB	2,96	3,46	3,66	4,06

*Source: Annual reports and financial statements of commercial banks.*

Bad debt ratio is a basic indicator of a bank's credit quality. Table 1 and Table 2 shows the bad debt ratio (NPL ratio and Group 2 Debt ratio) of the whole industry with top 6 banks has the largest total assets in 2022 is BIDV (BIDV); Vietcombank (VCB); Vietinbank (CTG); MB; Techcombank (TCB) and Vpbank (VPB). It can be seen that the bad debt of the aforementioned commercial banks are all below 3%. This is the level that meets the requirements of the SBV according to Document No. 6561/NHNN-TTGSNH issued in 2021.

In the period of 2019-2022, the bad debt ratio of most banks tends to decrease in 2020, increase in 2021 and 2022. In 2022, the bad debt of credit institutions tends to rise. The objective reason is that the Russia-Ukraine political instability negatively affects the outlook for the import-export industry as well as the economic growth. The subjective reasons are due to the downward cycle of the real estate industry and the risks of corporate bonds. With the proportion of outstanding loans for real estate and construction accounting for approximately 30% of the total outstanding loans of the industry, the weakness of the real estate market not only affects credit growth but also potential bad debts.

#### **4. ACTUAL SITUATION OF BAD DEBT HANDLING AT VIETNAMESE COMMERCIAL BANKS**

Bad debt handling is an essential step in bad debt management. In the context of digital transformation, the State and commercial banks have had policy of applying 4.0 technology content in bad debt management. Banking is considered a pioneer in the digital transformation in Vietnam in general.

On the state side, the Party and Government have issued many resolutions and documents to guide and support banks in the management and handling of bad debts. Resolution No. 42/2017/QH14 of 2017 is considered a very important legal document, for the first time, the banking industry's legal problems related to bad debt handling and collateral to secure the debts of credit institutions that have lasted for many years are resolved in a document of the National Assembly, which creates a synchronous and unified mechanism to ensure the rights of creditors in dealing with bad debts. Thereby, it also creates favorable conditions for credit institutions to promote well their role as the main capital conduit, and meets capital needs for production and business activities of the economy.

After a period of practical implementation, the synchronous solutions of Resolution No. 42 and Decision No. 1058 and Decision No. 1382 have made clear marks and positive changes in bad debt handling and restructuring credit institutions, which demonstrates the appropriate orientation and policies of the National Assembly and the Government, creates confidence in the system of credit institutions in particular and the whole society in general. As a result, credit quality of credit institutions is improved, bad debts are well controlled; Inspection and



supervision work has been strengthened, discipline has been improved in the money market and banking sector, contributing to stability and assurance of financial-monetary security.

Bad debts of the system of credit institutions have been handled, controlled and the average on balance sheet bad debt ratio of banks in the period of 2019-2022 is maintained at less than 2%. In addition, the debt coverage ratio of the whole industry also increased sharply from 73% in 2019 to 170% in 2022. The bad debt coverage ratio is the “balance of provision for loans/bad debts”, it is used to assess a bank’s defense against risks related to bad debt. According to the SBV’s statistics, Vietcombank is currently the bank with the highest bad debt coverage ratio in the system, over 400%. In addition, some other banks such as BIDV, Techcombank, ACB, MB... also have a bad debt coverage ratio of over 100%. At VietinBank, this bank has risen provision for credit risks significantly to more than VND 39,000 billion (increase by 52%), bringing the bad debt coverage ratio to over 220% by 2022. When debt recovery measures are not effectively, the bank can use the provision to cover bad debts. This is considered one of the ways to deal with bad debt. Due to its high initiative, this solution is often used by commercial banks to the fullest extent to quickly handle debt. Over the years, Vietnamese commercial banks have made efforts to set aside provision, especially from 2020 to now. Thanks to the high provision cost in the comparison group, the NPL (Non-Performing Loan) coverage ratio grew from 70-90% in the period 2017-2019 to more than 90% in 2020, and especially in 2021, BIDV has an outstanding increase in bad debt coverage ratio, up to 229%, ranked third after Vietcombank and MB. In 2022, though this ratio decreased slightly, it still ranked third. In recent years, most banks have increased provisions and have improved the ratio of bad debt coverage. By the end of 2022, most of the banks in the comparison group have a NPL coverage ratio of over 100% (except Vpbank). This is also a common trend of banks around the world by promoting the provision to prepare for unstable situations in the future (most evident in Thailand). Accordingly, BIDV’s strategy of increasing provisions is appropriate, this strategy has impact on current business results in the immediate future, but it can be said that it is a “sacrifice” strategy to ensure sustainability in the future.

**Table 3. NPL (Non-Performing Loan) coverage ratio of banks**

Unit: %

Commercial Bank	2019	2020	2021	2022
ACB	166,3	154,2	206,2	155,3
AGB	109,1	110,9	138,6	139,2
BIDV	75,5	91,4	229,1	223,3
CTG	120,0	132,5	179,6	188,0
MB	128,4	158,8	348,8	295,3
STB	65,6	93,6	118,8	126,9
TCB	94,4	169,4	157,7	151,2
TPB	98,5	134,2	152,5	135,1
VCB	179,7	369,5	424,3	317,4
VPB	53,0	50,7	84,7	54,4

Source: Annual reports and financial statements of commercial banks.

**Table 4. Provision for Credit Losses (PCL) expenses of commercial banks**

Unit: VND Billion

Commercial Bank	2019	2020	2021	2022
AGB	20.590	18.743	22.060	27.160
CTG	12.928	12.026	18.338	24.096
BIDV	19.698	22.864	28.842	23.478
VCB	6.752	9.932	11.731	9.446
VPB	5.049	5.141	7.863	8.744
STB	2.060	2.795	3.393	8.710
MB	3.305	4.493	6.347	5.060
TCB	913	2.602	2.567	1.869
TPB	1.298	1.783	2.908	1.844
ACB	238	950	3.320	73

Source: Annual reports and financial statements of commercial banks.

Accumulated from August 15, 2017 to December 31, 2021, the whole system of credit institutions has handled VND 380.2 trillion, equaling 47,9% of bad debts according to Resolution No. 42 at August 15, 2017 and bad debts under Resolution 42 arise during the effective period of Resolution 42. On average, bad debt has been handled at about VND 5.67 trillion per month, higher than the average of VND 3.25 trillion per month in the period before Resolution 42 took effect (from 2012 to 2017).

Regarding digital transformation, banks are under considerable pressure. Due to cost barriers, banks cannot change their technology continuously, but without continuous technological innovation, they may have to trade off by their competitiveness. In accordance with the SBV's statistics, at 10 biggest commercial banks in Vietnam, the investment for digital transformation is estimated at up to VND 15,000 billion per year, the average cost of resource investment in digital transformation activities accounts for 20-30 % of total operating investment costs. Despite many advances, digital transformation at commercial banks in general still has numerous limitations, such as technology and data platforms; in terms of scale and capacity to apply 4.0 technology (cloud computing, big data, artificial intelligence, blockchain...); in terms of advanced analytics and data utilization, as well as the ability to create new business models and competitive advantages.

Furthermore, the shortage of qualified human resources and the slow-changing organizational model and corporate culture are also major barriers to digital transformation. Digital transformation in the banking sector needs experts with much greater vision and experience than other industries. Along with the diverse development of channels, forms of interaction with customers and banking technology ecosystem, the security of IT infrastructure and data is one of the biggest challenges when implementing transformation.

Besides, the completion of the legal framework for digital transformation is still behind development requirements. The Law on Electronic Transactions, the Law on Accounting and related laws also have problems in digitalizing the banking industry.

## 5. SOLUTIONS TO DEAL WITH BAD DEBTS AT VIETNAMESE COMMERCIAL BANKS TODAY

In the context that the economy in general and the financial market in particular are facing many objections, the banking industry needs to identify breakthrough opportunities and take advantage of opportunities in risks. Improving competitiveness and sustainable development will become the core issues of banks in 2023 and the following years. For the problem of bad debt handling, it requires great efforts from commercial banks, VAMC (Vietnam Asset Management Company) in particular and the support of state agencies in general.

Firstly, in terms of digital transformation, banks need to continue to develop and implement a roadmap in digitalizing debt management and debt settlement: Digital transformation is still a key factor and a mandatory condition in the brand positioning strategy and improve the competitiveness of any bank. Commercial banks should experiment with advanced analytical models and machine learning for credit approval, portfolio monitoring, debt classification, bad debt identification, and bad debt handling plan. All standardized data, reports and data aggregation will ensure the accuracy and science in helping commercial banks' managers find a reasonable debt recovery solution.

In addition, commercial banks should improve their comprehensive capital and risk management capabilities. Digital transformation provides banks the opportunity to gather a huge amount of data for analysis, build algorithmic models based on data... Nevertheless, along with this process, IT security risks, Personal data is also rising, and it also leads to emerging risks such as model risks in the application of data modeling, strategic risks, reputational risks, etc. Therefore, along with the digital transformation journey, banks have to focus on building and completing the technology risk management framework, the model risk management framework, the data governance framework, and effectively integrating the capabilities of the technology of the whole banking system.

Commercial banks need to enhance the quality of human resources. Along with the digital transformation process as well as the implementation of sustainable development programs, building and strengthening the capacity of staff for successful strategy implementation and operation should be a priority in the action plan of banks, especially in areas requiring specialized skills such as data governance and data analysis, technology risk management, cybersecurity, privacy and data protection, model risk,...

Next is the solution to overcome the bad debt situation of the bank, which can be divided into two groups: that is, the group of solutions to prevent and minimize the risk of bad debt; and bad debt recovery solution group.

### **On preventing and minimizing bad debts:**

Firstly, commercial banks ought to develop a strategy to limit bad debt, including a customer strategy. The strategy of choosing the right customer is one of the necessary tools to minimize bad debt. The development of a customer strategy will enable the bank to classify customers, select effective business customers, have a healthy financial situation, have a feasible production and business plan, and have creditworthiness and willingness to repay bank loans.

Second, commercial banks need to improve the quality of appraisal. Bad debts stem from careless and inaccurate credit analysis and appraisals about debt repayment capacity, leading to wrong lending decisions. The solution on organization and administration of credit appraisal

is that the arrangement of appraisal staff must be reasonable, avoid overlapping, and ensure the arrangement of qualified, capable, professional and responsible staff. The arrangement of appraisal staff must also be based on the qualifications, experience and capacity of each officer.

Third, commercial banks need to effectively control after disbursement. Check before borrowing from the appraisal and re-appraisal of projects, but bad debts still appear after lending. After lending, bad debt not only comes from inefficient business plans, borrowers use capital for wrong purposes, but also the bank cannot control cash flow after the business plan ends, leading to the situation that customers use money from the business plan for purposes that are not transparent or inefficient.

#### **Regarding bad debt recovery:**

Firstly, Vietnam needs to complete the legal corridor and legalize the handling of bad debts. International experience points out that the direction of legalizing and completing the legal framework for dealing with bad debts attracts great attentions from some large economies. Resolution 42 is extended, but when it expires, a legal document on bad debt settlement is required for commercial banks and VAMC to use and comply. On December 31, 2023, after Resolution 42 expires, it can be legislated according to the following steps: step one is to extend, adjust and update Resolution 42 appropriately for several years ahead to have more time to review and prepare the draft law, together with promptly remove the above-mentioned obstacles; step two is to develop a Law on Bad Debt Handling in a more suitable way to the market and international practices. At the same time, Vietnam have to study, review, amend and supplement the Law on the State Bank of Vietnam, the Law on Credit Institutions, the Law on Deposit Insurance and relevant legal documents in the following directions: develop and supplement supporting mechanisms for credit institutions to participate in restructuring weak credit institutions to minimize negative impacts on finance and operations; research and supplement functions and tasks of Vietnam Deposit Insurance to participate in restructuring weak credit institutions; research and develop standards for debt valuation (including bad debts) in order to create a legal basis for debt valuation activities, ensuring objectivity in the debt valuation (including bad debt).

Second, it is compulsory to have solutions to develop the debt trading market. The size of Vietnam's debt trading market compared to some countries in the region such as Korea, Thailand, Malaysia... is still narrow, the operation process has revealed countless shortcomings, challenges and participants in the debt trading market is small. The goods traded on the debt trading market are not diversified and only account for a very slight proportion of the bad debts that need to be dealt with. Therefore, commercial banks and other credit institutions must quickly apply debt classification standards in line with international standards and publicly disclose bad debts in order to create an abundant supply for the market. Additionally, it is mandatory to define clearly the cases in which commercial banks must sell bad debts with the target to make the banking system healthy and release the dead assets in these bad debts. Furthermore, issuing preferential policies to call for investment in professional debt trading companies is essential, especially investment from abroad so as to take advantage of the capacity, advanced debt settlement methods as well as financial strength from investors. Thereby, it helps to form market makers in the debt trading market to promote market development.

Third, it is demanded to develop the VAMC so that it truly becomes the center of bad debt settlement activities associated with the restructuring the system of credit institutions: having sufficient capacity and resources to perform the functions and tasks of buying, selling, and handling bad debts, property valuation and auction. In which, the goal by 2025 is to operate the Debt Exchange, building a data center on debt/assets at VAMC, focusing on completing the target of debt purchase regarding to the value-added tax approved by the SBV, strengthening the handling of bad debts according to market value, continuing to deal with bad debts purchased with special bonds of weak credit institutions.

Fourth, it is vital to enhance coordination among relevant ministries, branches and agencies in handling bad debts of credit institutions. Chairmen of People's Committees of provinces and central cities should raise directing local governments at all levels and relevant agencies to create favorable conditions for credit institutions in their localities in handling bad and managing collateral for bad debts, especially assisting in the implementation of local administrative procedures to handle bad debts, collateral, legal procedures related to real estate projects are collateral of the bank to gradually remove difficulties, handle collateral for debt recovery, creating conditions for credit institutions to quickly handle collateral of bad debts related to cases being handled locally in accordance with law.

## 6. CONCLUSION

Bad debt handling in the context of digital transformation is a matter of widespread concern in recent years and has been evaluated through a number of theoretical and experimental studies. This study is conducted on the basis of assessing the debt settlement in the digital transformation period of commercial banks.

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# SOME ISSUES IN INVESTMENT ACTIVITIES OF SOCIAL INSURANCE FUNDS IN VIET NAM

Dr. Vu Ngoc Anh<sup>1</sup>

**Abstract:** *In order to ensure the balance between revenue and expenditure of social insurance funds, after paying benefits to beneficiaries, the surplus income of the social insurance funds is also used for investment to preserve and increase these funds, ensuring financial resources to pay for benefits such as retirement, death, occupational accident and occupational disease for employees in the long term. The principles and forms of investment of social insurance funds are specified by the law on social insurance, and investment activities are under the supervision and control of the state management agencies in charge of social insurance, according to the principle of safety and efficiency. In this article, the author will give some analysis and comments on the investment situation of Vietnam social insurance fund.*

*Keywords: social insurance, insurance fund, investment activities, beneficiaries*

## 1. INTRODUCTION

Vietnam Social Security (VSS) is a Government-attached agency and has the functions of organizing the implementation of social and health insurance policies; organizing the collection and payment of unemployment insurance money; managing and using funds: social insurance funds, unemployment funds and health insurance funds; inspecting the payment of social insurance, unemployment insurance and health insurance in compliance with the law.

Social insurance fund is a centralized monetary fund, formed from contributions of the participants of social insurance, used to compensate or replace income for employees participating in social insurance when they encounter risky events which cause health deterioration, loss of working capacity, job loss, death; in order to stabilize the lives of them and their families, contribute to ensuring social insurance and economic development of the country.

The social insurance fund is a consumer fund, and at the same time a reserve fund. It has both economic and social significance and is the most important condition and material means to ensure the survival and development of the entire social insurance system.

The social insurance fund is managed uniformly, democratically, openly and transparently, used for the right purposes, and independently accounted for according to component funds. The social insurance fund includes two regimes: compulsory and voluntary. Compulsory social insurance fund includes: Sickness and Maternity fund; Fund for Occupational Accidents and Diseases; Pension and Survivorship fund; Voluntary social insurance fund includes: Pension and Survivorship fund.

In order to ensure the balance between revenue and expenditure of social insurance funds, after paying benefits to beneficiaries, the surplus income of the social insurance funds is also

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used for investment to preserve and increase these funds, ensuring financial resources to pay for benefits such as retirement, death, occupational accident and occupational disease for employees in the long term. The principles and forms of investment of social insurance funds are specified by the law on social insurance, and investment activities are under the supervision and control of the state management agencies in charge of social insurance, according to the principle of safety and efficiency.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

There have been many studies around the world on investment principles of social insurance funds. Different countries have different specific regulations on investment in social insurance funds, but almost all have the same principles of safety, liquidity and profitability.

Social insurance, based on the ex-ante contributions system cumulate funds to be used for paying pay-outs to beneficiaries. Since the social insurance collects money, money must generate money by investing the funds into certain financial instruments. Each social insurance defines its own investment strategy (Demirgüç-Kunt, Kane, Laeven, 2008), but the underlying principle should be that investments can be easily converted to money within a determined period of time. In general, this must be achieved within seven days at most (Directive, 2014). Unlike the other funds' investments, the social insurance investments must possess the ability to be liquidated within a very short period of time, when it is necessary to pay the pay-outs to a large number of beneficiaries (IADI, 2014; Žilinskas, 2011). Therefore, the safety and liquidity are the key issues for social insurance investments. The risk-reducing diversification is the main instrument to meet these key issues (Bernet, Walter, 2009).

The investment policy of social insurance, in general, would base on the following main requirements: (1) Investing in the prime grade or high grade financial instrument; (2) The liquidation of investments of all issues of the one issuer has to be accomplished in the acceptable term; (3) The term of investments has to be chosen in accordance with the liquidity and the expected profitability. It is recommended that the manager would develop an optimal term indicator to financial instruments of each issuer and would watch the deviation from the term indicator; (4) Diversification of investments by currencies would be exercised in accordance with the structure of deposits by the main currencies. A rational norm of the deviation from the structure could be developed; (5) For the monitoring of investments, a benchmark should be developed, whereas the investment manager would watch the conformity of investments to the benchmark (Raimundas Žilinskas, Lionius Gaižauskas, 2015).

The difference in returns is the value added (or lost) due to the management. If the actual portfolio made more or less money than the benchmark portfolio, then the management of investment has chosen the funding investment means that have provided for that difference in value (Smart, Gitman, Joehnk, 2014; Oliver, 2012, Swedroe, 2012).

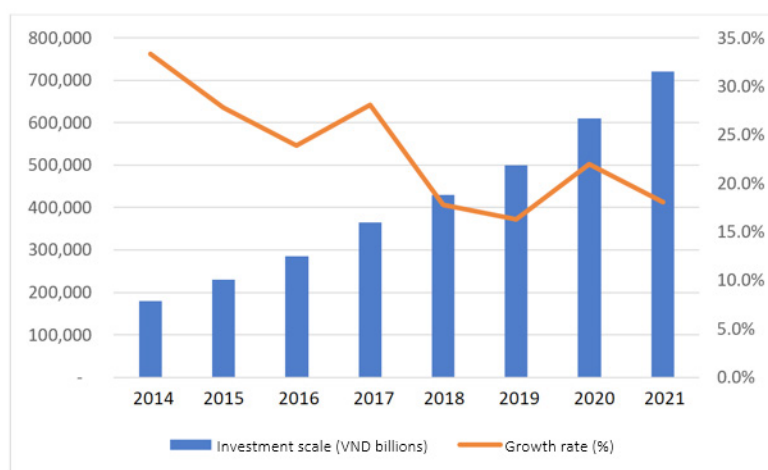
The investment with a buy-and-hold asset allocation with the index funds is a passive management strategy. This means that the manager has to create investment indicators and trace them (Reilly, Brown, 2012). Therefore, the permanent benchmarking of investments allows the manager to maintain the effective investment portfolio structure that ensures the safety, liquidity, and profitability of the insurance investments.

### 3. THE INVESTMENT SITUATION OF VIETNAM SOCIAL INSURANCE FUND

Before 2012, the investment of social insurance was integrated in documents regulating financial management of social insurance. From 2016, investment activities of social insurance were separately regulated in Decree No. 30/2016/ND-CP of the Government. In particular, investment activities of the social insurance fund are carried out through 3 forms: Buying Government bonds, Lending the State budget; Depositing money; purchasing bonds, promissory notes, bills and certificates of deposit at commercial banks with good operating quality according to the credit rating of the State Bank of Vietnam.

1998 was the first year that the social insurance fund had a fund balance (VND 7,493 billion). By 2021, the fund's investment scale has reached 13% of GDP, equal to 1.45 times in 2019 (the first year of implementation of the Law on Social Insurance 2014), 97 times higher than the investment scale in 1998. The fund's investment scale has grown steadily over the years with the average growth rate next year 20% higher than the previous year. In the period of 2014 – 2021, the annual fund investment scale increased by 25% compared to before. It is expected that the investment scale of the fund will continue to increase rapidly in the next 5-7 years because currently social insurance has an investment source of about VND 140-160 trillion/year, which is formed from: (i) revenue and expenditure differences, (ii) investment interest and (iii) maturity of bond principal and deposits in the year. However, this income and expenditure gap is expected to gradually narrow due to the increasing demand for insurance payments.

**Figure 1. Investment scale of social insurance in the period of 2014 - 2021**



Source: Vietnam Social Security, 2022

#### - *About forms of investment and categories*

According to the provisions of the Law on Social Insurance, Decree No. 30/2016/ND-CP, forms of investment (in addition to payment deposits to ensure timely payment of regimes and policies), include 3 types: (i) Buying Government bonds, Lending the State budget (ii) Depositing money; purchasing bonds, promissory notes, bills and certificates of deposit at commercial banks with good operating quality according to the credit rating of the State Bank of Vietnam (iii) Investing in important projects under decisions of the Prime Minister.

**Table 1: Social Insurance's portfolio 2014-2021 (Unit: % GDP)**

	2014	2015	2016	2017	2018	2019	2020	2021
Lending to the state budget	2,5%	4,0%	5,0%	6,9%	7,7%	0,0%	0,0%	0,0%
Buy bonds	1,5%	1,3%	1,2%	1,2%	1,1%	9,3%	10,0%	10,9%
Deposit, purchase certificates of deposit	2,5%	1,8%	1,6%	1,1%	1,4%	1,7%	2,2%	2,1%
Investment in key projects	0,1%	0,1%	0,2%	0,2%	0,1%	0,1%	0,0%	0,0%
Sum	6,5%	7,2%	8,0%	9,3%	10,4%	11,1%	12,2%	13%

Source: The author synthesized according to the report of Social Insurance

The investment portfolio of each form has been diversified and in an increasingly professional direction. There has been a change in the investment portfolio in the direction of gradually shifting from lending to the state budget to investing in government bonds; the purchase of bonds from the method of individual negotiation with agreed interest rates has been expanded and gradually shifted to the method of centralized bidding in the primary market. This contributes to improving liquidity for bonds. The term of invested bonds is also diversified in the direction of not only investing in bonds with a term of 10 years but also investing in bonds with a term of 15 years.

**Table 2: Investment structure of bonds by term in the period of 2014 – 2021**

Year	10-year bond (*)	15-year bond
	Proportion	Proportion
2014	100%	0%
2015	100%	0%
2016	100%	0%
2017	100%	0%
2018	100%	0%
2019	100%	0%
2020	75%	25%
2021	46%	54%

(\*) Includes the loan that has been converted into a bond

Source: The author synthesized according to the data of the Ministry of Finance

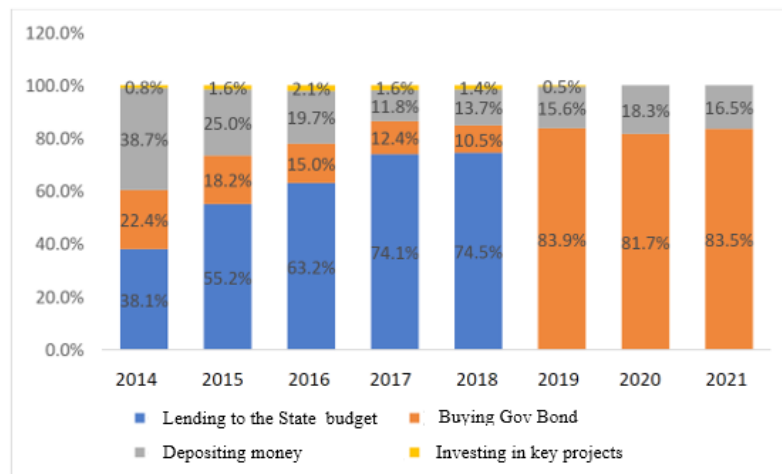
For investment in banks, the investment portfolio is gradually expanded but ensures the selection of banks with good operating quality from “State commercial banks holding more than 50% of charter capital” to “commercial banks with good operating quality according to the credit rating of the State Bank”.

**- About the investment structure:**

The investment structure shifted towards focusing on the principle of ensuring safety and improving liquidity for investments, specifically: the investment structure in the form of investment has reduced lending to the state budget by direct method to increase the proportion of loans by the method of buying bonds; reducing the proportion of loans to commercial banks of the State and increase the proportion of deposits, purchase promissory notes, bills and certificates of deposit at commercial banks. For the form of bond investment, the investment structure also reduces the proportion of privately issued bonds to increase bidding bonds in the primary market.

After converting the loan into Government bonds in 2016, investment in Government bonds accounted for about 84% of the investment volume of social insurance. The form of depositing money and lending to commercial banks also tends to decrease sharply when the proportion allocated to this form decreases quite a lot over the years, in 2014 the fund allocated nearly 40% for this form but by 2021 only about 16% in the investment structure. Investment activities for key projects (mainly in this period are investments in Lai Chau hydropower project) have been almost stable over the years when accounting for only 1 to 2% of the fund's investment structure, but in 2017, the social insurance fund has recovered investments in Lai Chau hydropower.

**Figure 2. Investment structure of the social insurance fund**



Source: The author synthesized according to the report of Social Insurance

### - *About investment efficiency*

Profit from investment activities in 2020 reached VND 48,029 billion, in 2021 it reached about VND 46,850 trillion. However, in addition to the annual return, the effectiveness of invested capital sources should be evaluated on the basis of an analysis of the following factors:

- Investment interest rate of the social insurance fund compared to the rate of inflation and economic growth

The comparison of the rate of interest earned on the average investment balance from the social insurance fund with the inflation rate for the year shows whether the fund's investment activities are really effective and whether they keep up with inflation momentum, ensuring real profitability according to GDP growth.

**Table 3: The rate of interest earned on the average investment balance of social insurance and the inflation rate**

Year	The ratio of profit earned to the total invested capital (%)	Inflation (%)	Spreads (actual interest rate)	GDP growth	Real Is difference with GDP
2014	7,6	4,1	3,5	5,98	-2,48
2015	8,0	0,63	7,3	6,68	0,62
2016	7,2	4,74	2,5	6,21	-3,71
2017	7,3	3,53	3,7	6,81	-3,11

2018	6,2	3,55	2,6	7,08	-4,48
2019	5,8	2,79	3,01	7,02	-4,01
2020	5,02	2,31	2,71	2,91	-0,2
2021	4,39	1,84	2,55	2,58	-0,03

*Source: The author synthesized according to the report of Social Insurance*

The table above shows that although the amount of interest earned and the average investment balance over the years both increased in absolute terms, the rate of return on average balance and real interest rate tended to decrease. If compared to GDP growth, the real investment interest rate of social insurance is lower than economic growth. The rate of return gradually decreases over the years because bonds with high nominal interest rates are invested in the period of 2011 – 2013 to mature or up to the time of interest rate adjustment (some bonds invested by social insurance have terms to adjust interest rates after 5 years). Accordingly, the investment interest rate on social insurance bonds has decreased from about 10% - 11.5% in the period of 2011 - 2013 to about 5% in 2018 and to about 4% in 2021; Meanwhile, the interest rate on term deposits remained at around 5% - 6%.

- Liquidity of the investment portfolio: Most of the assets invested by social insurance are highly liquid, especially after transferring all loans to the state budget in the form of Government bonds. However, in order to be traded on the market, these convertible bonds need to be registered and deposited at the Vietnam Securities Depository.

- The investment process: According to the provisions of Decree No. 30/2016/ND-CP, VSS annually develops investment plans and submits them to the Vietnam Social Security Management Council for approval. The General Director of Vietnam Social Security shall decide on specific investment levels in each type of bond and commercial banks operating well according to the list sent by the State Bank of Vietnam, ensuring compliance with the investment plan decided by the Management Council.

- Organization and investment apparatus: Up to now, Vietnam Social Security has established the Department of Fund Investment Management to carry out investment activities to grow the social insurance fund with a departmental structure, including the department to perform investment tasks. These activities are carried out according to the process approved by the General Director of Vietnam Social Security.

- Supervision of investment activities: The supervision of investment activities is carried out through many forms of cross-supervision within the scope of the Department of Fund Investment, internal supervision of VSS, supervision by the Management Council and supervision of state management agencies through annual or irregular reports as required.

#### **4. SOME SHORTCOMINGS AND LIMITATIONS IN INVESTMENT ACTIVITIES OF SOCIAL INSURANCE**

- Fund investment activities are not closely tied to short- and long-term cash flow forecasts. The Social Insurance Fund consists of three component funds: Pension and Survivorship fund; Sickness and Maternity fund; Labor accident and Occupational disease fund. Basically, only Pension and Survivorship fund is long-term fund, the remaining funds and unemployment insurance fund, and the health insurance fund are short-term funds, which must ensure a balance between revenue and expenditure during the year (and in short term if any). However,



at present, the cash flows of the funds are concentrated in one account, the fund investment of the VSS is done centrally, not according to each component fund, not yet associated with the responsibility to pay the regime of each social insurance, health insurance, unemployment insurance fund as well as the component funds of the social insurance fund (Investment results are allocated to each fund separately).

- Fund investment activities have not given active rights to investment officers. There are no specific regulations on decentralization in making investment decisions, buying and selling decisions must be submitted to the General Director of VSS.

- VSS is not ready for investment in complex forms of investment. Currently, investment activities are not equipped with infrastructure for accessing and trading in markets such as the stock market, domestic and international real estate market. Investment staff of VSS do not have many opportunities to access information to be able to invest in more complex forms than current investment forms.

- Forms of fund investment have not been diversified and abundant, only certain investment forms are regulated. Currently, there are only 04 investment forms: lending to the state budget, buying government bonds, depositing money, buying bonds, certificates of deposit at commercial banks with healthy and stable operations (6 banks) and money at payment accounts. For key projects: the only investment in one project is Lai Chau Hydropower Project, invested by Vietnam Electricity Group.

- The Law on Social Insurance stipulates bonds, deposits, purchasing of bonds, promissory notes and certificates of deposit at commercial banks with good operation quality according to the credit rating of the State Bank of Vietnam. However, up to now, the State Bank of Vietnam has not publicly announced the credit rating for commercial banks with good operating quality, only providing VSS with a list of commercial banks with healthy and stable operations when VSS has requested. This affects the progress and quality of investment. Currently, there are no regulations on credit assessment for debt instruments of commercial banks and enterprises, so there are no grounds and reference bases for VSS to decide to invest in debt instruments of these organizations.

- For risk assessment and control, because there is no specialized department, there are errors and losses for some investments of social insurance.

- The risk contingency fund of social insurance can only be used to deal with the case to write off the principal debt and must be reported to the Prime Minister for approval. Meanwhile, when expanding the investment portfolio, risk handling needs a more flexible mechanism, suitable to the nature of each type of asset being invested.

- Organizational apparatus, capacity of staff to implement and supervise private activities need to be improved. The organization of the apparatus for carrying out investment activities has not yet ensured independence and professionalism.

- The investment mechanism and method of the social insurance fund has not preserved the value of the fund (in the period 2001-2011, the average investment interest rate was 6%, lower than the inflation index of 10%). Basically, only the retirement and survivorship fund is a long-term special fund. The remaining funds are mainly of short-term nature, ensuring the balance of income and expenditure during the year and provision in the short term. However,



at present, the investment in social insurance fund is done centrally, not according to each component fund, not attached to the responsibility to pay the regime of each fund.

- Investment activities of social insurance mainly focus on government bonds, but the plan to issue government bonds in the year is often adjusted, the issuance volume is not uniform between months and years, affecting the investment plan of social insurance.

## 5. RECOMMENDATIONS

In order to improve the efficiency of investment activities, contribute to enhancing the sustainability of the social insurance fund, promote the welfare and social role of the fund, it is necessary to implement some of the following solutions:

- Improving the capacity of the Vietnam Social Security (VSS) in the Government bond market, considering the potential investment program in bonds and priority projects of the Government will help maximize investment returns for social insurance participants for both investment activities for long-term holding or short-term transactions, and must be based on actual payment obligation management. In addition, it is necessary to review the operating costs of VSS. In the short term – prior to legal changes to improve the sustainability of the pension system – the social insurance fund may not be advised to invest in long-term bonds (20 years or 30 years), because many of its payment obligations have an average maturity of less than 20 years. The social insurance fund may have to sell longer-maturity bonds at a loss to obtain short-term liquidity to pay for its obligations. However, VSS needs to have the skills to match assets and debt obligations accordingly whether the average maturity of debt is 5, 15 or 50 years. This professional skill will help VSS prepare and implement short-term investment plans. After the policy reform, this will help VSS towards the goal of balancing the maturity of assets and capital sources.

- Improving the legal flexibility in investment of the social insurance fund, update the investment and governance strategy of the fund along with changes in legislation as part of the overall pension reform program. It should give the VSS the flexibility to invest in more asset classes in Vietnam – allowing investment in high-quality corporate bonds and stocks (which can be passive investments through an index of many good quality companies, rather than investing in individual companies). In addition, VSS should be allowed to invest in overseas assets to ensure that the rate of return of assets can best meet payment needs. This needs to be done in phases so that VSS has the opportunity to build the necessary capacity in this new area.

- Implementation of VSS's new investment strategy, which focuses more on long-term assets to match longer-term obligations, is ensured by reform policies and the use of international assets to improve portfolio efficiency on the basis of risk-return on investment. Once legislation is passed to protect the assets of the SBV, it will be able to invest in longer-term bonds. This can be done in the context of greater freedom to invest in order to increase profits and benefit through diversification – coupled with reforms to improve internal capacity and the use of external fund managers with good expertise to ensure that VSS's assets are managed by effective managers most. It is necessary to consider the international assets that VBSP can invest in to achieve high yields. For example, Malaysia's EPF began the gradual process of investing in overseas assets in the mid-2000s. The proportion of overseas assets gradually increased and reached 25% of total assets in 2018. Over the past two years, 25% of these as-

sets have yielded between 33% and 40% of the total return of the portfolio – helping to better secure retirement schemes for people.

- Improving the capacity of management, administration and capacity of staffs who directly implement social insurance fund investment. It is also necessary to consider specific salary and bonus mechanisms to attract qualified human resources from the private sector to work in the Fund’s investment department.

## CONCLUSION

Promoting investment activities of Vietnam Social Insurance is a key task to develop the long-term investor base in the capital market. However, investment activities of VSS in general have not achieved high efficiency. The reason is partly due to the not open policy mechanism, partly due to the internal causes of VSS. Improving the investment efficiency of social insurance is one of the important measures to ensure a sustainable fund balance, towards the long-term financial safety goal of one of the biggest independent non-budget financial funds.

In which, specific solutions such as strengthening the assessment and financial forecasting, investment efficiency of social insurance funds; diversify the portfolio and investment structure of the Social Insurance Fund according to the principles of safety, sustainability and efficiency; Prioritize investing in government bonds, especially long-term government bonds; Research and gradually expand into areas with high profitability, gradually and have a roadmap to invest part of the Fund’s idle money through investment trusts in domestic and international markets to ensure safety and sustainability.

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# IMPACTS OF CAPITAL ADEQUACY RATIO TO CREDIT ACTIVITIES OF COMMERCIAL BANKS IN VIETNAM

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**Abstract:** *In this paper, the author studies the impact of capital adequacy ratio on credit performance of Vietnamese commercial banks for both growth and credit risk aspects. Evaluate in detail and compare the difference of this relationship between commercial banks with different characteristics. Proposing a number of recommendations to help bank administrators and regulators be more proactive when assessing the impact of capital adequacy ratio on the individual characteristics of each bank.*

**Keywords:** *capital adequacy ratio, credit activity, impact of capital adequacy ratio on credit activities.*

## 1. INTRODUCTION

### 1.1. Reasons for choosing research topic:

In Vietnam, in order to ensure the safety of the commercial banking system, the State Bank has actively developed a roadmap for the implementation and application of stricter risk management regulations in accordance with Basel II standards. Accordingly, on December 30, 2016, the State Bank of Vietnam issued Circular 41/2016/TT-NHNN requiring commercial banks to officially apply the minimum capital adequacy ratio according to Basel II standards from January 1, 2016. 2023. The implementation of Basel II is the basic and inevitable solution to create the foundation for the safe and healthy development of the Vietnamese banking system. This is important to ensure national financial safety, minimize the risk of bankruptcy of commercial banks and the possibility of being negatively affected by global and domestic economic fluctuations on the operation of commercial banks. while improving the competitiveness of commercial banks in the current trend of international economic integration. Before the legal changes in the regulations on capital adequacy ratio since before and after the issuance of Circular 41, the capital adequacy level implemented at commercial banks also changed, thereby having different impacts. credit activities of banks in both aspects: credit growth and credit risk.

### 1.2. Overview of related research works:

For credit growth, changes in the capital adequacy ratio in commercial banks can have opposite effects on the ability of commercial banks to extend credit. Firstly, strict capital adequacy assurance requirements help increase the stability of the banking system, thereby increasing market participants' confidence in the operational safety of commercial banks (Noss et al. Toffano, 2016). This helps to reduce the capital cost of commercial banks by reducing the risk premium and thereby increasing the economy's ability to meet

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credit needs. Second, raising capital requirements will cause commercial banks to face additional capital costs when granting credit because the minimum capital requirement increases with the increase of risky assets, thereby reducing ability to provide credit to the economy (Van den Heuvel, 2008). Bernanke and Lown (1991) pointed out that equity capital is a much more expensive source of capital than mobilized capital, therefore, commercial banks will tend to hold less risky assets such as commercial banks. credits. Therefore, the higher capital adequacy ratio makes commercial banks reduce the credit capital for the economy.

For credit risk, changes in the capital adequacy ratio can have different impacts on credit risk as well as the level of risk acceptance in credit activities of commercial banks. Some studies show a positive relationship between capital of commercial banks and credit risk such as Le and Pham (2021). This is explained by the increased capital adequacy ratio allowing commercial banks to be more willing to accept risks in credit activities to seek profits. In contrast, Shrieves and Dahn (1992) show that, when the capital adequacy ratio of commercial banks increases, bank managers and owners are also motivated to reduce risks in the banking business. banks to “take advantage” of the improvement in market confidence in the Bank’s business, instead of expanding risk. Since then, the capital adequacy ratio of commercial banks has a negative relationship with the risk in credit activities.

Thus, it can be seen that the relationship between capital adequacy ratio to credit activities plays an important role in assessing the necessity of capital adequacy management in the operation of commercial banks.

## **2. RESEARCH CONTENT:**

### **2.1. Theoretical basis:**

The capital adequacy ratio reflects the ratio between the amount of equity that banks hold to the total value of assets adjusted for credit risk and the amount of capital needed by the bank to cope with different types of risks. risk other than credit risk. Banks must ensure that this capital adequacy ratio reaches the minimum level prescribed by the regulatory authorities in order to have enough capital to deal with potential material risks in business operations.

Thus, the role of the capital adequacy ratio is expressed through the following aspects: (1) for commercial banks themselves, the role of the capital adequacy ratio is to ensure that the bank operates safely and thereby affects to profitability. (i) the capital adequacy ratio is used as a tool for the bank itself and its stakeholders to assess the bank’s level of risk. (ii) capital adequacy ratio is a safety indicator in the bank’s operations, and changes in this ratio will affect the profitability of commercial banks. (2) for the banking regulatory agencies, the minimum capital adequacy ratio is one of the useful tools for the central bank, inspection and supervision agencies, etc. to carry out the supervision of the management. capital management

According to Basel I, the capital adequacy ratio is calculated according to the following formula: 
$$CAR = \frac{C}{RWA+12,5 KMR} * 100\%$$

Where: C: Bank’s equity capital, RWA: Credit risk-adjusted asset level, : Capital requirement for market risk

With the Basel II capital treaty, three main pillars of banking governance include: (i) minimum capital adequacy regulations; (ii) monitor the internal review process and capital adequacy of financial institutions and (iii) promote transparency and market discipline. In which, the measurement of capital adequacy ratio according to pillar 1 is based on three key types of risks that banks face, namely credit risk, market risk and operational risk according to the formula calculated as follows:  $CAR = \frac{C}{RWA + 12,5 (K_{OR} + K_{MR})} * 100\%$

Where: C: Equity, RWA: Level of risk-adjusted assets, **KOR**: Required capital for operating risk, **KMR**: Required capital for market risk.

The Basel III Treaty, issued in 2010, introduced regulations on capital adequacy ratio, which had a significant change compared to Basel II with the aim of improving the minimum capital adequacy ratio and at the same time improving the quality of capital adequacy ratio. capital. Specifically, about the formula for calculating capital adequacy ratio, the regulations in Basel III remain the same as Basel II, but there is a change in the calculation method of both the numerator and the denominator in the formula.

With the numerator being equity capital, the minimum tier 1 capital ratio that needs to be maintained in the calculated equity is 75%, which is 50% higher than the previous regulations in Basel I and Basel II. In addition, Basel III introduced stricter regulations on the quality of equity such as: an increase in the proportion of tier 1 capital in total equity capital, improved regulations on the composition of tier 1 capital with at least 75% are common equity and retained earnings. In addition, Basel III recommends that banks form a countercyclical buffer from retained earnings. This level of capital buffer will increase when the economy is forecasted to enter a recession/crisis phase and decrease when the economy grows again.

For the denominator in the formula for calculating capital adequacy ratio, Basel III offers the following changes compared to Basel II: (i) additional risk of CVA (adjusted credit value due to credit rating deterioration) of customer); (ii) raise capital requirements for losses arising from activities that create risks for the bank such as: financial derivatives, repo trading and other transactions on financial markets, securities (market risk); (iii) additional capital buffer requirement for cyclical risks. Moreover, Basel III also guides the development of standard methods of identification and measurement for credit risk, market risk and operational risk because according to Basel III, the use of unofficial computational models is used. Accuracy and laxity lead to large differences in the calculation of the amount of capital required for the bank.

The Law on Credit Institutions No. 47/2012/QH12 defines “Credit is an agreement for an organization or individual to use a sum of money or a commitment to allow the use of a sum of money on the principle of repayment in cash. lending, discounting, financial leasing, factoring, bank guarantee and other credit extension operations”

Thus, in essence, credit granting activities in general and banking credit in particular are developed on the premise of providing financial support to customers for a certain period of time in order to help customers satisfy their demand for financial services. assets before accumulating sufficient capital.

Measured through the ratio of equity to total risky assets, the capital adequacy ratio is used as a measure of the risk of a bank in paying its financial obligations as they come due. .



Therefore, in order to ensure stability in the banking sector in particular and the economy in general, depending on regulations, each country will set a certain capital adequacy ratio that banks must follow. In that trend, the relationship between capital adequacy ratio and credit activities of commercial banks is also considered and evaluated.

For credit growth, changes in the capital adequacy ratio in commercial banks can have opposite effects on the ability of commercial banks to extend credit.

Firstly, strict capital adequacy requirements help increase the stability of the banking system, thereby increasing market participants' confidence in the safety of commercial banks.

Second, raising capital requirements will cause commercial banks to face additional capital costs when granting credit because the minimum capital requirement increases with the increase of risky assets, thereby reducing the ability to provide credit to the economy

## 2.2. Situation in Vietnam

**Table 1 Legal regulations on capital adequacy ratio in Vietnam**

Text number	Issue time	Effective time	Minimum capital adequacy ratio
Decision 297/1999/QĐ - NHNN5	25/08/1999	09/09/1999	8%
Decision 457/2005/QĐ- NHNN	19/04/2005	06/05/2005	8%
Circulars 13/2010/TT- NHNN	20/5/2010	01/10/2010	9%
Circulars 36/2014/TT- NHNN	20/11/2014	01/02/2015	9%
Circulars 41/2016/TT- NHNN	30/12/2016	01/06/2016	8%
Circulars 22/2019/TT- NHNN	15/11/2019	01/01/2020	9%

*Source: SBV*

In Vietnam, the regulation on CAR coefficient was first introduced in Decision No. 297/1999/QĐ - NHNN. Currently, according to Circular 41/2016/TT-NHNN dated December 30, 2016 stipulating the capital adequacy ratio for banks and foreign bank branches according to the standard method of Basel II, effective from January 1, January 2020. In Circular 41/2016/TT-NHNN, the regulation on the minimum capital adequacy ratio has been adjusted from 9% to 8% like that of Basel II. The highlights of Circular 41/2016/TT-NHNN include: (i) compliance with Basel II's proposed method to calculate capital for market risk and operational risk; (ii) introduce stricter regulations on asset classification according to credit risk. In general, Circular 41/2016/TTNHNN has inherited the core spirit of Basel II on how to calculate the minimum capital adequacy ratio, which is considered as the orientation of the State Bank of Vietnam for banks in the banking system. in compliance with international standards. However, the calculation of the CAR coefficient according to this circular still faces some difficulties in terms of databases, calculation methods, personnel qualifications and financial capacity. These are also factors that commercial banks need to improve in order to improve the accuracy of CAR calculation when applying this circular and to build appropriate capital scale in practice.

In addition to Circular 41/2016/TT-NHNN for the group of credit institutions that have complied with Basel II standards, in 2019 the SBV issued Circular 22/2019/TTNHNN replacing Circular 36/2014/TT- The SBV aims to introduce regulations on capital adequacy ratio to be



applied to banks that have not been able to apply Circular 41/2016/TT-NHNN due to limited capacity and other resources.

**Table 2: CAR coefficient of Vietnam commercial banking system 2005 - 2022**

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
CAR coefficient	10.50	10.50	12.50	13.70	11.90	10.40	11.9	12.90	12.10
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
CAR coefficient	10.60	10.10	9.40	8.80	9.20	12.21	11.65	11.30	12.01

*Source: SBV*

In the period 2005 - 2014, two legal documents regulating capital adequacy ratio took effect: Decision 457/2005/QD-NHNN, Circular 13/2010/TT-NHNN. Accordingly, the minimum capital adequacy ratio prescribed for commercial banks in these two legal documents is 8% and 9% respectively. Thus, during this period, the vast majority of commercial banks in the system complied with the minimum capital adequacy ratio requirements.

In the period 2015 - 2022, two legal documents take effect, namely Circular 36/2014/TT-NHNN and Circular 41/2016/TT-NHNN to regulate capital adequacy ratio in the direction of capital adequacy. modern banking governance standards such as Basel II. From 2015 - 2018, the CAR level of all commercial banks in the system tended to decrease, especially the sharp decrease at commercial banks. In the period of 2018 - 2022, the CAR ratio in the system of commercial banks tends to increase quite strongly compared to the previous period. Especially in this period, commercial banks that have not yet met the CAR calculation according to Circular 41/2016/TT-NHNN are allowed by the State Bank to apply Circular 22/2019/TT-NHNN with relaxed regulations. looser requirements for calculating the minimum capital adequacy ratio. In addition, with the projects and policies of the Government and the State Bank of Vietnam such as Decision No. 689/QD-TTg dated June 8, 2022, Decision 1382/QDNHNN... to improve the efficiency and quality of operations and implementation. implement solutions to increase the charter capital of the banking system to improve and enhance financial capacity, gradually applying modern banking governance standards according to Basel II.

Credit growth of Vietnamese commercial banks in 2005 - 2022 is divided into two distinct periods 2005 - 2015 and 2016 - 2022; in which, in the period 2005 - 2015, the credit growth rate continuously fluctuated due to strong impacts of world economic developments and environmental changes. In contrast, in the period of 2015 - 2022, favorable economic conditions have created favorable conditions for banks' credit growth to remain positive and quite stable over the years.

Besides the growth in value, the quality of loans in the banking system in general and bad debt in particular has always received much attention from regulators and researchers. In which, bad debt is defined as loans that are overdue for more than 90 days and have not yet received principal and interest. This is considered one of the potential and serious risks of commercial banks when it leads to a decline in profits in particular and the performance of banks in general in the long term.

**Table 3: NPL ratio of Vietnam's commercial banking system 2005 - 2022**

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bad debt ratio	3.20	2.46	2.00	3.50	2.20	2.50	3.20	4.86	3.79
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bad debt ratio	3.70	2.55	2.46	2.39	1.91	1.63	1.69	1.49	1.92

Source: SBV

The above data shows that the bad debt ratio of Vietnamese commercial banks in the period 2005 - 2022 mostly remained in the range of 0% - 4%; in which the period 2015 and earlier saw many fluctuations in the bad debt ratio; in contrast, the period 2015 - 2022 was quite stable and continuously decreased and maintained at less than 2%.

To evaluate the impact of the minimum capital adequacy ratio on the credit activities of Vietnamese commercial banks, we use the following model:

$$\text{LoanGrowth}_{it} = \beta_1 \text{LoanGrowth}_{i,t-1} + \beta_2 \text{CaRi}_{i,t-1} + \beta' X_{i,t-1} + \mu_t + \varepsilon_{i,t} \quad (1)$$

$$\text{LoanRisk}_{it} = \beta_1 \text{LoanRisk}_{i,t-1} + \beta_2 \text{CaRi}_{i,t-1} + \beta' X_{i,t-1} + \mu_t + \varepsilon_{i,t} \quad (2)$$

Where,  $i$  is the bank index, and  $t$  is the time index.

Evaluate the operation of commercial banks through two variables. Firstly, it shows the growth rate of credit activities of commercial banks,  $\text{LoanGrowth}_{it}$ , which is calculated by the growth rate of credit outstanding loans of commercial banks this year compared to the previous year. Second, the level of risk in the credit activities of commercial banks,  $\text{LoanRisk}_{it}$ , is calculated by the ratio of the bank's risk provisioning to total outstanding loans.  $\text{CaRi}_{it}$  is the main explanatory variable of the topic, which is the minimum capital adequacy ratio of commercial banks.

Besides, the vector of characteristic variables of each bank is also used by the research team in the model to control the impact of other characteristics of commercial banks on the credit performance of commercial banks. Specifically,  $X_{i,t}$ ,  $\mu_t$  is a time-fixed variable to control for the effects of the economy on credit activities in general of commercial banks that have not been shown through separate explanatory variables of each commercial bank. Finally,  $\varepsilon_{i,t}$  is the residual of the regression model.

Therefore, besides the basic model shown in equations (1) and (2), we expand the basic model to assess the impact of CAR coefficient on credit activities of commercial banks according to different groups. Specifically, the research team evaluates this relationship based on the difference in size, ownership and business model of commercial banks. To evaluate these hypotheses, we extend the baseline model as follows:

$$\text{LoanLending}_{it} = \beta_1 \text{LoanGrowth}_{i,t-1} + \beta_2 \text{CaRi}_{i,t-1} + \beta_3 \text{CaRi}_{i,t-1} \times \text{Size}_{i,t-1} + \beta' X_{i,t-1} + \mu_t + \varepsilon_{i,t} \quad (3)$$

$$\text{LoanLending}_{it} = \beta_1 \text{LoanGrowth}_{i,t-1} + \beta_2 \text{CaRi}_{i,t-1} + \beta_3 \text{CaRi}_{i,t-1} \times \text{State}_{i,t-1} + \beta' X_{i,t-1} + \mu_t + \varepsilon_{i,t} \quad (4)$$

$$\text{LoanLending}_{it} = \beta_1 \text{LoanGrowth}_{i,t-1} + \beta_2 \text{CaRi}_{i,t-1} + \beta_3 \text{CaRi}_{i,t-1} \times \text{NonInt}_{i,t-1} + \beta' X_{i,t-1} + \mu_t + \varepsilon_{i,t} \quad (5)$$

In which, *LoanLendingit* is the variable representing credit activities of commercial banks, is credit growth *LoanGrowthit* or risk in credit activities *LoanRiskit*. *Size* is the total asset variable of commercial banks. *State* is a dummy variable, taking the value 1 if commercial banks are state-owned and *NonInt* is the variable representing the business model of commercial banks, calculated by the ratio of non-interest income to total income of commercial banks. The difference in the impact of the minimum capital adequacy ratio on the credit activities of commercial banks is shown through the estimation results of the coefficient  $\beta_3$  in models (3), (4) and (5).

Firstly, assess the credit activities of commercial banks through the annual credit growth rate (LoanGr) and the level of risk in credit activities expressed through the ratio of provision for risks to total outstanding loans. (LLP) of commercial banks.

Secondly, the variable CAR is the capital adequacy ratio implemented at commercial banks in compliance with the calculation method in legal regulations from time to time. Because the data source for calculating the CAR ratio at S&P CapitalIQ is incomplete, the authors make additional work from the published annual reports of commercial banks.

Thirdly, to control for the possibility that credit activities of commercial banks are affected by other factors besides the change of capital adequacy ratio, the research team uses some more variations. characteristic of commercial banks.

The mean, median, standard deviation, minimum and maximum values of the variables used in the model are described, respectively. The average credit growth rate of Vietnamese commercial banks was high during the study period, with an average of 22.6% and a median of 17.2%. However, the level of credit growth also differs significantly between commercial banks and over the years with a standard deviation of 28.6%. The ratio of provision for risks to total credit balance of Vietnamese commercial banks is average at 0.206 and median at 0.163. Similarly, the level of credit risk is also quite different between commercial banks and over the years with a standard deviation of 0.171. The average CAR of commercial banks is 12.379%, higher than the minimum requirement of the State Bank of Vietnam (8%). The standard deviation of the CAR coefficient is also relatively high, 4.371%. In which, the lowest value was recorded at BIDV at 3.36% in 2005. Besides, the average value of the ratio of income to equity, the ratio of liquid assets to total assets of Vietnamese commercial banks and the ratio of income from services to total income are 12.8%, 19.2% and 3.3%, respectively. In addition, the average leverage ratio stands at 14.22x.

Regression results show that capital adequacy ratio has a positive impact on credit growth and negatively affects credit risk of commercial banks. Specifically, an increase of 1% of the capital adequacy ratio corresponds to a credit growth rate of 1.7% in the next period. In contrast, 1% increase in capital adequacy ratio corresponds to 7.7% decrease in provisioning rate in the next period. This shows that the increase in capital adequacy ratio helps commercial banks improve credit activities, helps commercial banks expand credit activities and minimize risks in credit activities in the following year.

From the results in the baseline model, the increase in capital adequacy ratio helps commercial banks improve credit growth. This result is consistent with previous studies.

Accordingly, the improvement in capital adequacy ratio helps commercial banks reduce the risk of bankruptcy, thereby allowing commercial banks to expand their lending scale to seek profits. In contrast, the decline of the capital adequacy ratio forced commercial banks to tighten credit standards to minimize the risk of bankruptcy and avoid the negative impact of economic fluctuations. This was clearly shown in the global financial crisis when the lack of capital of commercial banks led to the depletion of credit in the economy and indirectly caused the economy to face many difficulties from the crisis. bank. This is suitable for Vietnamese commercial banks because their business activities are mainly based on credit activities. Therefore, the improvement of capital adequacy ratio allows commercial banks to expand credit activities more due to the improvement in risk premium and reduction in the cost of capital in business activities.

From the results in the extended model, the following facts are given:

Firstly, the expanded model once again confirms that the increase in capital adequacy ratio helps commercial banks improve credit activities, the relationship is positive with credit growth and inversely with risks in credit activities. use of NHM.

Secondly, the impact of capital adequacy ratio on credit activities of banks of different sizes is not uniform. In particular, the increase in capital adequacy ratio is more significant for small commercial banks when the combined variable of capital adequacy ratio and size are opposite in sign compared to the variable capital adequacy ratio. This is because compared with large-scale commercial banks, the increase in capital adequacy ratio helps small-scale commercial banks to improve credit growth and at the same time reduce credit risk more. More specifically, the increase in capital adequacy ratio helps commercial banks become safer for creditors (depositors, bond buyers, other commercial banks); Thereby, creating a basis for banks to reduce the risk premium in interest rates when borrowing. The cost thus becomes cheaper, and facilitates the expansion of credit activities for banks. More importantly, compared to large-scale commercial banks, small-scale commercial banks have higher capital costs, so the effect of capital cost improvement is even stronger. In addition, comparing the total outstanding loans of large and small commercial banks, it can be seen that the total outstanding loans of large-scale banks are relatively higher than that of small-scale banks; therefore, the improvement in credit growth rate will be more obvious in small-scale commercial banks. In addition, small commercial banks with a higher level of credit risk than large commercial banks also witnessed a clearer improvement in the risk management system under the impact of the prudential ratio. capital. Finally, in the event that the capital adequacy ratio increases, small-scale commercial banks have less incentive than large-scale commercial banks to expand their business activities because small-scale commercial banks are more limited in finding capital sources to increase the minimum capital adequacy ratio, as well as heavily dependent on traditional credit activities.

Thirdly, the study discovers that the impact of capital adequacy ratio on improving credit performance of commercial banks is greater than in non-state owned commercial banks or commercial banks with modern operating model and high ratio. high fee income from the provision of financial services. However, only the impact of increasing the minimum capital

adequacy ratio in non-state owned commercial banks is statistically significant. This can be explained similarly to the case of the size factor because the commercial banks with the largest scale in the banking market are also state-owned commercial banks. For commercial banks that are small, non-state owned, which have a higher level of risk, the required risk premium is larger from creditors, when the minimum capital adequacy ratio improves, it will make they have little incentive to raise the level of risk in their business because of the limited ability to improve the minimum capital adequacy ratio. Finally, the failure to find a difference in the relationship of capital adequacy ratio and credit activity between commercial banks with traditional and modern business models in Vietnam can be explained by most commercial banks. Currently, in Vietnam, they are mainly dependent on revenue from credit activities and there is no clear difference between commercial banks.

### **2.3. Solution Recommended for Vietnamese commercial banks**

Based on the regression results, it shows that increasing CAR has a positive impact on increasing credit growth and reducing credit risk for Vietnamese commercial banks in the period 2005 - 2022, the general orientation for commercial banks in implementing the capital adequacy ratio is towards increasing the capital adequacy ratio CAR through two groups of measures: increasing equity capital and reducing the value of risky assets.

(i) Increase equity capital to improve capital adequacy ratio: To improve capital adequacy ratio, the most sustainable way that commercial banks should implement is to increase equity capital, including Tier 1 capital and capital. level 2 to improve the numerator of the capital adequacy ratio. In addition to meeting the minimum capital adequacy ratio, the improvement of equity capital also helps commercial banks increase the risk prevention buffer, thereby increasing risk tolerance in business activities.

(ii) Restructuring risky asset portfolio to improve capital adequacy ratio: Vietnamese commercial banks can improve capital adequacy ratio through reviewing and restructuring the portfolio of on-balance sheet assets. and off-balance sheet in the direction of minimizing the value of assets at risk. To do this, commercial banks need to re-evaluate and adjust their capital management strategies, asset portfolios, product portfolios and current operating models.

(iii) Consider appropriate mergers and acquisitions: the role of capital adequacy ratio on credit activities is greater for small commercial banks. However, for commercial banks to increase their own capital actively through the issuance of shares or bonds is not simple because of the limited prestige. Therefore, small commercial banks can actively research options for mergers and acquisitions with commercial banks with better size and financial capacity. This will help commercial banks improve their management capacity, business capacity, market share as well as diversify product portfolio and improve financial capacity.

### **3. CONCLUSION:**

Based on actual data collected from Vietnamese commercial banks in the period 2005 - 2022, we find that an increase in CAR has a positive impact on credit growth and reduces credit risks for Vietnamese commercial banks. On that basis, the author makes some recommendations for commercial banks and bank managers in business administration and operation..

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# DIGITAL TRANSFORMATION IN ACCOUNTING AT ENTERPRISES IN THAI NGUYEN PROVINCE

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*Abstract: Digital transformation is an inevitable trend that businesses must implement to keep up with the development of the times. In fact, many businesses are still hesitating, maintaining the traditional way of doing things because they think digital transformation is expensive or do not know where to start digital transformation. Through the results of collecting data at enterprises in Thai Nguyen province, the article presents the current situation of digital transformation in the field of accounting in businesses in Thai Nguyen province. It is demonstrated through specific actions such as digitizing accounting documents, applying remote working methods, using digital transformation software exclusively for accounting... Base on the research results, the authors have given some discussion and recommendations to promote digital transformation in the field of corporate accounting in the coming time.*

*Keywords: Digital transformation, digitalization, Thai Nguyen Province enterprises*

## I. INTRODUCTION

In recent times, we often hear the concept of “digital transformation” mentioned a lot in the mass media. There are many different definitions of digital transformation. Digital transformation is the integration of digital technologies into all areas of an enterprise, leveraging technologies to fundamentally change the way it operates, business models and provide new values to its customers as well as accelerate business operations [5]. Digital transformation is also a change in the culture of businesses, requiring businesses to constantly change, try new things.

In Vietnam, the concept of “Digital transformation” is often understood in the sense of the process of changing from traditional business models to digital enterprises by applying new technologies such as Big Data, Internet of Things (IoT), cloud computing (Cloud) ... to change operating methods, leadership, working processes, company culture [1]. The National Digital Transformation Program defines dual goals as “both developing the digital government, digital economy and digital society, and forming Vietnamese digital technology enterprises capable of going global” [4]. To achieve this goal, sectors and fields, including accounting, need to promote digital transformation, contributing to quickly turning Vietnam into a digital, stable and prosperous country. In the field of accounting, digital transformation is one of the important goals set in the Accounting and Auditing Strategy to 2030 issued together with Decision No. 633/QĐ-TTg dated 23/5/2022 of the Prime Minister [3]. Digital transformation in the field of accounting - auditing can be understood as the application of digital technologies to accounting operations, helping accounting operations to be deployed more quickly and effectively while still optimizing saving human resources, time and costs for businesses. These

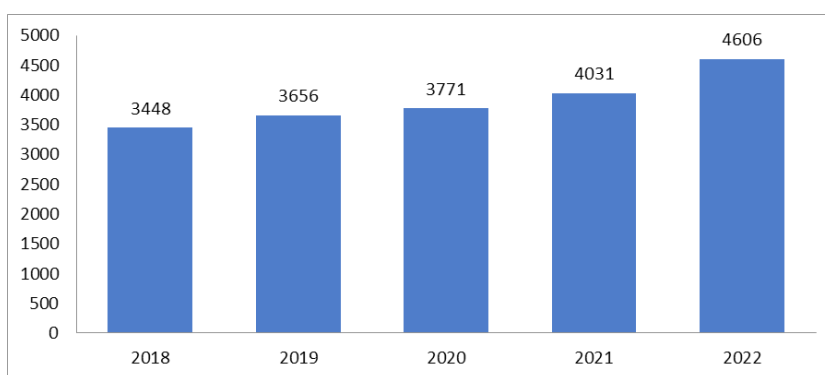
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technologies make the accounting process more real-time, fast, anytime, anywhere and more secure, the accounting organization in the business also becomes more flexible, and the financial statements provide a lot of valuable multi-dimensional information. Properly recognizing the benefits of digital transformation, understanding the challenges posed and having solutions to promote comprehensive digital transformation in the field of accounting in Vietnam in general and businesses in Thai Nguyen province in particular is an urgent requirement.

## II. THE CURRENT SITUATION OF DIGITAL TRANSFORMATION IN THE FIELD OF ACCOUNTING AT ENTERPRISES IN THAI NGUYEN PROVINCE

Thai Nguyen is a province adjacent to Hanoi, located in the planning of the Hanoi Capital Region and identified as one of the regional centers of the Northern mountainous midland provinces, with a natural area of 3,562.82 km<sup>2</sup>. Thai Nguyen province is one of the political and economic centers of the Viet Bac region in particular, and of the Northeast mountainous region in general. It is the gateway for socio-economic exchange between the mountainous midlands and the Northern delta;; Thai Nguyen province has 9 administrative divisions including: 3 cities (Thai Nguyen City; Song Cong City, Pho Yen City) and 6 districts (Phu Binh, Dong Hoi, Vo Nhai, Dinh Hoa, Dai Tu, Phu Luong). There are 178 communes, wards and townships. (Thai Nguyen Province Web Portal, 2022). According to 2022 statistics, Thai Nguyen province has 4,606 operating enterprises. In which, small and medium enterprises are mainly (98.01%). Enterprises are concentrated mainly in Thai Nguyen City, Song Cong City and Pho Yen City. The goal is that by 2025, Thai Nguyen province is in the group of 15 leading provinces in digital transformation.



**Figure 1: Number of enterprises in Thai Nguyen province, 2018-2022.**

*(Source: Thai Nguyen Provincial Statistical Yearbook from 2018 to 2022).*

According to the results of the provincial digital transformation ranking in 2022, announced by the National Committee for Digital Transformation at the Preliminary Conference on the first 6 months of 2023 on national digital transformation and the Government's Project 06, Thai Nguyen is the province for the second consecutive year ranked 8th out of 63 provinces, cities in the country on the digital transformation index (DTI). To achieve these achievements, there has been a significant contribution of enterprises in the province. Thai Nguyen province always pays attention to orienting and supporting businesses to implement digital transformation, especially in the field of accounting. The current digital transformation in the field of accounting is concretized

through the digitization of accounting documents; Apply remote working methods and use a digital transformation software suite dedicated to accounting.

### **Digitize and store documents in the cloud**

The digital transformation process was pioneered by some businesses in Thai Nguyen province a few years ago and is now becoming an inevitable trend of businesses. The usual cumbersome and inefficient working process applied for digital transformation will be streamlined and faster.

In recent years, it has been a booming time of information technology development, all activities of businesses in Thai Nguyen province have been promoted with digital technology. Therefore, the field of accounting is also oriented to develop in the direction of applying 4.0 technology, replacing the traditional way of handling, to ensure maximum human labor and bring the highest economic benefits to businesses. In order to apply digital technologies to daily activities at the accounting department due to the characteristics of the work that often has to handle a large volume of invoices and documents and requires quick search and retrieval of information, the first step is to create a database (electronic) through document digitization solutions, to thereby perform the effective storage, preservation and exploitation of accounting data of enterprises.

For any business, the accounting department always plays a leading role because many important information of the company is stored here. Paper documents such as invoices, vouchers, receipts, payment slips, submissions, records, contracts, financial statements of the accounting department should be carefully stored and preserved in accordance with the provisions of the Accounting Law of Vietnam for at least 10 years. This causes many difficulties, wastes time, costs and human resources of businesses when the digitization of documents and centralized storage on the same platform have not been implemented. Document digitization is a form of converting a document from paper to digital form, into pdf, jpg, tif, bmp files and stored on a computer.

Digitizing documents brings to the accounting department of enterprises in Thai Nguyen province many advantages in the operation process, typically such as: Saving data entry labor; Minimize work pressure for accountants; Save time lookup, extract and share information; Save costs for printing, preserving and storing invoices, vouchers, paper documents;....

#### **Advantages in digitizing accounting documents**

First, create input data quickly for accounting software: To use accounting software, businesses need to provide a large amount of information including forms, documents, invoices, payment contracts. Instead of having to enter information manually, which takes a long time and is prone to errors, digitizing documents helps accounting departments create input data (electronic) quickly, turn paper documents, photos, or ordinary pdf files into two-layer pdfs (searchable), automatically extract information into data fields as required and upload data to the system, Accounting software of the business.

Second, digitizing accounting documents helps to share information conveniently across departments of enterprises. The characteristics of accounting departments in medium and large enterprises are the participation of many different positions, each employee will receive,

hold and manage different data sources on logistics, banking, tax, contracts, procurement ... However, in the process of handling operations of the accounting department in particular, or other departments such as sales department, shopping department, the above information needs to be shared quickly, smoothly and promptly to ensure that the business operates effectively and the transaction takes place successfully. Meanwhile, 90% of today's important documents of enterprises are stored in paper form, making it difficult to share information internally as well as inter-departmentally. Accounting departments need to pioneer the application of document digitization solutions, convert traditional documents into electronic form, allow sharing to the right audience anytime, anywhere, connect information seamlessly

Third, declare information and pay taxes electronically quickly. Previously, when digitization was not implemented, each time information declaration and tax payment was completed, it would cost a lot of costs such as printing, travel, and time to handle administrative procedures; Enterprises proactively and flexibly submit declarations and pay taxes electronically anytime, anywhere, without wasting travel time like traditional manual ways.

Fourth, establish a centralized digital repository and ensure the safety of documents, invoices and accounting documents. According to statistics, the majority of data breaches in large companies stem from the management of discrete paper documents, leading to misplacement and leakage of information. The document digitization solution allows the accounting department to build a centralized digital repository for all important documents, invoices, and documents of the business to easily manage, search and retrieve necessary information. The switch to using electronic documents instead of traditional printouts and hard copies also helps minimize the loss of documents and wear and tear during use, thereby ensuring the safety of business data, making it easier for accountants to look up documents than before. This digitization operation will help accountants save a lot of time and effort looking up and recovering documents (in case of loss). Since then, the quality of work has improved.

Fifth, Build automatic forms as a basis for handling online accounting business processes. According to recent studies on the business situation, the accounting department is spending up to 60% of effort and working time on submitting and approving contracts, advances, and payments manually. The solution to this problem is to set up all accounting business processes in "digital" form (electronic form, can be manipulated on computer software systems, online), allowing personnel and management levels to handle work anytime, anywhere. To do this, the accounting department needs to digitize all forms, documents, submissions and documents on the system, thereby optimizing and streamlining the business process of the accounting department as well as the whole business.

### **Application of remote working methods**

Currently, tax declaration operations can be performed remotely on the software systems of tax authorities. Accounting departments need to maximize the productivity of software and online systems to reduce the pressure of declaration at tax offices. At the same time, this also helps the accounting department improve productivity. In addition, some businesses in the province allow accounting staff to work remotely through online accounting software.

**Use a digital transformation software suite dedicated to accounting.**

In order to improve the productivity of the accounting department, software manufacturing companies have researched and developed a set of software solutions to help businesses transform digitally effectively, quickly and economically. Instead of working in the old way, having to deal with many papers and books with cumbersome time, businesses can use online accounting software, synchronize electronic tax declaration, e-banking, e-contracts ... In addition, it is possible to integrate other features to serve the unit's management requirements.

**Some issues raised in the process of digital transformation in the field of accounting in businesses in Thai Nguyen province**

Recently, digital transformation activities in the field of accounting in businesses in Thai Nguyen province have initially had positive changes.

*Regarding the legal corridor:* The provisions of law related to digital transformation in the field of accounting are gradually amended, supplemented and adjusted to suit practical requirements. Law on Electronic Transactions, Law on Information Technology, Law on Telecommunications,... is in the process of revision in the direction of encouraging all organizations and individuals to invest in and finance digital transformation; research and amend regulations on enterprises' funds for scientific and technological development for enterprises' digital transformation contents. The amended and supplemented Accounting Law in 2015 mentioned regulations on the application of information technology in accounting such as: Regulations on electronic documents, signatures on documents, establishment and storage of documents, opening - recording - closing books and archiving, ... Civil, criminal and specialized legal documents in the direction of aggravating and penalties for fraudulent and fraudulent acts when transacting in cyberspace as well as acts of illegally abusing and exploiting private and personal information on the network so that users feel secure when performing digital transactions.

Information technology infrastructure and digital platforms continue to be developed, actively and effectively supporting digital transformation in the field of accounting. Announcement No. 16/TB-VPCP date December 25, 2022 of the Government Office clearly indicates outstanding achievements of Vietnam's digital platform: The speed of access to fixed and mobile broadband networks increased over the same period, ranking 45th and 52nd respectively, higher than the world average; National and specialized databases are promoted to build, connect, share and create utilities in providing online public services for people and businesses (population management, business registration, insurance, electronic civil status ...). In particular, the national database on population has connected and interconnected with 47 ministries, branches, localities, corporations and state corporations; issuing over 76 million citizen identification cards with electronic chips; synchronization of over 234 million vaccination information; activating nearly 2.6 million electronic identification accounts; identify accurate information of nearly 50 million mobile subscribers... [6]

The awareness and responsibility of all levels, sectors and businesses on digital transformation in general and digital transformation in the field of accounting in particular has been raised one step. By the end of March 2022, 22/22 ministries and 63/63 provinces



have established Steering Committees on digital transformation; 17/22 ministries, branches and 57/63 localities promulgate digital transformation programs/plans/schemes for a period of 5 years. 100% of ministries and provinces have consolidated the Steering Committee for Digital Transformation [2]. By March 30, 2022, the total public investment capital of the state budget for the information technology sector is about VND 10,157 billion, of which VND 8,312 billion is allocated to some central agencies, VND 1,845 billion is allocated to some localities [7]. The annual report on business digital transformation 2022 shows that 48.8% of businesses have used some digital transformation solutions, 35.3% of businesses have digitized data and processes (mainly bringing data, documents and papers from “hard copy” to “soft copy” stored on the system, 7.6% have gradually developed short- and long-term plans for digital transformation, 6.2% have completed defining digital transformation goals and 2.2% have mastered technology, management software to analyze data, automate to make decisions in production and business). Over 40% of businesses have a budget to meet the needs of digital transformation from medium to adequate to receive digital transformation advice and solutions. Accounting is where the highest level of digital transformation takes place with over 40% of businesses using digital technology at a high level and regularly [2].

In addition to the remarkable achievements, digital transformation in the field of accounting in Thai Nguyen province is also facing many difficulties and obstacles.

*First, problems with the legal corridor related to digital transformation in the field of accounting.* The process of digitization and digital transformation and modernization of information technology in the field of accounting not only requires the application at enterprises, but also amends and supplements legal regulations on accounting suitable to the electronic environment. For example, regulations on signatures, regulations on accounting records, printing and keeping electronic documents, printing and keeping accounting books should be appropriate in order to save and avoid waste in printing but must be effective and safe..

Second, the harmony of Vietnamese accounting standards and principles with the world. On the basis of big data, accounting will fundamentally change the implementation method, accounting information is transmitted at high speed, from collecting, processing and providing information through financial statements. Accounting operations performed through electronic documents, bookkeeping by synthesis software, data processing, accounting standards and principles in Vietnam today are definitely not suitable in the conditions of automation. In addition, digital technology impacts on a global scale, making the review and adjustment of accounting standards and principles not only arising from management requirements within the economy, but also from the requirements of world economic integration for the convergence of international accounting standards. This is a major obstacle that requires Vietnamese accounting standards and principles to continue to adjust accordingly.

*Third, the information technology level of accountants.* The Industrial Revolution 4.0 has a strong impact on the role of accountants, whereby, accountants learn to master technology, discover ways to manage data on digital platforms, promote their abilities as financial advisors rather than merely recording operations. Moreover, the constantly evolving information technology era requires accountants to be able to adapt quickly and update new technolo-



gies, understand advanced technologies such as automatic identification systems, analytical programming and data mining, because this is what the future in this field will be heading towards. In terms of implementing automated processes, accountants need to focus on the technical maintenance of the system and the analysis, because digital technology has reshaped the accounting model. However, reality shows that the qualifications of accountants in businesses do not really meet the requirements of digital transformation.

*Fourth, the security of accounting information. New technologies such as cloud computing platforms, big data, mobile technologies... bring changes to the accounting profession. However, a common challenge that each technology faces is the security of sensitive accounting data. The cause of information security incidents can be from an external attack, inappropriate systems, unskilled employees... In a study on the global information security situation, up to 44% of businesses do not have an overall information security strategy; 48% do not have information security awareness training programs for employees; 54% have no mechanism to deal with cyberattacks [9]. Cybersecurity risks may occur when information security and governance policies, laws related to security regulations have not been strictly established, restrictions in data access or export permissions, no plans or no maintenance of virus prevention or malware prevention. Besides, as businesses seize the opportunities of the digital age, they need to ensure investments in information security keep pace with technology adoption. This is a challenge for the digital transformation process in the accounting sector in Vietnam.*

*Fifth, although businesses have enough awareness and knowledge about digital transformation in general, digital transformation in the field of accounting in particular, it is difficult to carry out this comprehensive change process by themselves. Therefore, supporting and consulting on the digital transformation roadmap, supporting the application of appropriate digital transformation solutions is really necessary in the next stage.*

### **III. SOLUTIONS TO PROMOTE DIGITAL TRANSFORMATION IN THE FIELD OF ACCOUNTING AT ENTERPRISES IN THAI NGUYEN PROVINCE.**

In order to take the advantages of digital transformation in the field of accounting and auditing in the coming time, it is necessary to focus on implementing some of the following contents:

#### **1. FOR REGULATORS.**

*First, continue to raise awareness for all levels, industries and businesses about digital transformation in the field of accounting. Digital transformation in general, in the field of accounting in particular is still a new, difficult and complex issue. Therefore, there is a need for a transformation in both thinking, perception and action; fundamentally and comprehensively reform and improve the effectiveness and efficiency of management, administration and administration activities of the Government, ministries, branches and localities; innovate production and business activities of enterprises, people's ways of living and working; thereby creating unity in action to promote digital transformation in the field of accounting.*

*Second, focus on reviewing, amending and supplementing current regulations, building and perfecting institutions, mechanisms and policies, creating a legal corridor to promote*

digital transformation in the field of accounting. Focus on ensuring information security and network security. Enterprises take the initiative in investing, building roadmaps and plans for digital transformation in the field of accounting synchronously.

*Third*, improve Vietnamese accounting standards and principles. Unlike traditional accounting, on the basis of big data, information is transmitted in real time, with high speed, accounting operations are processed through advanced software, accounting standards and principles are no longer suitable in the conditions of automation. Accounting standards and principles built in the digital age must bind more responsibility to users, both considering country-specific factors and conforming to international standards (IFRS). Applying IFRS will overcome the shortcomings and limitations of the current Vietnam Accounting Standard (VAS), complete the legal framework on accounting, and meet the requirements of the process of institutional reform and international integration.

*Fourth*, effectively apply development achievements of information technology, meeting the requirements of digitization and digital transformation in accounting and auditing activities at state agencies, enterprises and accounting units. Building data systems for the management and supervision of the accounting - auditing services market; ensure the transparent and timely disclosure of information to the market about the team of accounting and auditing enterprises as well as practicing accountants and auditors.

*Fifth*, relevant units coordinate in organizing information systems and data on financial information of enterprises, in order to serve the exploitation of data according to public services of organizations and individuals to ensure that official information is used in relationships, economic transactions.

*Sixth*, strengthen and expand international cooperation activities. Strengthen relationships, enlist the help of international professional organizations in accounting, auditing and non-governmental organizations in researching and exchanging experiences in accounting and auditing and in supporting projects to renovate accounting professional management models as well as professional techniques associated with the application of Industry 4.0 achievements into operation.

## **2. For enterprises in Thai Nguyen province**

Firstly, enterprises need to change their minds and fully prepare conditions to invest in new technologies and train accounting staff. However, investing in new technologies also depends on the development orientation and mindset of business executives.

Second, Build a large database to meet increasingly large transaction data; apply Blockchain technology to analyze and process data, ensure security and safety of confidentiality. To meet this requirement, enterprises need to update data regularly, store data, including financial and non-financial data; integration of accounting software with the management system in the general information technology system; building accounting software....

Third, develop online accounting software, in order to fully meet financial - accounting operations for all businesses towards solving the problem of processing financial - accounting data for businesses anytime, anywhere and save maximum time for users.

Fourth, enterprises need to take measures to build a network security system, ensuring high security of accounting data information associated with network security against the threat of cybercrime attacks.

Fifth, develop high-quality human resources to meet changes in the field of accounting. Accordingly, in addition to in-depth professional knowledge of accounting profession, future accountants also need skills and knowledge in law, information technology, communication and management.

### **3. For university and college educational institutions**

First, review and gradually adjust existing training programs in the direction of updating the content of accounting and auditing science that has been internationally recognized to incorporate digital transformation applications into these training programs; Research and develop new subjects, modules and training programs to apply digital transformation at a high level, strengthen the contents of accounting and auditing practice in the digital transformation environment...

Second, organizing practical programs to help students have early access to accounting practice at enterprises; Organize seminars, share experiences between lecturers and experts at many businesses, especially those operating in the field of accounting software business, accounting data mining. These activities aim to train accounting human resources with full professional capacity, necessary skills to increase job adaptability and opportunities for successful start-ups.

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# CREDIT QUALITY OF VIETNAM COMMERCIAL BANKS FOR 2018 - 2022

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*Abstract: In this article, the author systematically generalizes in order to clarify the theoretical basis of credit quality, to recognize the current situation of credit quality at Vietnamese commercial banks in the period of 2018 - 2022. , assess the current situation, find out the limitations and causes, identify the influencing factors, evaluate the influence of the factors on the credit quality in order to offer solutions with scientific basis and practice to improve the credit quality of Vietnamese commercial banks in the coming time, this is an urgent issue for modern bank managers in the context of strong digitalisation.*

*Keywords: credit, credit quality*

## 1. INTRODUCTION

### 1.1 Set the problem:

Currently, the world is entering the 4th Industrial Revolution - a revolution in which technologies such as virtual reality, Internet of things, big data, and artificial intelligence are applied in all fields. area of economic and social life. Vietnam has been increasingly integrating deeply into the regional and world economy... Credit is the core and most important activity in the banking industry. This is an activity that brings a large source of income, accounting for a major proportion in the operating income of a commercial bank. However, credit activities contain quite a lot of risks, in which too high credit risk will greatly affect banking business, so commercial banks need to pay due attention to safety issues. credit capital, lending efficiency and sustainable development of commercial banks. Credit quality of commercial banks plays an extremely important role in the growth of a commercial bank. The higher the credit quality, the lower the risk level in banking activities and the higher the competitiveness of commercial banks in the market. Therefore, researching to find measures and ways to improve credit quality in the context of international economic integration and technology 4.0 is an urgent and important requirement for commercial banks.

Currently, many Vietnamese commercial banks have been trying to find solutions to improve credit quality such as: efforts to research and strengthen credit quality management, continuously improve mechanisms and policies; renewing processes and operating models; applying modern technology to assessment, appraisal, customer management, etc., in order to better meet customer needs, minimize credit risk; strengthen the review of internal regulations, correct the work of staff, improve the responsibility and efficiency of internal inspection and control, adjust the credit structure, focus on handling bad debts, etc. Therefore, improving

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credit quality plays a decisive role in the existence and development that any bank administrator must pay special attention to.

### 1.2. Overview:

There have been many research works related to credit quality in Vietnam in recent years, such as:

- Ha Thi Mai Anh (2015), PhD thesis “Solutions to improve export credit quality at Bank for Agriculture and Rural Development of Vietnam”, Academy of Finance. According to the thesis, there are factors affecting credit quality: Credit interest rate, credit standards, credit policy, organizational structure and credit management process, credit information and project appraisal project, quality of personnel

- A.Burak Guner (2007) studied the relationship between lending opportunities and credit quality, analyzing credit portfolios.

- Nguyen Thi Thu Dong (2012), “Improving credit quality at Joint Stock Commercial Bank for Foreign Trade of Vietnam in the process of integration”, PhD thesis in economics, University of International Economics: Thesis Credit quality monitoring with scope study is that Vietcombank is in the foreground, we are in the process of changing the economy and are making windows open to the banking sector.

- Faiçal Belaid (2014) Research on credit performance: Faiçal Belaid focuses on studying the impact of internal factors of Tunisian banks such as operating capacity, efficiency of spending costs, capital size, growth and profitability on credit quality

- Laivi Laidroo, Kadri Mannasoo (2017) research on credit commitments that affect credit quality: The authors focus on analyzing the risks of banks arising from credit growth and off-balance sheet credit commitments are likely to increase excessively. Credit quality is investigated in both macro and micro contexts, using a panel of 28 European countries for the period 2004 - 2014.

- Nguyen Thi Nhu Thuy (2015), “Effectiveness of the bank for agriculture and rural development in Quang Nam province”, Thesis on economic scale, Ho Chi Minh National Academy of Politics: The work has signaled The results from the bank angle are based on the clustering indicator and the prefix effect including inside and outside of the bank. The author does a practical study at the Bank for Agriculture and Rural Development in Quang Nam Province and has a correspondence with other banks in the area.

- Nguyen Van Thanh (2015), Thesis progress “Quality of production credit at Vietnam Bank for Agriculture and Rural Development”, Academy of Finance: According to the author, there are the following factors affecting credit Quality signals: Bank policy, credit information, regulatory signals, Bank management, Bank operational organization, active signal server and modern level of public banking turmeric

- National Scientific Conference (2017), “Application of Basel 2 in risk management of Vietnamese commercial banks: opportunities, challenges and implementation roadmap”, National Economics University: Conclusion The results from the research submitted to the Workshop showed that: Most of the banks have established the Basel 2 Project Management



Board; capital adequacy ratio of the banking system was higher than 10% (in excess of the regulation 9%), but still lower than that of other countries in the region; Commercial banks have made great efforts to further improve the risk management system, but the risk of bad debt is still hidden; the issue of differences in current accounting and disclosure standards compared with international standards. The challenges identified in the process of implementing Basel 2 include: Human resources, increasing equity, building a database system and investment costs for Basel 2 implementation at banks.

## 2. CONTENT

### 2.1 REASONING:

Credit is a borrowing relationship between entities in the economy, in which one entity transfers to another entity the right to use an amount of value (which can be in the form of goods or currency) with conditions. and within a certain period that the two parties have agreed on the principle of reimbursement.

Quality is the degree to which economic organizations carrying out production and business activities of goods and services achieve regulations and standards set forth in terms of customer size, sales, safety and profitability. suit the interests of interested parties under certain conditions.

Credit quality is the extent to which a bank achieves its objectives in terms of scale, safety and profitability in accordance with current domestic laws and international practices. In addition, credit quality is a composite indicator reflecting the results of credit activities of commercial banks, demonstrating the capacity of credit management to meet the requirements of economic development and limit risks. capital adequacy and bank profitability

### 2.2 Situation in Vietnam 2018 - 2022:

- Outstanding credit balance of Vietnamese commercial banks in the period of 2018 - 2022

**Table 1. Credit balance of some commercial banks 2018 - 2022**

Unit: trillion dong

Year	BIDV	AGR	CTB	VCB	MB	STB	TCB	ACB	VPB	TPB
2018	955	1005	456	627	207	250	159	228	169	78
2019	1082	1122	925	729	239	289	229	266	197	97
2020	1179	1213	1005	833	284	332	273	308	221	120
2021	1320	1314	1120	952	341	379	332	356	280	141
2022	1488	1443	1264	1136	435	429	411	410	362	161

*Source: Annual reports of commercial banks*

Looking at the data table No. 1, we can see that the credit balance in the period 2018 - 2022 is leading from 2018 to 2020. From 2021, BIDV's outstanding loans have grown rapidly (up 12% compared to the beginning of the year), so it has made a breakthrough. ranked first, replacing Agribank with outstanding loans of Agribank increasing by 8.4%. BIDV's 2022 credit balance is VND 1488 trillion, Agribank is VND 1443 trillion, Vietinbank is VND 1264 trillion, other commercial banks are under VND 435 trillion. Although the restructuring orientation of the



commercial banking system is to increase the proportion of non-credit income and reduce the proportion of credit income, credit income in the period 2018 - 2022 is still the main source of income of Vietnamese commercial banks. . The increase in credit balance reflects the competitiveness of Vietnamese commercial banks in attracting customers, not only that, the increased loan balance also helps cross-sell other products. increase should be accompanied by credit quality. To assess the credit quality of Vietnamese commercial banks, let's look at the bad debt ratio

**Table 2. NPL ratio for the period 2018 - 2022**

Unit: %

commercial Bank	2018	2019	2020	2021	2022
VCB	0,99	0,79	0,62	0,64	0,68
TCB	1,76	1,34	0,47	0,69	0,74
ACB	0,72	0,54	0,59	0,78	0,74
MB	1,22	0,98	0,92	0,68	0,83
TPB	1,12	1,29	1,18	0,82	0,84
STB	2,00	1,81	1,53	1,36	0,84
BIDV	1,80	1,66	1,66	0,93	1,12
CTG	1,59	1,15	0,93	1,27	1,24
AGB	1,60	1,56	1,78	1,87	1,81
VPB	2,72	2,69	2,53	2,01	2,80
Toàn ngành	1,91	1,63	1,69	1,49	1,92

Source: Annual reports of commercial banks

Looking at Table 2, we see, the bad debt ratio in the period of 2018 - 2022, we see that in 2018 the bad debt ratio of the whole industry was 1.91%, in 2019 it decreased to 1.63%, in 2020 it inched up to 1.69%. , in 2021 to 1.49% but in 2022 it will increase again at 1.92%. From 2018 to 2022, VPB is the commercial bank with the highest bad debt ratio, VCB is the commercial bank with the lowest bad debt ratio among the commercial banks mentioned above. When looking at the change of bad debt, it shows that some commercial banks have positive developments, the bad debt ratio in 2022 is less than 1% such as VCB, TCB, ACB, MB TPB, STB... from 2020 the bad debt ratio increases due to the influence of bad debt. affected by the epidemic as well as the complicated macroeconomic situation; bad debt balance also plummeted by nearly 40% in the period 2018 - 2022, from 20 trillion in 2020 to 12 trillion in 2021 and increased to 16.7% in 2022. Basically, bad debt evolution in the period 2018 - 2022 is on a good trend. Regarding the credit quality of commercial banks, difficult business activities along with high interest rates have led to an increase in debt repayment obligations of businesses and households, leading to an increase in bad debts. In particular, the policy of allowing debt restructuring, maintaining the same debt group, and exempting and reducing interest rates for customers due to the Covid-19 epidemic has expired from June 30, 2022 (Circular 14/2021).

**Table 3. NPL coverage ratio of commercial banks 2018 - 2022**

Unit: %

Chỉ tiêu	2018	2019	2020	2021	2022
Tỷ lệ nợ xấu nội bảng	1,90	1,60	1,70	1,49	1,92
Tỷ lệ nợ xấu gộp	5,90	4,43	5,10	6,30	4,50
Tỷ lệ bao phủ nợ xấu	84	94	105	141	125

Source: Annual reports of commercial banks

In fact, although gross bad debt decreased from 6.3% in 2021 to 4.5% at the end of 2022, on-balance sheet bad debt increased from 1.49% to 1.92% respectively. The positive point is that banks still maintain a relatively high NPL coverage ratio (125% at the end of 2022).

Meanwhile, the capital adequacy ratio of credit institutions is still at a low level, easily affected by negative external shocks. By the end of 2022, the capital adequacy ratio (CAR) of commercial banks applying Circular 41/2016 is almost unchanged compared to 2021, and this CAR is relatively low compared to other countries in the region; Not to mention countries in the region have applied Basel 3 in whole or in part, while Vietnamese commercial banks are just in the process of implementing Basel 2 according to the basic method. This level is also relatively low compared to the orientation of the State Bank in the Project “Restructuring the system of credit institutions in association with bad debt settlement for the period of 2021 - 2025” (striving by the end of 2023, the of commercial banks reached at least 10 - 11%). The main reason comes from the fact that raising capital of commercial banks still faces many difficulties (especially SOCBs) due to the cautious view of budget revenue from state dividends of the Ministry of Finance, the decline of the stock market, which causes the issuance of more shares. Difficult bonds and volatile international financial markets make it difficult to sell a strategy or sell a financial investment holding.

**Table 4. Capital adequacy ratios of Vietnamese commercial banks**

Unit: %

commercial Bank	2018	2019	2020	2021	2022
State Commercial Banks	9,5	10,2	8,9	9,0	9,16
Joint Stock Commercial Bank	11,2	10,5	10,9	11,9	12,0

Source: SBV

## 2.3 Assessment of the current situation

### 2.3.1. Limit:

The current situation of credit quality of Vietnamese commercial banks shows certain limitations:

(i) It is not easy to increase capital of some commercial banks to comply with Basel 2: Private banks still having difficulty in raising capital with the level of charter capital not increasing for many years. Capital constraints make banks not only unable to meet CAR regulations, but also hinder business operations due to a series of other regulations.

(ii) Off-balance sheet bad debt is still high, bad debt handling process is still difficult: In commercial banks, although the ratio of bad debt on the balance sheet is low, off-balance sheet bad debt at VAMC is still high. Among the measures to resolve bad debts of commercial banks, it is still mainly selling debts to VAMC, setting up risk provisions for off-balance sheet, etc., while bad debts obtained from selling collateral assets and customers account for bad debts. low percentage. Bad debts still have the ability to return to the bank if after 5 years (the term of special bonds) has not been resolved. Moreover, despite selling debt to VAMC, banks still have to continue to make provision at a relatively high cost of 20% for the bond's par value within 5 years (except for a few special cases in the form of reinsurance). structure is provisioned at 10% over the 10-year bond term).

(iii) Credit strategy and policy is still not tight: This is one of the reasons for the decline in credit quality of commercial banks. Most branches of Vietnamese commercial banks fully perform 3 functions: customer relations, credit appraisal, customer relationship support and are responsible for all stages of loan preparation. The work is concentrated in one place, the lack of expertise leads to low quality of work. Due to the pressure of revenue and outstanding loans, the customer relations department is the one to find and contact customers and analyze customers so that the browser is often less objective and poses great risks to the bank. . The customer relations department is often under pressure to develop and expand customers, so they can analyze customers in a better way than in reality to get loan approval, ensuring loan balance.

(iv) The internal control and audit system at Vietnamese commercial banks has not yet fully supported the work of improving credit quality.

Articles 40 and 41 of the Law on Credit Institutions 2010 clearly stipulate the duties of the internal control system and of the internal audit in each bank. However, in reality, the clear delineation of the functions and tasks of these two systems is still limited in many banks. There are commercial banks that have not yet come up with a unified internal audit process that applies to the whole system; The internal audit department is not directly under and under the direction of the Supervisory Board, but still under the direction of the Executive Board.

(v) Credit officers have many limitations: Credit officers have direct contact with customers, so sometimes collusion between customer relations officers and customers leads to exploiting capital needs to Borrowing on behalf of a borrower or a customer bribing a credit officer to get a loan from a bank. The customer relations officer must ensure all stages from documentation guidance, receiving and checking documents, conducting initial due diligence on client-related content such as legal, reputational, financial principal, collateral.

(vi) The credit rating system is not uniform, mainly using qualitative methods: Currently, most Vietnamese commercial banks only have an internal credit rating system to assess customer risk. However, this system still has some limitations

(vii) Risks on the information technology system: The IT system may pose certain risks to banking business, especially credit activities. The risks may come from the bank having to use software, technology support services, transmission lines, systems provided from many different suppliers; From incorrect operation, failure to strictly follow the process of

monitoring, control, security, system safety or from risks caused by natural disasters, fires; Risks from cyber attacks (hackers)..

### **2.3.2 Causes:**

Group of subjective reasons: (i) it is difficult for some large banks to raise capital because they are dominated by the State, (ii) some senior bank managers are not fully aware, chasing immediate benefits to do business. affecting credit quality, (iii) due to the weak governance capacity of Vietnamese commercial banks plus competitive pressure to develop credit market share, leading to the risk of a slight reduction in standards in the credit process. (iv) professional qualifications and ethics of credit officers do not meet the requirements

Group of objective causes: (i) Causes from the customer side: The cause of credit risk may be due to the customer's declining business results leading to difficulties in debt repayment, or it may be due to the owner. deceptive intentions of the borrower. This affects the ability to recover capital, reduces credit quality, thereby reducing profits and asset value of Vietnamese commercial banks; (ii) Macro-economic environment: Fluctuations in the exchange rate change in an unfavorable direction for enterprises; The instability of oil prices in the world affects the domestic economy. Currently, our country's economy is still volatile and unstable, many policies and management mechanisms of the Government are still gradually improving; (iii) Due to the process of restructuring commercial banks: The process of restructuring commercial banks has been directed drastically, but the efficiency is still not high, there are still some weak banks with high bad debts, high ownership Crossover poses potential risks. The regulatory regime is still loose, causing some bank officials to circumvent the law and violate the lending regulations, causing great consequences for the bank's shareholders as well as the state. detect and prosecute... causing loss of state property and people's trust; (iv) The supporting role of the Credit Information Center (CIC) for commercial banks is not really effective

### **2.4 Solutions to improve credit quality of Vietnamese commercial banks**

Through analyzing the current situation of credit quality of commercial banks, although there are some results, there are still many existing problems that need to find solutions to overcome.

Firstly, to increase capital expansion and raise capital adequacy ratio to meet Basel 2 standards:

Derived from theory as well as practice in banking business. In theory, equity is considered as a cushion against risks of commercial banks. The increase in equity will help commercial banks expand their operation scale and increase their ability to earn profits. Bad debt situation and Basel 2 governance requirements and competitive pressures in the context of international economic integration in the process of financial liberalization in banking activities show an increase in the size of equity. Ownership and capital adequacy ratio is always a necessary factor for each commercial bank to strengthen its competitive position in the market.

Second. Bad debt handling:

Profits of Vietnamese commercial banks are mainly derived from the interest of credit extension activities, while credit extension activities always have potential risks of arising bad debts. Therefore, first of all, it is necessary to recognize that bad debt is an inevitable

thing in a banking system operating according to market principles. Even a bad debt within a certain limit is still a good thing to have because it is an important sign that actors in the economy, both debtors and creditors, have implemented decisions and activities that are relevant to the economy. risk calculation. In developed countries in the world and international practice, the bad debt ratio does not exceed 3%, still ensuring safety for commercial banks to do business.

### **Third, Improve credit strategy and policy.**

In order to ensure that credit strategies and policies are used and usefully applied to improve credit quality, each Vietnamese commercial bank needs to continue to improve the following contents: (i) Clearly quantify the following indicators: planning objectives and responsibility for credit activities. (ii) Plan a clear vertical credit reporting hierarchy. (iii) credit policy, first of all, commercial banks must ensure the correct implementation of regulations related to the direction of credit activities of the State Bank on the basis of specific characteristics of each commercial bank's system. customize the contents. (iv) each Vietnamese commercial bank needs to have a different credit policy depending on its commercial bank's competitiveness and development strategy based on market conditions, macro-policy environment, (v) strengthen supervision and properly implement the issued credit policy, (vi) Fully and regularly review the credit process. (vii) Improve the quality of appraisal of production and business plans and investment projects of customers. (viii) Accurately analyze and evaluate financial capacity and business capacity of customers, (ix) Collect and evaluate non-financial information

### **Fourth, Credit risk management**

To limit credit risk, Vietnamese commercial banks need to build and implement a risk management system. In particular, the Bank's credit risk appetite is clearly and carefully built, targeting less risky segments such as customers with high income and ability to repay, and less risky products. such as mortgage lending, short-term lending and less risk-focused segments such as the shift from lending to large corporate customers to lending to small and medium-sized businesses and individual customers.

Finally, Improve the quality of internal control and loan management

Management capacity and internal inspection and control are very important activities in the prevention and early detection of risky loans. Therefore, strengthening inspection and control work. Internal management is absolutely necessary with solutions: (i) it is necessary to complete documents, processes and regulations guiding the control and management of loans. (ii) step up inspection and supervision of the post-control work of business units by the Credit Quality Review Divisions of Head Offices. (iii) enhance the independent role of Internal Control in checking and monitoring compliance. (iv) each commercial bank needs to be aware of the role of post-control work, fully implement the contents of loan control from disbursement to debt collection. (v) flexibility in combining forms of loan control and management. (vi) Planning a clear vertical credit reporting hierarchy will be in line with the trend of gradually transforming the credit risk management model to a centralized credit risk management model.

### 3 Conclusion

Credit quality of commercial banks plays an extremely important role in the growth of a commercial bank. The higher the credit quality, the lower the risk level in banking activities and the higher the competitiveness of commercial banks in the market. Therefore, researching to find measures and ways to improve credit quality in the context of international economic integration and technology 4.0 is now an urgent and important requirement for commercial banks

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# SUSTAINABLE TOURISM DEVELOPMENT IN VIETNAM

Dr. Nguyen Thi Tinh<sup>1</sup>, MA. Ngo Thi Kieu Oanh<sup>2</sup>

*Abstract: Tourism is a smokeless industry and a driving force for Vietnam's economic growth in the new stage of development. Vietnam's tourism development strategy for 2030 emphasizes: Sustainable tourism development, really becoming a spearhead economic sector, creating a driving force for the development of other industries and fields, contributing to the formation of modern economic structure. With the use of qualitative research methods, the article focuses on clarifying the content of sustainable tourism development, the current state of sustainable tourism development in Vietnam, pointing out achievements and limitations, thereby proposing solutions to promote sustainable tourism in Vietnam. With that overarching content, the study is divided into three parts: i) Concept and content of sustainable tourism development; ii) Status of the tourism industry and the need for sustainable tourism development in Vietnam; iii) Some solutions to promote sustainable tourism development in Vietnam.*

*Keywords: tourism development, sustainable, Vietnam*

## I. INTRODUCTION

Tourism is one of the largest industries globally, with a fast-growing market, making an important contribution to socio-economic development and creating job opportunities for countries. In 2019, after ten consecutive years of growth, the world tourism industry generated more than 9 trillion USD for the global economy. However, the Covid-19 pandemic has cost tourism in 2020 \$4.5 trillion (down 49.1%), and the number of international tourists dropped by 73.9% (WTTC, 2021) due to global travel restrictions in response to the epidemic. By 2022, the epidemic has been controlled, and tourism in many countries gradually regains its growth rate. Today's tourism is towards sustainability to bring about a green, safe, and developed tourism environment.

Perspectives on sustainable tourism and strategies to develop it are being implemented in some localities in Vietnam. Decision 147/QĐ-TTg of the Government issued on January 22, 2020 on "Vietnam's tourism development strategy 2020 with a vision to 2030" clearly stated "Developing tourism into a spearhead economic sector, towards sustainability and green growth as the focus" (Prime Minister, 2020). This shows that the development of green tourism is no longer a matter of research or discussion but becomes a development goal with specific strategies. However, macro policies, micro strategies and regulations are still incomplete; the promotion of green tourism is not strong; building tourism resources is insufficient and unreasonable; improper behavior of tourists and lack of green consciousness, the future development path still needs to be explored and improved.

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Up to the present time, the situation of sustainable tourism development in Vietnam is still fragmented in some accommodation establishments and tourist destinations that are inconsistent and do not have a long-term development strategy. The development policy has not been consistent and lacks inclusiveness; therefore, in order to achieve the common and sustainable development goals, it is necessary to assess the influencing factors holistically and comprehensively in order to find appropriate groups of solutions for stakeholders in the process of implementing the development plan, especially in the context of international economic integration when Vietnam must have development orientations in accordance with international practices and standards. Since then, it has been shown that the study of sustainable tourism development in Vietnam is still critical and necessary in the present and future to continue offering multi-dimensional perspectives on sustainable tourism development.

## **II. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Research works on sustainable tourism development have been studied by a number of authors. In each study, sustainable tourism development is approached from different angles and contents to suit the space, time, and specific characteristics at the research time.

Research on the relationship between economics and sustainable tourism, typically with the following studies: Mowforth and Munt (2015); Zhenhua Liu (2003); Nguyen Quang Thai and Ngo Thang Loi (2007), etc. Studies show that tourism is a business that brings many benefits and jobs to the economy, contributing to national and regional growth but does not harm other local development conditions. Sustainable tourism will help the economy develop, and the economic development is also a driving force for sustainable tourism activities.

Studying the linkages in sustainable tourism development, the three pillars of the world tourism industry including the United Nations World Tourism Organization, the World Travel and Tourism Council and the Earth Council jointly developed the “Tourism Agenda - Towards Environmental Sustainable Development – Agenda 21 of Vietnam” (Prime Minister, 2004), this program has clarified the importance of coordinated work between governments in developing a sustainable tourism development strategy on a worldwide scale; At the same time, it clearly shows the important position of the tourism industry for the economies of countries and the inevitability of sustainable tourism development in the world. This is a program that has a significant influence on the global tourism industry in general, on governments, tourism organizations and tourists in particular. However, the limitation of this program is only mentioning the link in sustainable tourism development in terms of the environment.

Referring to the content as well as the potential of sustainable tourism development, research by Nguyen Manh Hung (2023), Bui Thi Nhu Hien (2023) points out that sustainable tourism development includes three contents: (i) Tourism economic growth; (ii) Promoting progress, social justice, preserving and promoting indigenous cultural values; (iii) Protecting natural resources and the ecological environment. Regarding the potential for sustainable tourism development, studies show that Vietnam has many favorable conditions for developing the tourism industry, incredibly sustainable tourism. In addition, the stable political regime, abundant human resources, renovation, opening and integration policies of the State also create favorable conditions for tourism development.

Research on the current situation and solutions for sustainable tourism development, research by Nguyen Thi Dung (2022), Do Hong Thuan (2020) together point out the difficulties in sustainable tourism development in Vietnam today such as: residents in tourist areas often encroach on the assets of the tourism area without being aware of the long-term effects on the ecological environment and long-term benefits for communities; businesses and management agencies do not understand sustainable tourism as well as how to apply and practice sustainability, etc. Since then, the studies have proposed key solutions towards environmental protection, preservation, and promotion, especially the value of historical heritages, national cultural identities, traditions and characteristic identities of local communities, at tourist destinations; focusing on the planning of green tourism areas; diversifying tourism products, especially green products.

There are also studies on green tourism, such as the study of Hoang Hong Hanh and Nguyen Thu Ha (2020) mentioning the role of local green tourism development policy in effectively implementing green practices at accommodation establishments, training green human resources for the tourism industry to develop tourism. In his study “Green tourism development” contributing to the construction of new rural areas in the Mekong Delta by author Huynh Thanh Hieu (2015), the most essential factor is the policy of developing infrastructure and human resources for green tourism development in the locality.

In the current studies, the research on the relationship between sustainable tourism development and other factors (such as economic, cultural, social development) is quite a lot, but mentioning the potential or reality of sustainable tourism development in Vietnam is still modest. In general, the research on sustainable tourism development has gaps in the content of sustainable tourism development and the current situation of sustainable tourism development in Vietnam, thereby proposing solutions to promote sustainable tourism development in the long term. Therefore, this research paper will discuss in depth the issues that previous studies have not mentioned or mentioned but not in depth.

### **III. METHODOLOGY**

The primary research method used in the article is the qualitative method; specific methods used to solve the problems posed in the research process include:

Document research method: Based on domestic and foreign documents collected, including books, specialized journals, and other research works, and simultaneously focus on exploiting official materials from the library and the Internet to synthesize, compare, analyze, and evaluate content related to sustainable tourism development.

Statistical methods: The data are clearly statistical, processed, and presented, from which trends are drawn, making the most objective judgments possible about the research object.

Systematic, comprehensive, and logical analysis methods when studying general issues and providing solutions for sustainable tourism development in Vietnam.

### **IV. RESEARCH RESULTS**

#### **1. Concepts and Content of sustainable tourism development**

The concept of sustainable tourism was born based on the approach of the sustainability concept. Sustainable tourism is “to manage resources to satisfy people’s economic, social and aesthetic needs while maintaining cultural integrity and biodiversity, the development of ecosystems and systems that support human life”.

According to the World Tourism Organization (WTO) in a Conference on Environment and Development in Riode Janeriro (1992), “Sustainable tourism is the comprehensive development of tourism activities to meet the needs of visitors, while taking care of indigenous people, conserving resources and having a reasonable resource management plan.” Sustainable tourism development also needs to maintain cultural values, biodiversity, ecosystem development, and support human life.

In Vietnam, in Clause 14, Article 3, the Law on Tourism 2017 (Congress, 2017) introduced the concept of “Sustainable tourism development is the development of tourism that simultaneously meets socio-economic and environmental requirements, ensuring the harmony of interests of entities participating in tourism activities, without harming the ability to meet the demand for tourism in the future”.

Thus, sustainable tourism development is to develop tourism activities to bring economic benefits, create jobs for society and the community; satisfy the diverse needs of tourism participants on the basis of exploiting tourism resources; at the same time, be aware of investing in embellishing, preserving and maintaining the integrity of tourism resources (including natural tourism resources and humanistic tourism resources), ensuring a clean environment; must attach the responsibility and rights of the community in exploiting and protecting natural resources and the environment.

The development of sustainable tourism is in line with the general and inevitable trend of the world, ensuring the general development, as well as the development of the tourism industry. Countries have paid great attention to the sustainable development of this industry, especially in the context of the contribution of the tourism industry is increasing, but environmental pollution is increasingly heavy.

#### *Content of sustainable tourism development:*

##### *(1) Towards a reasonable, stable, continuous high tourism industry growth rate*

The growth rate of the tourism industry needs to be determined at an appropriate level, based on actual conditions, to meet the requirements of promoting the growth of the tourism industry, while not creating pressure to demand in return for the decline of tourism resources and environment. Accordingly, the growth of the tourism economy does not exceed the renewable capacity of resources, the resilience of tourism facilities and social capacity in the locality to meet the needs of tourists better and better, tourism products increasingly satisfy tourists. Sustainable tourism growth should be based on a strategy: prioritize improving the quality of visitor sources rather than pursuing the pure number of tourists.

Sustainable tourism development helps promote local economic development in many aspects: promoting the increase in the size of the economy, creating a diversification of economic activities as well as stabilizing and expanding revenues for taxation and other services provided by the government. From the perspective of state management, increasing revenue for the budget towards sustainable tourism development is one of the primary motivations to encourage local governments to invest in infrastructure development such as roads, hospitals, telecommunications, and energy in the locality, thereby improving the quality of public services and living environment of indigenous people.

### *(2) Promote employment, preserve and encourage indigenous cultural values*

The tourism development process will encourage and create jobs for local workers to directly participate in tourism activities, at the same time create a spillover impact, promote other economic sectors and fields to develop, create many job opportunities, improve income, material and spiritual life for all people in the local community. In other words, tourism can bring about an all-encompassing development effect.

Tourism development creates needs, conditions and simultaneously sets a goal to ensure the practical and rational exploitation and use of the locality's indigenous cultural values, cultural heritage, and human resources to maintain sustainability and uniqueness in the long term. With the expansion of the tourist market, in which the structure of international tourists is increasingly diverse, the excellent image of localities and countries is also promoted and spread to the world, thereby facilitating the expansion, promoting the development of international trade and cooperation relations. Tourism, in general, and sustainable tourism, in particular, are also a bridge for tourists and indigenous people to understand each other. This helps visitors have exciting experiences in the process of tourism and explore the unique culture and people in the locality; At the same time, local people also through contact with tourists to learn more about culture in different regions or countries, thereby enriching their customs and practices.

### *(3) Protection of tourism resources, development of renewable resources*

This includes preserving and protecting natural resources and the ecological environment in tourism activities and creating conditions for sustainable tourism development. One of the biggest criteria to assess the sustainability of tourism development in a locality is the conservation and maintenance of ecological resources and minimizing the negative impact of people in implementing tourism activities on the environment. Sustainable tourism development must ensure that local tourism resources such as scenic spots, historical sites, cultural values are not negatively affected, do not cause loss of original values, or adversely affect their exploitation in the long term.

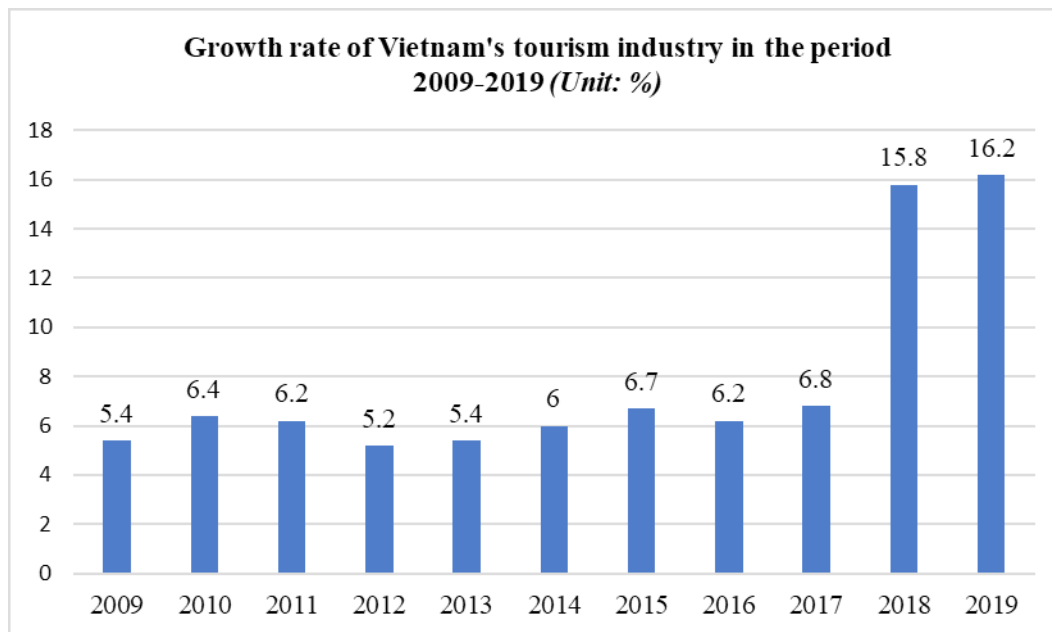
## **2. The current state of the tourism industry and the need for sustainable tourism development in Vietnam**

### **2.1. Results achieved in recent times**

*\* The tourism industry's growth rate is high, employment opportunities are many, and technical infrastructure is increasingly focused*

In Vietnam, the tourism industry is increasingly contributing to the country's economic development. The development rate of the industry in 10 years 2009-2019 is high and maintains an average stability of nearly 10%/ year (WTTC, 2019). Tourism revenue contributed directly to GDP in 2019 reaching US \$21.6 billion, accounting for 9.5 percent of GDP, forecasting 2028 growth of 9.8% or nearly US \$40 billion. In fact, Vietnam's tourism industry has proliferated over a long period in terms of scale and speed.





*(Source: Author's compilation)*

**Figure 1: Growth rate of Vietnam's tourism industry in the period 2009-2019**

While world tourism and Vietnam are on the rise, the Covid 19 epidemic has frozen tourism worldwide. According to the year-end report of the General Statistics Office, in 2020, due to the closure of the border to prevent Covid-19, international visitors to Vietnam only reached about 3.7 million arrivals, down 79.5% compared to 2019; domestic visitors reached 56 million arrivals, down 34.1%; about 95% of international travel service businesses across the country stopped operating, in May 2020 only some domestic travel activities were restored but closed again in August 2020; Many hotels had to close (room use capacity only reached 10-15% at the time), stopped operating to ensure both epidemic prevention and control according to regulations (Trang Linh, 2020). In 2022, when the epidemic was temporarily repelled, on March 15, 2022, the Government allowed tourism to open, many international routes were restored. Specifically, the total revenue from tourism in the first three months of 2022 is estimated at 111.2 trillion VND. In March 2022, international visitors to our country reached 41.7 thousand people, an increase of 41.4% over the previous month and 2.2 times higher than the same time last year (Thuy Chi, 2022).

In the first six months of 2023, the total number of international tourists to Vietnam reached 5,574,969 people, the total number of domestic tourists reached about 64 million. Total revenue from tourists is estimated at 343.1 trillion VND. According to data from Google's travel trend tracking tool, from the beginning of 2023 to now, the number of searches about Vietnam's tourism has continuously increased at the top of the world, from the 11th to the 6th position today. Vietnam is the only destination in Southeast Asia located in this group.

In particular, the tourism industry has just received pleasing news when the National Assembly has agreed to extend the duration of e-visas from 30 days to 90 days, valid for multiple entry; increase the temporary stay for people entering the country unilaterally visa-free from 15 days to 45 days. These policies will officially take effect from August 15, 2023.



Besides, the Government is also considering unilaterally expanding the visa exemption to attract international visitors to Vietnam.

In addition, Vietnam's tourism industry actively contributes to creating jobs. According to 2017 statistics from the World Travel and Tourism Council (WTTC), the total number of workers working directly in the tourism industry in Vietnam reached more than 4 million people, accounting for 7.6% of the country's workforce, and it is predicted that this number will increase to 8% by 2028, equivalent to more than 5 million jobs (Bui Thi Nhu Hien, 2023).

According to the World Tourism Organization (WTO), Vietnam has become a friendly and hospitable destination in the diversity of types of tourism products and services, meeting different needs from historical and cultural tourism, ecotourism, sea tourism, golf tourism to nature tourism. Vietnam has been honored to receive the title "Asia's Top Destination" - the highest tourism award for Asian travel destinations voted by the World Travel Awards. Besides, Vietnam has also won 31 more awards in other categories, including many important ones such as "Asia's Top Sustainable Tourism Destination", "Asia's Top Cultural Tourism City Destination" (for Hoi An), "Asia's Top Attractions" (for Ha Long Bay) (*Statistical Yearbook, 2022*).

With the rapid development of the tourism industry in recent years, the Government, local authorities, and tourism businesses have been supplementing the infrastructure for the tourism industry, such as the system of restaurants, hotels, amusement parks, and entertainment areas, while expanding airports, docks, and wharves to ensure sufficient capacity to serve the increasing number of domestic and international tourists, thereby reducing the pressure on capacity, preserving the ecological environment, landscape and preserving national cultural values.

*\* More eco-friendly destinations, better awareness of environmental protection for tourists*

Many tourist destinations now tend to use environmentally friendly products such as electric vehicles instead of gasoline vehicles, limiting private vehicles and strengthening public vehicles to minimize air pollution. Smart consumption is also widespread and widely encouraged by the population and tourists, using paper packaging and cloth packaging instead of plastic bags and boxes.

Awareness of protecting and preserving the environment of visitors is getting better; they have respected and complied with local cultural and religious rules. In particular, do not engage in activities that harm local culture and traditions.

Although, in recent years, the image of Vietnam's tourism has improved, competitiveness has increased on many levels, prioritize development towards green tourism. However, to achieve the goals set out by the Government in Decision 147 approving the "Strategy to develop Vietnam's tourism to 2030", tourism becomes a spearhead economic sector, and green development towards sustainability tourism industry is facing many challenges.

## **2.2. Issues that exist for the sustainable tourism industry in Vietnam**

The biggest challenge facing Vietnam's tourism industry is the development of overheating for a long time and the inefficient use of tourism resources. Tourism development is still quantitative, not focusing on quality, not closely linked to sustainable development in terms of environment, economy, culture and society.

Firstly, the poor management and protection of natural resources in the destination, along with the lack of environmentally friendly tourism products and poor services, have hindered and reduced the attractiveness and competitiveness of Vietnam's tourism in recent years. Specifically, handling environmental issues according to ASEAN standards such as environmental management, urban planning, waste management in the tourism locality has not been adequately paid attention and thoroughly handled. According to the EPI (Environmental Assessment Index) 2018, Vietnam's ranking position of 132/175 countries and territories (Thai Binh, 2020) shows that the level of environmental pollution is alarming. The image of Vietnam's tourism is gradually losing its attractiveness as the tourism landscape is increasingly polluted; the sense of environmental protection of people, as well as tourists in the destination, is not paid attention will make the problem serious, causing a loss of tourism competitiveness and reducing the number of international tourists.

- About environmental management and waste management

In many tourist destinations, waste has not been recovered and thoroughly treated. Untreated wastewater from accommodation facilities and tourism services discharges directly into the environment, increasing coastal seawater pollution. The problem of environmental pollution, plastic waste, polluted air in tourist cities is increasingly worsening the tourism picture, reducing the attraction and competitiveness of Vietnam's tourism. This is also the most significant cause of visitor dissatisfaction with tourist destinations in Vietnam (Figure 2).



**Figure 2: Causes of visitor dissatisfaction with tourist destination in Vietnam**

(Source: Vietnam Report, 2022)

According to the Ministry of Natural Resources and Environment, the rapid development of the tourism industry leads to a spike in the number of visitors, especially in the peak season. Meanwhile, the issue of environmental management and limiting the negative impact of the sudden increase in tourists has not been given enough attention. To serve the increasing number of visitors, discharges from ancillary services have also increased, rampant aquaculture to meet the needs of increasing tourists, coastal seawater pollution due to increased transport vehicles

and tourist boats, water recreation and sports facilities, and uncontrolled coral exploitation. All of this poses a challenge to the sustainable development of the environment. This degrades tropical ecosystems and vegetation, and the damage caused by environmental pollution is calculated as 5% of GDP (Vietnam News, 2016); the negative impact reduces the growth value of industries, including tourism.

- On urban planning and conflict resolution of economic interests

Tourism development coupled with ensuring sustainable economic development is also a challenge for Vietnam's tourism industry. Tourism development increases traffic congestion, air pollution, water sources, noise, changes in the natural landscape, and ecological balance for the living environment of organisms. More and more accommodation facilities for tourism services are built on unplanned islands, increasing the risk of coastal erosion and degradation of marine and island ecosystems. The conflict of economic interests between economic actors and sectors poses many challenges for management and strategic planning. Short-term visibility and technological limitations lead to some tourism resources being destroyed and misused. Social evils, foreign cultures and limitations in environmental protection awareness have reduced the economic efficiency brought about by tourism, degraded the environment, and adversely affected the image and sustainable development of Vietnam's tourism (Nguyen Van Dinh, 2019).

*Second, the development of Vietnam's tourism industry has not shown its role in the overall economic development of the country in a sustainable way.* Although the development speed of Vietnam's tourism industry is in the top 10 countries with the fastest-growing tourism industry in the world, the development of Vietnam's tourism industry has not shown its role in the country's overall economic development. Regarding the actual contribution of tourism revenue to GDP at an average level, the total investment capital and job creation for the economy is also modest compared to other countries in the ASEAN region (Table 1).

**Table 1: The tourism industry of ASEAN countries contributed to the economy in 2019**

Countries	Contribution to GDP (billion US dollars)	Jobs creation (million)	Industry investment (billion US dollars)	Development rate
Thailand	42,2	5,834	7,7	5,2
Philippines	27,3	7,796	1,9	4,5
Indonesia	19,4	12,241	12,0	6,6
Malaysia	15,2	1,704	5,3	3,9
Vietnam	13,0	4,060	5,1	7,0
Singapore	12,8	0,322	14,5	4,5
Campuchia	3,1	2,663	0,8	6,5
Myanmar	2,0	1,282	0,3	4,6
Laos	0,6	0,383	0,6	5,7
Brunei	0,2	0,019	0,6	3,2

(Source: WTTC, 2020)

The number of international tourists coming to Vietnam is still at a low level, not commensurate with tourism resources (Figure 2).

(Source: Statistical Yearbook, 2022)

**Figure 3: Number of international tourists to Vietnam from 2015-2022**

Thirdly, Vietnam's tourism products are not yet truly attractive, diverse, and green, so tourists are not willing to spend on those products. Spending per day on tourist activities at destinations is not high and is even much lower compared to countries in the region.

**Table 2: Spending one day by tourists when traveling in Vietnam.**

	2011	2013	2017	2019	2020
Spending one day by domestic tourists (thousands dong)	977,7	1148,5	1272,4	1122,8	1150,3
Spend one day by international tourists (US dollars)	105,7	95,8	96	117,8	-

(Source: Statistical Yearbook, 2021)

In addition, international economic integration also poses problems for countries in preserving national cultural identity, building specific human values and exploiting competitive advantages from the value of human resources. Therefore, green, sustainable tourism products that allow communities to choose their own vision and management decisions to support the tourism industry for a sustainable future, allowing prioritizing long-term benefits in terms of the social environment are a mandatory option in the new conditions. The Vietnam Report's tourist survey shows that the contents that are of interest when searching for tourism-related information include: detailed information about tourism services; tourism associated with sustainable development and nature conservation; attractive messages; technology applications to improve the experience for guests; images integrated in films, music videos, tourism associated with sustainable development, nature conservation is the information most sought by tourists after detailed information about tourism services. This shows that visitors really care about the green factor, the sustainability factor when traveling.

(Source: Vietnam Report, 2022)

**Figure 3: What matters most on a 5-point scale when looking for travel-related information**

Thus, with the events of the epidemic and the economic and social impacts in recent years, more than ever demand from society for a green tourism product, towards sustainable results is undeniable in the tourism industry. Sustainable tourism development in Vietnam is an important task and a future commitment to the country's development. Vietnam, with its beautiful natural beauty, diverse cultural heritage, and friendly people, has attracted the interest of tourists worldwide. Sustainable tourism development means protecting the environment, balancing the economy and environmental protection, and ensuring benefits for local communities. We need to intelligently manage tourist areas, ensuring that strengthening

tourism infrastructure and services does not harm nature and culture. In addition, the training of human resources in sustainable tourism should also be promoted to ensure that people doing this work have the proper knowledge and awareness of environmental protection and cultural heritage preservation.

Sustainable tourism development not only ensures that we can enjoy the stunning landscapes and unique cultural experiences of Vietnam today but also leaves a beautiful heritage for future generations. These precious things can disappear forever if we do not care about protecting our environment and cultural heritage. Therefore, sustainable tourism development is indispensable in building a bright future for Vietnam.

### **3. Some solutions to promote sustainable tourism development in Vietnam**

***Firstly, focus on propagating and guiding all subjects in society to raise awareness of sustainable tourism***

Implement the propagation of laws and policies on sustainable tourism development to investors, tourists and all people in the tourism area.

Propagating the benefits of sustainable tourism to the supply side (individuals, organizations, businesses providing tourism products) and the demand side (tourists) to be fully aware of the great effects of the problem such as both to bring about a green, clean and beautiful life, both to improve the competitiveness of the tourism industry and to create more income for people.

Local authorities or local groups, groups, and associations guide specific activities on sustainable tourism for residents and tourists, such as protecting the environment, preserving and embellishing cultural relics.

Raising the awareness of tourism businesses in implementing and participating in the regulations on the quality of tourism products. Develop a mechanism to link product development between the tourism industry and related industries. Raising awareness and promoting the role of the community in the development of green tourism products, especially the diversification and exploitation of local tourism products, in order to create the attractiveness of green tourism products.

***Second, improve the effectiveness of the State's management tools on environmental and resource protection.***

The State needs to strictly manage the licensing and operation of tourism business establishments, the organization and participation in tourism activities, cultural and tourism events; strengthen inspection and examination of the use and protection of natural resources and environmental protection; strictly implement regulations on survey and assessment of environmental impacts when investing in tourism projects; resolutely handle tourism development projects that violate regulations in these fields. Strengthen the coordination between sectors, levels and subjects involved in tourism service business, tourists and residential communities in a joint effort to protect the environment for tourism development.

Strictly control and take measures to limit the impact of economic activities in other fields (construction, transportation, industry, agriculture) on the environment in tourist areas and spots. Research and determine the limit of the pressure of tourism activities on resources and



the environment; monitor and regularly check the use of resources; avoid excessive use causing the risk of exhaustion, deterioration, or serious degradation. Promptly coordinate between specialized management agencies in tourism with relevant agencies and functional branches in overcoming incidents, degradation, and degradation of tourism resources.

Complete the system of rules, regulations, and regulations on environmental protection in tourist areas and spots. Develop regulations on tourist management, festival rules, codes of conduct..., propagate to visitors to respect and have cultural behavior with humanistic tourism resources; at the same time, raise awareness and awareness of preserving traditional cultural values, social environment, and traditions of the community when participating in tourism activities. To urge and regularly supervise establishments to fully implement regulations on environmental protection in tourism activities.

Strictly handle acts that harm tourism resources or which pollute the environment to create deterrent power.

### ***Third, investment in infrastructure development***

Conduct investigation and overall assessment of the current state of infrastructure in tourist spots and areas, thereby including planning and development strategies in localities in order to upgrade and complete infrastructure, including economic and social infrastructure.

Prioritize investment in the development of transport infrastructure, electricity, water, environment, post and telecommunications, and infrastructure of sectors and fields directly related to tourism development such as banking, finance, credit, and health to enhance the accessibility of tourists destinations and at the same time create a link in the chain of tourism resources as well as the link between tourism and other sectors.

In particular, it is necessary to promote investment promotion in major infrastructure projects and national key tourism projects. Encourage tourism development investment projects to have specific commitments to the protection, embellishment, and development of tourism resources. Develop regulations on investment incentives in specific tourist areas and spots; create more favorable conditions in terms of administrative procedures, licensing of enterprise establishment, business licensing, and investment; accelerate the progress of site clearance.

Promoting investment attraction for tourism must be associated with the review, evaluation, and evaluation of the capacity of investors, the quality of investment projects, the selection of investors who are really capable and have a purpose, and a serious investment strategy to ensure the feasibility and efficiency of projects. Implement preferential policies and investment support at the same time as urging and regularly inspecting the implementation of tourism development projects, especially the compliance with planning contents and commitments on investment progress; resolutely withdraw projects that are behind schedule over the allowed time or projects that violate commitments and regulations to avoid wasting resources, especially land resources and tourism resources.

### ***Fourth, develop the market, promote the development of sustainable tourism***

Immediately implement the development of long-term and annual programs and plans for tourism promotion, especially environmentally friendly tourism, cruise tourism, spiritual tourism, and heritage tourism; promote joint activities to improve the overall efficiency in



advertising.

Strengthen the coordination between the Ministry of Culture, Sports and Tourism with central and local mass media agencies, foreign information agencies, and diplomatic missions of Vietnam in foreign countries to boost the image of Vietnamese tourism.

Stimulate cooperation programs with international organizations to expand tourism promotion activities. Invest adequate funds for tourism promotion; expand the socialization of tourism; encourage businesses to be more active and proactive in promoting their businesses and contribute to the image of national tourism. At the same time, train, guide, propagate, and educate responsibility and honesty in promotional activities; closely examine the contents of promotion and strictly handle violations in tourism promotion activities to ensure the prestige of Vietnam's tourism brand.

***Fifth, training and developing quality human resources to meet the requirements of sustainable tourism development.***

Tourism human resources play a great role in the implementation of sustainable tourism, so in the coming time, it is necessary to pay attention to development solutions in both quantity and quality of tourism human resources, such as:

Establish a database system on national tourism human resources to fully assess the quantity and quality of tourism human resources; survey, evaluate, and forecast tourism human resource needs both immediate and long-term; develop and organize the implementation of tourism human resource development plans following the general planning, development requirements, and sustainable tourism development goals and orientations.

Improve the quality of human resource recruitment for the tourism management and labor apparatus based on strictly implementing the regulations on personnel quality standards corresponding to each job position and recruitment process. Supplementing and perfecting mechanisms and policies in recruitment and retraining experts, officials and laborers in the tourism industry, especially policies on socializing the training of tourism human resources and attracting skilled professionals from the outside into priority areas or fields where the on-site force is still thin and weak. Create conditions for social organizations and enterprises of all economic sectors to coordinate and link with training institutions to expand short-term, unfocused forms of training to serve the needs of both learning and working.

Support community education and open training courses on tourism knowledge for people directly participating in sustainable tourism activities. Strengthen the training capacity of tourism human resource training institutions on teaching staff, facilities, and teaching conditions, expand cooperation, and link training with prestigious domestic and international schools, institutions, and training organizations.

Regularly organize training activities for tourism human resources to meet the development requirements of the industry, focus on training and developing a team of experts in each specialized field of tourism activities, especially on sustainable tourism development. Improve the quality of state management cadres and civil servants at all levels of tourism; closely combine theoretical and practical training. In particular, emphasize the educational content on resource and environmental protection in the program system of tourism training levels.

Support to train and guide households and small or medium enterprises to do tourism; skill training to restore and develop traditional crafts to create tourist attractions and produce souvenirs for tourism. Actively mobilize capital sources for tourism human resource development, including state budget; non-state budget resources, especially socialized capital from tourism enterprises; aid capital sources from foreign organizations and individuals to develop tourism human resource training.

#### IV. CONCLUSION

The tourism industry has been oriented to develop as a key economic sector of Vietnam's economy. Despite this, challenges and obstacles hinder tourism development from climate change and environmental pollution. The Covid-19 pandemic has not been thoroughly controlled and negatively affects the tourism industry. Finding a new, more suitable direction and solving the difficulties that Vietnam's tourism industry is facing is very urgent. Sustainable tourism with superior advantages is the right choice at this time, both reducing the greenhouse gas emissions that tourism activities cause and meeting the increasing needs of tourists: natural tourism, health tourism, and sustainable development.

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# THE ROLE OF ENVIRONMENTAL MANAGEMENT ACCOUNTING IN ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT

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*Abstract: Environmental management accounting is about the collection, process, analyzation and presentation of information on environmental activities performed by an enterprise. This information could be used by both internal and external users to make their optimal decisions, especially decisions which are related to environmental protection and sustainable development. This paper will clarify the role of environmental management accounting in environmental protection and sustainable development.*

*Keywords: Environmental management accounting; environmental protection; sustainable development*

## 1. INTRODUCTION

Environmental management accounting has been early mentioned in developed countries around the world since the 1970s. In 1972, the term was introduced at the Summit on the environment in Stockholm (Sweden). Fleishchmann et Paudke (1977) and Verein Deutscher (1979) focused on the calculation of costs and profits associated with measures to combat environmental pollution. In the early 1980s, many American companies highly appreciated projects that invests in environmental technologies. At this stage, governmental organizations and non-profit organizations in the US often pay attention to environmental management accounting, while many enterprises do not care about this.

Environmental management accounting has spread to a number of countries such as Germany (1980), Japan (1999). In 1992, the US Environmental Protection Commission conducted a project on environmental management accounting with the task of encouraging and promoting enterprises to fully aware all aspects of environmental costs, the relationship between environmental costs and environmental factors in business.

Environmental management accounting is set on the basis of a system of national environmental laws such as Environmental Act, Cleanup Law, Dangerous Wild Animals Act, Sarbanes - Oxley Act, Waste Regulations, etc. The application of environmental protection measures and environmental management accounting inevitably increases costs of enterprises.

Recently, researchers and business executives have started to pay attention to environmental management accounting. Many seminars related to environmental management accounting were held at national and international forums. Also, many countries have successfully applied environmental management accounting such as Canada, Denmark, Argentina, Singapore, Korea, Indonesia, South Africa, etc.

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Recently, in Vietnam, environmental problems are facing instability and difficulty in controlling. There are many reasons, but the main reason is due to the pressure of economic development and population growth, in the context of increasingly scarce resources. On the other hand, Vietnam is in a period of industrialization and modernization. This process has created great economic changes, but at the same time it also leaves environmental consequences, affecting the environment. our existence today and future generations.

In the mass media every day, we can easily come across images and information about environmental pollution. The economic development and environmental preservation of each country often have an inverse relationship. If you set high economic development goals, the possibility of having to use a lot of natural resources and the possibility of pollution from industrial waste is very large, directly affecting the sustainable development of the environment. school. Therefore, countries need to harmoniously resolve the relationship between economic development and environmental protection. With the concept that everything that can affect human health and damage the environment is considered environmental pollution.

Pollution from the influence of social development: For example, the process of urbanization is growing too fast, many people have no jobs so they go to the forest to cut down to maintain their lives. Reducing number of trees means we have less O<sub>2</sub> to breathe, leading to a polluted environment, frequent droughts and floods...

The current situation of environmental pollution has become serious, mainly due to waste from production activities, industrial parks, export processing zones of enterprises and the lack of awareness of people in discharging effluents. Pollution assessment indicators are many times higher than permitted standards, especially in big cities like Hanoi and Ho Chi Minh City. This pollution is the main cause of climate change that reduces agricultural land productivity, increases water shortages, increasingly severe weather (droughts, frequent floods), biological systems, and climate change. imbalanced state and increased disease, etc. thereby directly affecting the production process as well as product quality of enterprises. Therefore, it is very necessary to develop and apply measures to effectively manage the environment. How to both bring economic benefits and how to improve the environmental status towards a cleaner production strategy.

In the trend of building a Green Economy launched by the United Nations in 2010, Vietnam needs a new perspective and thinking in the economic development roadmap to ensure fast, stable and environmentally friendly economic growth. school. The State needs to pay attention and promulgate more and more legal regulations to limit the over-exploitation of natural resources, serve economic and social development while minimizing acts of violating, destroying the environment, causing environmental pollution. In order to implement those legal provisions, it will inevitably incur more costs related to the environment, to environmental protection, to handling environmental impacts and to improving environmental quality in the business contract. businesses and in the implementation of investment projects. Therefore, managers need to have more information about the environmental related costs incurred. In reality, environmental costs and environmental benefits do not have separate accounts to monitor and account for. Many environmental costs are generally reflected in accounts related



to management costs. Because of such a general reflection, it is difficult for managers to detect and perceive the scale and nature of environmental costs in general and each environmental cost in particular. In current reality, significant costs related to the environment have not been recorded in accounting accounts such as repair costs, compensation costs, troubleshooting costs, and cleanup and treatment costs in accidents. accidents, destruction of the ecological environment and living environment.

Environmental accounting is a part of enterprise accounting, related to information about environmental activities within the enterprise to collect, process, analyze and provide environmental information to internal audiences. and outside businesses use to make decisions. Furthermore, environmental accounting aims to achieve sustainable development, maintain good relations with the community, and improve the effectiveness of environmental protection activities. Environmental accounting methods allow businesses to identify environmental costs, identify income and expenses and provide the most reasonable ways to measure indicators and support for reporting environmental results. Therefore, environmental accounting is used as an environmental information system to serve internal and external audiences.

## **2. Perspectives on environmental management accounting**

Currently, environmental management accounting has received interest from many organizations, researchers, and business executives around the world. There are many different perspectives on environmental management accounting.

For example, Ullman (1976) concluded that an enterprise might face threats to business legitimacy as well as the interest of stakeholders when facing its environment impacts, therefore, enterprises need to perform environmental management accounting practices. With the support of environmental management accounting practices, the disadvantages of traditional accounting could be overcome, especially on the monetary aspect of traditional accounting. Environmental management accounting is in line with social requirements, help to improve social corporate responsibility and generate more positive feedback for stakeholders.

According to Jones (2010), environmental management accounting needs to fully record, measure and disclose the environmental impacts of enterprises.

According to JMOE (2005), environmental management accounting focuses on two areas, which are national environmental accounting and environmental accounting for businesses and organizations. National environmental accounting is at the macro level. At the micro level, environmental accounting practices in enterprises and other organizations refers to recording, measuring, and providing information about an entity's environmental responsibility performance with stakeholders.

According to USEPA (1995), environmental management accounting is one of the strategies to assess environmental aspects in sustainable development. These strategies differ in their degree of comparability across energy, water, materials, and runoff indicators.

Gauthier et al (1997) stated that environmental management accounting in enterprises is related to environmental issues and cannot be separated from financial accounting and management accounting. It is an information system that enables data collection, analysis,



monitoring, performance evaluation, decision making, and accountability for managers for environmental costs and risks.

Deegan & Deegan (2003) also agreed that environmental management accounting provides information related to environmental performance to both internal and external stakeholders. Environmental management accounting can be applied at enterprises, countries or territories.

According to the United Nations Sustainable Development (2003), environmental management accounting is the identification, collection, analyzation and usage of environmental information for internal decision making. Non-monetary information about the usage, circulation and disposal of energy, water and materials (including waste) and monetary information about the costs, profits and savings associated with environment.

Nguyen Phu Giang (2020) also defined environmental accounting is the identification, collection, analysis and use of physical and monetary information for decision making by business executives.

Similarly, Nguyen Thi Kim Tuyen (2020) agreed that environmental accounting uses a theoretical framework and new accounting methods to record, measure and disclose financial information and non-financial information related to environment to provide useful support to the decision-making of internal and external stakeholders. Furthermore, she claimed that this is a mean to measure the interactions between the environment and business activities, emphasizing the link between environmental performance and economic efficiency towards the goal of sustainable development.

According to the International Federation of Accountants, environmental management accounting is a term with broad meanings, including many implications such as the assessment and disclosure of environmental information that incorporates financial information in accounting practices and financial statements; the evaluation and use of environmental related information in the form of monetary and physical units in environmental management accounting; the estimation of costs and environmental impacts of the business, often involving full cost accounting; the resource accounting and the flow of natural resources in terms of monetary and physical units; the collection and disclosure of enterprise-level accounting information, natural resource accounting information and other information to serve national accounting purposes; the consideration of information in the form of monetary and physical units related to the environment while implementing sustainability accounting.

According to the Institute of Environmental Management Accounting, environmental accounting is the identification, measurement and allocation of environmental costs, incorporation of environmental costs in economic decisions, disclosure of information to stakeholders.

According to Japanese environmental accounting practice manual, environmental accounting has the goal towards sustainable development, maintaining good relationships with the community and pursuing environmental protection activities during normal operation, identifying benefits from such activities, providing a quantifiable approach, and supporting the method of disclosure.

Although there are many views on the concepts of environmental management accounting, these views, to some extent, share similar points.

With the concepts of environmental management accounting mentioned above, main characteristics of environmental management accounting could be summarized as:

Firstly, environmental management accounting is the accounting of monetary information and physical information about the environment. Environmental currency information is information about environmental costs, environmental income, environmental assets and environmental liabilities. Environmental physical information is about the flow of energy, water, materials and waste. Each type of information has a different purpose. For monetary information, businesses are very interested in this information. At the same time, physical information plays an important role in meeting social standards and legal requirements.

Secondly, environmental management accounting does not use historical costs but estimates potential future costs. The difference between environmental management accounting and traditional accounting is that environmental accounting information extends beyond normal costs, including implicit costs, future costs, and contingencies. These costs are incurred due to future environmental regulatory changes, impacts on ecosystems, human health due to air pollution, depletion of natural resources, emissions and wastewater, etc. Environmental management accounting can help business executives realize that it is necessary to spend money today to deal with environmental problems, which can reduce a lot of costs in the future.

Thirdly, environmental management accounting uses measurement methods that focus on the past, present and future to solve short-term or long-term environmental problems. These including factor costing, activity-based accounting, full costing, business cycle analysis, and cost tier analysis, determination of total costs and cost allocation criteria, environmental risk assessment and analysis of uncertainty conditions, environmental control, environmental performance assessment, balanced scorecard measurement, etc.

### **3. THE ROLE OF ENVIRONMENTAL MANAGEMENT ACCOUNTING IN ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT**

#### **3.1. Regarding environmental protection**

Firstly, providing information for those who need it such as business executives, investors, state agencies, banks, customers, suppliers, employees, etc.

Secondly, regularly monitoring business activities and its environmental protection through indicators;

Thirdly, making an overview report on environmental assets, environmental liabilities, environmental costs and environmental income of business activities;

Fourthly, carrying out the insurance and management of risks of enterprises about changes in the process of environmental protection in the future.

#### **3.2. Regarding sustainable development**

Sustainability is considered from three important aspects: economic, social and environmental ones. These are three aspects that are closely related to each other. Social and environmental responsibility cannot be separated from economic one. Enterprises provide products and services to generate profits, growth and create new jobs. In pursuing an

operational goal, an enterprise must take into account its social and environmental impact as part of sustainable value creation.

The role of environmental management accounting in sustainable economic development is reflected in the following main features:

Firstly, an unpolluted environment will create a healthier working environment, better people's health. Environmentally friendly products made by businesses are easy to consume and gain higher profits;

Secondly, ecological efficiency: in the context of sustainable economic development, effective measures are those that reflect ecological efficiency and resource efficiency. Ecological efficiency is the relationship between the desired production output and the additional environmental impact to have to obtain this output. Therefore, ecological efficiency is also a technical measure related to environmental performance and requires information about the material flows that environmental management accounting provides.

Eco-economic efficiency measures the relationship between the economic performance index and the environmental performance index. The eco-economic efficiency strategy focuses on the relationship between economic performance and environmental impact.

To measure ecological efficiency, it is necessary to know the amount of materials and energy used, the amount of emissions caused and the amount of output desired to be produced. Therefore, it is necessary to have measures and tools to monitor, measure and report physical information. Therefore, in order to achieve good ecological efficiency, it is necessary to use both economic measures and measures to protect the environment.

Product efficiency: efficiency assessed for a given product for the purpose of reducing the inputs used, i.e. using less materials and generating less waste at each stage of production or product life cycle.

Resource and material efficiency: any reduction in materials and energy leads to a reduction in emissions, in other words saving natural resources. Therefore, the most important effect in the context of sustainable production is to increase resource efficiency, the efficiency of economical use of materials and energy. Resource efficiency is ecological efficiency that focuses on the relationship between economic performance and the respective resource efficiency of a product and process to serve a given need. Resource efficiency is the economic efficiency per unit use of a product or process resource. Resource efficiency includes all resources such as materials, the impact on the natural environment, the ecological environment. To improve material efficiency requires information on all material lines related to the product. The sustainable manufacturing approach can approach the material strength of the product with a purely quantitative view of the material flow. In this way, additional environmental impact measurement for all material flows in kilograms, tons including energy is also measured in this way. However, for production enterprises, material efficiency is the flow of materials used by enterprises in their production processes. Environmental management accounting has been developed to provide historical information based on a continuous recording system to provide information and data that are comparable to those for investment appraisal and decision-making of investors and managers in enterprises.

#### 4. Conclusion

Environmental protection and environmental management accounting are urgent issues, and at the same time, they are both extremely difficult and challenging. Environmental management accounting is an essential tool that not only helps businesses meet environmental protection requirements, but also improves business efficiency and competitiveness. Environmental management accounting is a relatively new concept in Vietnam currently, thus understanding the nature, benefits and role of environmental management accounting affects the sustainable development of the society. The application and development of environmental management accounting inevitably contributes to cost management, generates profits towards the goal of sustainable development, and supports Vietnamese enterprises in the global economic integration.

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## THE ENVIRONMENTAL PROTECTION TAX WITH SUSTAINABLE DEVELOPMENT IN VIETNAM

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**Abstract:** Environmental protection tax is a state budget revenue to regulate activities affecting the environment and control environmental pollution. Environmental protection tax is considered an indirect tax, imposed on products and goods that have adverse effects on the environment when being used. This tool plays an extremely important role in changing the behavior of organizations and individuals, raising the awareness of environmental protection in investment, production, and consumption to sustainably develop each country's economy. The article focuses on clarifying some fundamental theories about environmental protection tax: the concept, characteristics and roles of environmental protection tax with sustainable development of the economy; Research and analyze the current situation of environmental protection tax with the promotion of sustainable development of Vietnam's economy in the period from 2015 to 2022; On that basis, evaluate the achieved results, point out the main shortcomings, then propose 05 complete solutions to promote the role of environmental protection tax in promoting sustainable development of Vietnam's economy in the coming time - new solutions include: (i) expanding the subject of environmental protection tax to cover the sources of environmental pollution; (ii) developing and applying a roadmap to increase environmental protection tax; (iii) giving more priority to projects of green growth, environmental protection and response to climate change; (iv) improving the efficiency of inspection and handling of violations of the tax law on environmental protection; (v) strictly implementing the principle that those causing environmental pollution must pay the costs for treatment, remedial consequences, improvement and restoration of the environment.

**Keywords:** environmental protection tax, green growth, sustainable development.

### 1. INTRODUCTION

Environmental protection and sustainable development are issues that have received global attention for many years because the rapid economic development and the world population explosion have caused serious pollution to the living environment. Environmental protection tax is considered an effective tool to affect the behaviors of producers and consumers, thereby orienting their behaviors towards environmentally friendly, promoting sustainable development. Accordingly, in economic terms, through the environmental protection tax, the government ensures the implementation of the country's overall socio-economic goals. Using environmental protection tax tools for a green economy will achieve the "dual goal" of limiting environmentally harmful behaviors in production and consumption, while also contributing to additional resources for the state budget and consolidating the government's fiscal position. Moreover, environmental protection tax towards a green economy, when effectively implemented, will facilitate the government in sustainably restructuring revenue. In terms of the environment, the environmental protection tax aims to influence production and consumption behavior through tax incentives for environmentally friendly economic activities and at the

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same time, taxing economic activities that damage the environment - this is an important foundation for promoting sustainable economic growth.

## 2. RESEARCH OVERVIEW

In Vietnam, environmental protection tax has only been noticed for over 10 years. All studies about the tax confirm its important role of it to achieve goals for the sustainable economic development of each country. Also they work on the current status of environmental protection tax in Vietnam and make assessments on the achieved results, some limited aspects from which to propose some recommendations suitable for the research period. Some typical studies can be mentioned by Nguyen Dinh Chien (2017) [5], Dinh Trong Khang (2016) [6], Nguyen Thi Thanh Hoai (2014) [7], Vuong Thi Thu Hien, Pham Xuan Thang (2017) [12] and Pham Bach Khoa (2021). Research topics focus on analyzing the limitations, inadequacies, and difficulties in state management of environmental protection activities and tax policy. However, so far, according to the research team's knowledge, there is no work that systematically and in detail presents and explains the basic issues of environmental protection tax such as: concept, characteristics and roles. At the same time, there has been no research studying the current situation of environmental protection tax in Vietnam - assessing the impacts of environmental protection tax on sustainable development of Vietnam's economy in the period from 2015 to 2022. In addition, there have been no studies that specifically and comprehensively analyze the difficulties in state management of environmental protection tax collection activities in the context of Vietnam's economy increasingly integrating deeply and widely with the international economy - These are the "gaps" for the research team to deploy this research.

## 3. RESEARCH METHODS

To achieve the research objectives, the study uses qualitative research methods such as methods of synthesis, statistics, comparison, analysis, description, interpretation, etc. Main data is collected by the authors from public reports on the State budget of Vietnam for the period 2015-2022.

## 4. RESEARCH RESULTS

### 4.1. Overview of environmental protection tax

Environmental protection tax is an indirect tax, collected on products and goods that, when used, cause adverse effects on the environment. In Vietnam, the environmental protection tax focuses mainly on the export and import of some products that may have negative impacts on the environment and human health. This is also a concept that the authors agree on and use in the process of conducting this study.

*\* Characteristics of environmental protection tax:*

Environmental protection tax has the following characteristics:

- Environmental protection tax is an indirect tax, which is added to the selling price of products and goods. Accordingly, the final consumer must bear the tax for the producer.



- The specificity of objects which are subject to environmental protection tax, including products that have a negative impact on the environment during their use.

- Environmental protection tax is considered an important economic tool of the state in the management and protection of the environment. Specifically, this tax brings high efficiency to environmental protection management compared to the issuance of other administrative decisions. In addition, environmental protection tax contributes to the increase in the use of technology, especially advanced and environmentally friendly technology.

- Environmental protection tax is a tool to increase revenue for the state budget. As a result, this tax reduces pressure on the national budget. Accordingly, enterprises producing environmentally harmful products are obliged to pay taxes, then the state budget will have significant additional revenue.

- Environmental protection tax is different from environmental protection fees. Specifically, the person bearing the environmental protection fee is the producer who discharges waste into the environment, while the taxpayer is the consumer of the product. In terms of behavior, environmental protection charges/fees are levied on the act of discharging waste into the environment during the production and consumption process (collected from the subject who discharges wastes causing environmental pollution, such as domestic wastewater fees). Meanwhile, environmental protection tax only focuses on some products causing pollution to limit their use. Regarding the collection fee, it is determined according to the principle of offsetting the cost of environmental pollution treatment. The tax is regulated by the state based on the need to use the environmental protection tax. In addition, environmental protection fee is a penalty for violations that have negative impacts on the environment, while environmental protection tax is the right and obligation of enterprises.

*\* The role of environmental protection tax:*

Environmental protection tax has some basic roles as follows:

- First, environmental protection tax promotes sustainable economic development on the basis of economic development associated with environmental pollution reduction. Environmental protection tax increases the costs of businesses, thereby limiting a part of activities that negatively impact the environment and at the same time, promoting businesses to find new solutions, and new technologies that are more environmentally friendly.

- Second, raising awareness of organizations and individuals in production and consumption, thereby improving the awareness and behavior of environmental protection of the whole society to reduce pollution emissions at the source. In other words, environmental protection tax changes the behavior of people towards positive effects on the environment through direct impact on their economic benefits.

- Third, it is an important economic tool for the state to manage activities that have negative impacts on the environment. Based on environmental standards, the State manages, controls, and regulates production and import activities that adversely affect the environment. On the other hand, this is also the basis for individuals and businesses to self-regulate their behavior.

- Fourth, contributing to creating more revenue to solve the problem of environmental protection. Through the collection of environmental protection tax, the state has more budget

sources for current and future environmental remediation and protection activities. Under the current context of industrialization, those activities are becoming increasingly complex, requiring modern technologies as well as technological solutions to ensure sustainable development.

- Fifth, promoting research and application of environmentally friendly technology to reduce waste and pollutants. At the same time, environmental protection tax contributes to saving raw materials and production costs, thereby improving the efficiency of performance of enterprises.

#### **4.2. The current status of environmental protection tax in Vietnam.**

As a country heavily affected by natural disasters and climate change, Vietnam identifies green growth as an important strategy for sustainable development. Regarding public finance, the Ministry of Finance was assigned to lead the implementation of 2/66 green growth actions for the period 2014 - 2020, including: (i) Forming a green growth financial policy framework; (ii) Public spending followed by green standards. The regulations on environmental protection tax are formulated and promulgated with the aim of green growth and sustainable development in line with international practices, in the direction of focusing on encouraging investment and production with clean and energy-saving technologies to support the national green growth strategy.

\* Environmental protection tax prescribed in the Law on Environmental Protection Tax No. 57/2010/QH12 takes effect from January 1, 2012. Environmental protection tax is built on the principle that whoever uses polluting products must pay tax. On the basis of national environmental standards and international practices, the environmental protection tariff is developed.

- Environmental protection tax payers: organizations, households, and individuals that produce and import goods subject to environmental protection tax while the taxable objects are consumers. Vietnam stipulates that environmental protection tax must be paid only once for manufactured or imported goods.

- Objects subject to environmental protection tax are gasoline, oil, grease; coal; HCFC liquid; plastic bags; herbicide; pesticides; forest product management drugs; warehouse disinfectants. The selection of taxable objects with serious environmental impacts in the initial stage of implementation is appropriate to Vietnam's socio-economic conditions. Taxable objects may be added depending on each period; therefore, Clause 9, Article 3 of the Law on Environmental Protection Tax stipulates "In case it is deemed necessary to add other taxable objects to suit each period, the National Assembly Standing Committee shall consider and prescribe". Specifically, to ensure fairness, the National Assembly will add other polluters to the taxable objects

- The specific tax rate is specified in Resolution No. 579/2018/UBTVQH14 dated September 26, 2018, on the Environmental Protection Tariff (effective from January 1, 2019) and Resolution No. 979/2020/UBTVQH14 amending and supplementing subsection 2, Section I, the Environmental Protection Tariff specified in Clause 1, Article 1 of Resolution No. 579/2018/UBTVQH14 dated September 26, 2018 on the following: with the State's socio-economic development policy in each period, the tax rate for taxable goods is determined according to the degree of adverse impact on the environment of the goods. Facing the escalation of petrol

prices, Resolution No. 13/2021 and Resolution 30/2022 of the National Assembly Standing Committee have adjusted to reduce the environmental protection tax from April 1, 2022, for petroleum products in order to reduce the spending burden on people. The environmental protection tariff for fossil resources is shown in Table 1.

**Table 1. Environmental protection tariff for fossil resources**

Commodity	Unit	Tax rate (VND / 1 unit of goods)				
		Before May 1, 2015 (Resolution No. 1269/2011)	From May 1, 2015, to December 31, 2018 (Resolution No. 888a/2015)	From January 1, 2019 (Resolution No. 579/2018)	From April 1, 2022 (Resolution No. 13/2021) (**)	From January 1, 2023 (Resolution No. 30/2022)
Gasoline, oil, grease						
Gasoline, excluding ethanol	Liter	1.000	3.000	4.000	3.000	2.000
Flight fuel	Liter	1.000	3.000	3.000 (*)	1.500	1.000
Diesel oil	Liter	500	1.500	2.000	1.500	1.000
Petroleum	Liter	300	300	1.000	500	600
Fuel oil	Liter	300	900	2.000	1.500	1.000
Lubricating oil	Liter	300	900	2.000	1.500	1.000
Grease	Kg	300	900	2.000	1.500	1.000
Coal						
Brown coal	Ton	10.000	10.000	15.000		
Anthracite coal	Ton	20.000	20.000	30.000		
Bituminous coal	Ton	10.000	10.000	15.000		

Source: [10]

(\*) This tax rate is VND 2,100 / liter from August 1, 2020, to the end of December 31, 2020, then back to VND 3,000 / liter from January 1, 2021. (\*\*) from January 1, 2023, the tax rate will be returned to the tax rate according to NQ579/2018

*\* Environmental protection tax collection results:*

Revenues from environmental protection-related revenues have expanded over the years (Table 2). In 2018, the revenue from environmental protection tax accounted for 3.34% of the total state budget and was increasing, by 2021, the environmental protection tax revenue reached nearly 57 trillion VND, equivalent to 4% of the total state budget revenue. In 2022, due to the reduction adjustment according to Resolution No. 13/2021, the total environmental protection tax revenue decreased to VND 41,748 billion, accounting for 2.4% of the total budget revenue, reaching 72% of the estimate. In particular, the amount of environmental protection tax revenue from the group of petroleum and coal accounted for the majority (about 99%) of the total amount of environmental protection tax over the years.

**Table 2. Environmental protection tax collection results***Unit: Billion VND*

Object	2015	2016	2017	2018	2019	2020	2021	2022
Total environmental protection tax collection	27.020	44.323	45.133	47.923	61.570	59.234	56.954	41.748
The ratio of revenue from environmental protection tax to total state budget revenue	2,71%	4,27%	3,44%	3,34%	3,4%	3,93%	4%	2,4%

*Source: [11]*

The revenue from environmental protection tax has increased continuously over the years, which has contributed to stabilizing the domestic tax revenue in the period of budget revenue facing many difficulties due to the reduction of import tax rates according to international commitments.

*\* Budget spending for environmental protection:*

The results of environmental protection tax collection make an important contribution to ensuring the budget expenditure for environmental protection. According to the Prime Minister's Decision No. 34/2005/QĐ-TTg dated February 22, 2005, on the Government's Action Program to implement the Politburo's Resolution No. 41-NQ/TW on environmental protection in the period of accelerating industrialization and modernization of the country: to ensure that not less than 1% of the total state budget expenditure is allocated to environmental protection non-business activities. The results of budget expenditure for environmental protection are as follows: in 2017 it was VND 18,676 billion (Central budget: VND 1,880 billion; Local budget: VND 16,796 billion), equivalent to 1.3% of total state budget expenditure (1,390,480 billion VND); in 2018 was VND 18,392 billion (Central budget: VND 2,100 billion; Local budget: VND 16,292 billion), equivalent to 1.2% of total state budget expenditure (VND 1,523,200 billion); in 2019 is 20,442 billion VND (Central budget: 2,290 billion VND; Local budget: 18,152 billion VND), equivalent to 1.25% of total state budget expenditure (1,633,300 billion VND) [13].

*\* General assessment:*

*- Achievements:*

+ *First*, the implementation of environmental protection tax contributes to raising the awareness of environmental protection of subjects in society, helping to change their behavior in production and consumption of products that pollute the environment, towards sustainable economic development. Not only that, environmental protection tax also contributes to orienting the behavior of the subjects in consumption, production and business activities, minimizing the acts of causing environmental pollution; helping them be aware of paying the cost for "polluting the environment", thereby promoting businesses to be more responsible for researching and implementing solutions to limit adverse impacts on the environment, increasing the application of clean technologies and using alternative raw materials to produce environmentally friendly products, contributing to the economical and efficient use of resources that are gradually becoming exhausted.

+ *Second*, environmental protection tax contributes to helping Vietnam fulfill its commitments to the international community in the field of environmental protection. So far, Vietnam has actively participated in many conventions and multilateral treaties on protection such as: Ramsar Convention (1989), the United Nations Framework Convention on Climate Change (1992); the Vienna Convention on protecting the ozone layer; the United Nations Convention on the Law of the Sea; Convention on Biological Diversity (1994),... The enactment of environmental protection tax is a move that demonstrates Vietnam's efforts in compliance with international environmental law enforcement.

+ *Third*, the application of tax collection on goods and products has a bad impact on the environment when using also contributes to promoting enterprises to reform and innovate technology to find alternative energy sources that are environmentally friendly and meet the needs of society, thereby accelerating the process of approaching Industry 4.0. The most obvious proof is that the development of renewable energy technologies such as solar power, wind power, and biofuels,... are being actively deployed in Vietnam in recent years.

+ *Fourth*, the revenue for the state budget from environmental protection tax is more stable, contributing to the implementation of socio-economic tasks, including environmental protection activities. The law on environmental protection tax has contributed to ensuring the goal of building a synchronous and consistent tax system with other relevant documents, creating an equal and fair legal system; contributing to the development of a uniform system of tax, fee, and fee policies in the field of environmental protection; is a financial solution to help limit the production and use of goods that are not environmentally friendly, thereby contributing to environmental protection and positive impacts on the economic, political and social life of the country in the direction of sustainable development associated with environmental protection.

- *Some existing downsides:*

Although the law on environmental protection tax has been in effect since 2012, most people still do not understand the significance of this tax for the environment. This has led to restrictions on the use of less polluting alternatives. On the other hand, environmental protection tax is an indirect tax but is less noticed by consumers. This situation comes from the fact that the current list of taxable products is only encapsulated in a few types of goods, so the spectrum is still limited.

The propaganda and dissemination of the law in our country is still weak. From a judicial perspective, the ineffective supervision of policy implementation and the handling of violations have not been thorough, leading to the problem of environmental pollution not being strictly controlled. Resources dedicated to environmental protection in Vietnam, compared with many countries in the region, are still modest. The limitations make the prevention and timely prevention of violations of the environmental protection law in Vietnam weak, reflected in the increase in the number of violations as well as the severity. On the other hand, the law has not yet ensured an appropriate mechanism to mobilize the participation and contributions of all organizations as well as individuals involved in environmental protection; the State has not yet taken strict measures to deal with violators that adversely affect the environment. For that reason, at present, environmental protection still seems to be just the work of the management authorities instead of the whole society.



In addition, the State's supervision, management, and implementation of tax collection for environmental protection are still limited. The lack of completeness, lack of synchronization, and overlap in the management regulations related to financial policy in general in environmental protection partly stems from the delay in promulgating regulations related to environmental protection fees and taxes, besides the overlap of too many regulatory documents leading to difficulties in implementation.

*\* Some recommendations:*

In order to improve the environmental protection tax policy for sustainable development, it is necessary to pay attention to the following solutions:

*Firstly*, study, amend, and supplement in the direction of expanding the taxable objects in order to cover the sources of environmental pollution. The tax must be directed to the polluters, the most accurate polluting behaviors, and cover the pollution sources. Researching to add chemical fertilizers, detergents, coal gas, and natural gas to the list of taxable objects of environmental protection tax because coal gas is derived from coal, including methane, ethane, propane, butane, pentane, nitrogen, carbon dioxide, and a little sulfur. When these gases are released into the environment, they will pollute the environment and if exposed to high concentrations, people will be poisoned. Natural gas is a combustible mixture of gases, consisting mostly of hydrocarbons. Substances in natural gas are harmful to the environment and human health. Moreover, in all types of detergents, there are synthetic chemicals that can be harmful to human health as well as cause air pollution when used, while using fertilizers will leave a large amount of residue because it is not absorbed by plants, will have a negative impact on the environment, pollute water sources, soil sources and may affect crop quality.

*Secondly*, in order to limit the use of pollutants, it is necessary to develop and apply a roadmap to increase environmental protection tax because Vietnam's environmental protection tax rate is assessed to be quite low compared to other countries. The tax increase must have a roadmap and assess the full impact of the adjustment in order to achieve widespread persuasion in the society. In addition, it is necessary to remove bio-petroleum products from taxable objects to be in line with the objectives of the tax. Accordingly, it should be clearly stated that the objects subject to environmental protection tax are petroleum products of fossil origin.

- *Thirdly*, making overall review of tax incentives, giving more priority to projects of green growth, environmental protection, and response to climate change. Tax incentive policies must be consistent with the general principles of international trade and investment, without discriminating between foreign investors and domestic investors, between domestically produced products and imported products; consistent with commitments in bilateral and multilateral trade agreements that Vietnam participates in.

- *Fourth*, strengthening and improving the efficiency of inspection, examination, and handling of violations of the tax law on environmental protection.

- *Fifth*, strictly implementing the principle that the object causing environmental pollution must pay costs for treatment, remedial consequences, renovation, and restoration of the environment; beneficiaries of natural resources and the environment must contribute to reinvesting in environmental protection, strengthening communication and raising the sense of social responsibility of each individual and organization in environmental protection.



## 5. CONCLUSION

Environmental protection tax is one of the effective solutions to limit pollution and environmental degradation in the world. In Vietnam, the application of these tools has been deployed at different scales and initially has had positive effects. Therefore, shortly, when the process of world integration becomes closer, Vietnam needs to quickly complete the policy system on economic tools for environmental protection to ensure sustainable development for future generations.

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# DEVELOPING FINANCIAL INCLUSION IN VIETNAM

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**Abstract:** *The article aims to clarify the general issues of Financial Inclusion – a topic of interest to many countries around the world in recent years, especially in developing countries like Vietnam. The article uses statistical, synthesis, analysis and comparison methods to make clearly both the theory and practice of financial inclusion development, from which, evaluates and proposes a number of recommendations to promote financial inclusion in Vietnam.*

**Keywords:** *financial inclusion, poor, sustainable development, National Comprehensive Financial Strategy*

## 1. INTRODUCTION AND LITERATURE REVIEW

Each organization and country affirms, Financial inclusion has a very important position in the socio-economic development strategy. The United Nations considers financial inclusion to be an important solution to achieve sustainable development goals [3]; the G20 group of countries believes that financial inclusion is one of the main pillars in development orientations. The ASEAN countries also identified financial inclusion as one of the three pillars for the ASEAN vision 2025 and established the Working Committee on Financial Inclusion in 2016 with the goal of cooperating to promote financial inclusion in member countries and in the region. In Vietnam, developing financial inclusion is considered as one of the focuses in socio-economic development, according to which, on January 22, 2020, The Prime Minister signed Decision No. 149/QĐ-TTg on promulgating the National Comprehensive Financial Strategy to 2025 and orientation to 2030 [7].

### 1.1. What is financial inclusion?

Financial inclusion can be understood as the fact that all people and businesses have access to and use financial products and services conveniently, in accordance with their needs and reasonable cost, provided in a responsible and sustainable manner, in which, focusing on the poor, low-income people, the disadvantaged, small and medium-sized enterprises, and micro enterprises.

Financial inclusion was first mentioned in the study of access to the financial system by the poor (Leyshon and Thrift, 1995). After that, there have been quite a few follow-up studies to better clarify the content, scope, and objects of financial inclusion. Synthesis of research on financial inclusion by Sinclair (2001), Sarma (2016), Gopalan & Kikuchi (2016) shows that financial products and services include transaction, payment, savings, credit, insurance; and must be provided in a responsible and lasting manner. The target audience of financial inclusion is those with low and vulnerable average financial capacity, those on the “margins of the society” [4]

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The International Monetary Organization (IMF, 2015) refers not only to users but also to financial service providers - credit institutions and banks. World Bank (2018), in addition to making a judgment on financial inclusion (that is, individuals and businesses have the right to access and use financial products and services that are useful and appropriate according to their financial ability and ability to meet their needs (transactions, payments, savings, credit and insurance) in a responsible and sustainable manner), it also points out three key services: Access to financial inclusion; Use of financial services; Quality of financial products and services [2], [4]

From the concept of financial inclusion, it can be said that, the development of financial inclusion in Vietnam has a great significance, is an issue that needs to be researched and implemented effectively – a developing country with the poverty rate is still relatively high, the people near the poverty line are still very much, many people's opportunities to access financial services and many small and medium-sized enterprises have not been expanded.

## **1.2. The role of financial inclusion**

From the perspective of the entire economy, financial inclusion plays a very important role in economic development in general and sustainable development in particular of a country. Financial inclusion supports and accelerates poverty alleviation and income inequality. Financial inclusion also helps the economy increase savings and investment, thereby promoting faster and more sustainable growth. A society with open access to financial services for all will increase their participation in community life in general, improve equity and equality, and increase the capacity of society as a whole. Moreover, financial inclusion also supports the move towards a faster and more efficient cashless economy

From the perspective of people and businesses with weak or average financial capacity, Financial inclusion helps them have access to financial services: savings, credit, insurance and many financial funds, formal financial institutions, etc. As a result, they can solve personal financial problems, can be productive, have economic opportunities, and have opportunities to improve their production and production income for their family.

Through bank loans - using a financial service in the formal sector - farmers or the poor can protect themselves against shocks or risks in life such as illness, disease,...; as well as help them avoid having to borrow in the informal sector at "exorbitant" interest rates so that poverty piles up on poverty.

With the effective support of technology, individuals and small and medium enterprises have the opportunity to access and use many safe financial services, thereby, they will have more opportunities to save and invest safely as well as be proactive in using capital for reinvestment, capital contribution and business.

From the perspective of financial institutions, financial inclusion means expanding the target audience to all groups of people in society, creating opportunities for them to develop a variety of products and services, expand the customer base, and thereby increase profits

## **2. RESEARCH RESULTS**

### **2.1. Achievement**

After nearly 3 years of implementing the National Financial Inclusion Strategy to 2025 and orientation to 2030, Vietnam has gradually implemented many solutions as well as completed financial inclusion development activities. Some highlights are:

*Firstly, regarding access to financial services:*

With the strong support and application of digital technology, Vietnam is gradually improving the accessibility and use of financial services for people and businesses, especially disadvantaged groups such as women, the poor, and low-income people, contributing to poverty reduction, creating a harmonious and sustainable development across all regions of the country. The network of financial service providers is widely developed throughout the country, especially the service delivery channels on modern platforms such as mobile phones, the internet., financial products and services are increasingly diversified, modern, and suitable for a wide range of customers, especially aiming to support and facilitate access to financial services for disadvantaged people and small and medium-sized enterprises.

The result of the past 5 years, especially from 2020, credit institutions have strongly developed ways to help people and businesses access financial services easily such as developing ATM, POS systems and financial service points spread throughout the country; focus on balancing capital sources for specific credit programs serving agricultural and rural development with the total outstanding credit for this field accounting for 25% of the total credit outstanding of the economy. The percentage of the poor who have access to credit services is increasing day by day.

*Secondly, using financial services*

People and businesses are more and more willing to use financial services with increasing participation and usage rates. Non-cash payment is considered as a highlight with a strong development with many diverse forms of payment as well as the rapid acceptance and adaptation of people since 2020. The implementation of electronic payment services via the Internet and mobile phones has achieved impressive results, with a large number of visitors as well as transaction value. Non-cash payments in Vietnam nowadays appear in most activities in the economy, from very small transactions such as buying vegetables at the market, buying breakfast, paying for orders...

Regarding opening and owning transaction accounts at credit institutions, about 75% of Vietnamese adults have payment accounts at banks with more than 53 million accounts, 3.71 million Mobile-Money accounts have been opened, most of which are opened in rural, remote and isolated areas... by the end of May 2023. The possibility that Vietnam can complete earlier of the set target is completely reasonable if associated with the goal set out in the strategy, which is that by the end of 2025, at least 80% of adults will have a transaction account at a bank or other authorized organization

The transformation of people's non-cash payment behavior was strongly developed and continued to be maintained after the Covid-19 epidemic, even more so when banks grasped the trend, actively deployed modern services and technologies, with many preferential programs.

*Thirdly, the quality of financial products and services*

Financial products and services, especially basic financial products and services aimed at the target audience of financial inclusion, are focused on developing on the basis of digital technology applications with many utilities suitable to the needs of consumers; payment infrastructure continues to be invested and perfected... Service providers continue to develop

their networks and develop diversified distribution channels of financial products and services nationwide, especially service delivery channels on modern platforms such as mobile phones and the Internet.

Financial products and services are becoming more diversified, more modern, safer and more convenient at a reasonable cost, suitable for a wide range of customers thanks to the strong application of achievements of the industrial revolution 4.0. Payment infrastructure continues to be invested and completed

## **2.2. Shortcomings**

Besides the positive results achieved, the implementation of the national comprehensive financial strategy still faces many difficulties and challenges, according to the State Bank

*Firstly*, there are still many barriers for Vietnam to implement inclusive financial development targeting the poor.

The target audience of financial inclusion (that is the poor, poor households) has not really improved in non-cash transactions activity, although the number of non-cash transactions has grown strongly in recent years.

The financial services are accessed by the poor and low-income who are living in rural and remote areas still has a long distance and really not easy

It is so complicated for poor and poor households to own a payment account. They are entangled in both the account opening procedure as well as the ability to maintain it. There are many kinds of paperwork requirements that the poor have to respond to create an account as well as the costs associated with owning an account and the transaction fee ... become a barrier in opening an account for the poor and poor households. As a result, many individuals are unable to access formal financial services because of paperwork problems, they turn to informal credit channels with high-interest rates, creating an ever-increasing burden of debt repayment, leading to poorer poverty, even impoverishment. Other services such as health care and insurance are also difficulty for them to reach.

Thus, removing barriers so that the poor can fully participate in the financial sector, build a financial system that serves everyone (inclusive financial sectors) is the big challenge that Vietnam has to face now

*Secondly*, some risks like the connection and sharing of data to serve the payment of services and the legal corridor related to the protection of user data privacy in the financial sector ... make people do not really trust financial transactions, limiting the access to and use of financial services.

*Thirdly*, the quality of bank credit services is not high, there are not many support activities so that people in difficult areas and poor households can access credit services and credit products when the network of POS and ATM machines is mainly equipped in urban areas and densely populated areas, similar to transaction offices and bank transaction points.

## **2.3. Solutions**

The Vietnam national comprehensive financial strategy plays a very important role in creating favorable conditions for all people and businesses to access the financial resources for



development, increase income, and improve living standards. This will support and promote the achievement of Vietnam's sustainable development goals by 2030. One of the subjects that inclusive finance targets are the poor, poor households, and micro-enterprises, thus, the proposed solution below will also focus more on this group:

*Firstly*, diversifying credit products and services suitable for each customer group, in which, more attention is paid to disadvantaged groups in society. Flexible forms of savings, suitable for income streams and the diversified loan term associated with the characteristics of production and business activities (such as agricultural production, etc.) are the aspects that need attention, thereby, helping to connect the disadvantaged who can access formal financial services, and solve the need for resources for production and business at certain times. This solution will step by step reduce the risks that the poor have to face in their life and their business as well as gradually eliminate loan sharking by informal financial channels.

*Secondly*, design and promote individual financial education programs suitable for different target groups, in which, it is necessary to develop specific programs for disadvantaged groups - who are very vulnerable and have difficulty in accessing financial services. Promote communication, improve understanding of financial services in society and people's participation in comprehensive financial development strategy, especially the young generation. Due to still a relatively large proportion of Vietnamese people who do not have enough knowledge to understand financial products and risks related to financial products, in which, focusing mainly on disadvantaged people, poor people, in difficult areas. They themselves are really afraid of having to handle something relating to credit documents, records and procedures. Therefore, promoting financial education, especially promoting financial education communication for people in remote and rural areas, young people, and disadvantaged groups in society to communicate about banking products and services, guiding and protecting consumers in using banking products and services... is necessary. Thereby, increasing their understanding and confidence, and they understand that there are always formal financial institutions to support them when needed.

*Thirdly*, there should be policies to support credit institutions in providing financial services, supporting commercial banks to develop transaction networks in rural, remote and isolated areas, and to rationally arrange and develop ATM and POS networks, encourage the expansion of ATM and POS networks in rural, remote and isolated areas.

*Fourth*, improve and increase the efficiency of using financial infrastructure, facilitate the reduction of transaction fees, and meet the requirements of promoting financial inclusion. In the context of the industrial revolution 4.0, it is necessary to upgrade the technology infrastructure compatible with modern science and technology platforms, such as cloud computing, mobile devices, big data analysis and social networks, etc. At the same time, have a training policy to improve the quality of personnel capable of operating and mastering increasingly complex operating systems and databases as well as ensuring security and safety during operations.

*Fifth*, improve the legal framework to create a favorable environment for the realization of financial inclusion goals. This solution plays a very decisive role, influencing the effective implementation of the 4 solutions proposed above. The legal framework needs to be completed on two main fields:



One is to create a legal framework to promote the development of credit services suitable for each target group. It is necessary to ensure the commitment to pursue and implement a comprehensive financial strategy as well as ensure the participation of all stakeholders, especially the private sector. Strengthening links with non-banking organizations such as telecommunications operators in providing digital financial services is suitable in the Industry Revolution 4.0 context, that makes sure not only the adaption in development but also to a large number of people in remote and isolated areas can access formal financial services.

The second is to create a legal framework to protect financial consumers, which is reflected in (i) Information transparency; (ii) the right to choose products; (iii) privacy and (iv) simple implementation [2], [5]

### **3 CONCLUSION:**

Financial inclusion is one of the key tasks in socio-economic development in Vietnam towards sustainable development. Within the framework of a small research, based on the basic theoretical framework and the current status of Financial inclusion in Vietnam (focus on the disadvantaged, namely the poor and poor households), the article proposes solutions for developing financial inclusion to reach the goals of the National Financial Inclusion Strategy.

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# FACTORS AFFECTING THE APPLICATION OF MANAGERIAL ACCOUNTING IN SMALL AND MEDIUM-SIZED ENTERPRISES IN CAN THO CITY

MA. Truong Thi Thuy Hang<sup>1</sup>

**Abstract:** *This paper aims to analyze the impact of factors affecting apply of management accounting in small and medium enterprises in Can Tho City, which adds to the empirical evidence on these factors. The survey results collected 144 questionnaires using a questionnaire survey of leaders, financial directors, chief accountants, or accountants. Quantitative research was carried out with SPSS 26 software. The research results show that five factors have a positive influence on the application of management accounting, including corporate culture, business strategy, perception of business owners/managers, cost of management accounting organization, and information technology system. Based on the research results, the author has proposed recommendations to assist small and medium-sized businesses in enhancing their capacity to successfully implement management accounting techniques, thereby improving their competitiveness and efficiency performance and contributing to the long-term sustainability of the business.*

**Keywords:** *Management Accounting, Small and Medium Enterprises, Can Tho City.*

## 1. INTRODUCTION

Many small and medium-sized businesses struggle to survive in today's international business environment. Many reasons lead to SMEs shutdowns besides rapidly changing market conditions. These include a lack of working capital, poor management skills, and inadequate use of essential business and management activities. The use of management methods can provide important information to ensure the effectiveness and efficiency of the business. Hopper, Koga & Goto (1999) study of Japanese small and medium enterprises, stated that the failure to adopt management accounting practices (i.e. cost management systems) could be the cause leading to the current high failure rate of small and medium enterprises. Poor management practices, according to Ahmad (2012), are one of the primary causes of small and medium-sized business failure.

Management accounting is an accounting system that provides information to business managers in planning and controlling their activities (Robert S.Kaplan and Anthony A.Atkinson, 1998). In fact, management accounting information is equally significant as financial accounting information, but in existing documents, financial accounting information is more common. Financial accounting information is provided to both internal and external users, while management accounting information is mainly provided to managers inside the business. Financial accounting helps users outside the business such as investors, creditors, competitors, government, and suppliers ... understand the financial situation through financial reports. In contrast, management accounting information caters to internal users, mainly managers. As a result, the function of management accounting information suppliers is critical to have accurate and timely information to support managerial choices.

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Can Tho City is a city directly under the central government of Vietnam, located in the center, bearing the characteristics of the Southwest region, and is the most modern and developed city of the Mekong Delta. Can Tho is an economic and cultural center, a substantial hub for regional and international transportation in the lower Mekong region. The role of Can Tho is extremely essential, both in terms of socio-economic and cultural life, as a key area holding a strategic position in the defense and security of the Mekong Delta.

According to a preliminary survey of business managers, the percentage of firms in Can Tho City that use management accounting is still quite low. The accounting system of firms in general, as well as small and medium-sized enterprises in Can Tho City, has primarily focused on financial accounting, failing to comprehend and grasp the relevance of accounting application management in the sphere of management. As a result of studying and understanding the elements influencing the apply of management accounting in small and medium firms in Can Tho City, businesses can increase operational efficiency, sustain growth, and contribute to the long-term development of the local economy.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Currently, many authors are studying the factors affecting the application of management accounting such as Abel – Kader and Luther (2008), Tuan Zainun Tuan Mat (2010), Erserim (2012), Halbouni and Nour (2014) ), Kamilah Ahmad, Shafie Mohamed Zabri (2015), Sudhashini and Yee Soon Nian (2017) and Sidra Shahzadi et al (2018). In general, research focuses on various aspects of management accounting. Many studies attempt to explain the causes and effects of factors influencing the usage of management accounting in businesses. The research results of the authors have shown the factors affecting the application of management accounting in enterprises, including factors such as enterprise size, information technology application, the level of interest of managers, accounting team qualifications, decentralized organizational design, corporate culture, etc. have an impact on the application of management accounting in enterprises.

Tuan Zainun Tuan Mat (2010) researched the topic “Management accounting and organizational change: impact of alignment of management accounting system, structure, and strategy on performance”. Research results show that there is only an impact on the application of management accounting from the following factors: Enterprise structure, advanced technology, and business strategy.

Erserim (2012) researched the topic: “The impacts of organizational culture, firm’s characteristics and external environment of firms on management accounting practices: an empirical research on industrial firms in Turkey” in manufacturing firms in Turkey on the impact of factors, including corporate culture (corporate culture), characteristics of enterprises and external environmental factors to the application of management accounting. According to research results, only supportive company culture, rule-based corporate culture, goal-oriented corporate culture, and decentralized organizational architecture influence the use of management accounting.

Kamilah Ahmad, Shafie Mohamed Zabri (2015) researched Factors explaining the use of management accounting practices in Malaysian medium-sized firms; the study was conducted

to analyze the factors as well as the implementation level of management accounting tools. The survey was sent to 500 medium-sized enterprises in Malaysia, resulting in 110 responses to facilitate analysis. By using quantitative research method, research has shown that the application of management accounting tools (costing system, budgeting system, performance evaluation system, analysis system, decision support, and strategic management accounting system ) are affected by factors including size of the business, level of market competition, the commitment of business owners, advanced production technology. The research findings indicate that the management accounting tool system can be influenced by both external and internal organizational influences.

Sudhashini and Yee Soon Nian (2017) researched the topic “Factors affecting management accounting practice in Malaysia.” Based on the results presented in the study, company size and advanced manufacturing technology have a substantial association with the use of management accounting in Malaysian firms.

Sidra Shahzadi và cộng sự (2018) “Impact of external and internal factors on management accounting practices: a study of Pakistan” survey was conducted in 200 enterprises in Pakistan. The purpose of the study is to prove that the application of management accounting is affected by internal and external factors of the enterprise. Also, consider their impact. The research results are similar to the findings of Abdel-Kader and Luther (2008), who found that firms with a higher degree of environmental uncertainty use more complex management accounting tools, and enterprises with advanced production technology, comprehensive quality management, and immediate response production use more complex management accounting tools. In addition, the factors of market competition and business strategy do not affect the application of management accounting. There may be disparities in the use of management accounting methods between developed and developing countries due to cultural and other conditioning factors.

To summarize, many authors from many nations are interested in management accounting. In Vietnam, although applied after developed countries in the world, there are many outstanding studies. The authors are usually interested in the application of management accounting in firms and the factors impacting the application of management accounting in enterprises such as: Tran Ngoc Hung (2016), Nguyen Thu Hien (2019),..., studied the factors affecting the application of management accounting in Vietnamese enterprises. The independent variables include enterprise size, corporate culture, cost of management accounting organization, business strategy, and level of State ownership. Inheriting the studies of the authors who went ahead of the topic, this study will conduct a survey to find out the factors affecting the decision to apply management accounting in small and medium enterprises in Can Tho City, thereby proposing some managerial implications to increase the feasibility of applying management accounting in small and medium-sized enterprises in Can Tho City.

## **2. RESEARCH METHODS AND MODEL**

### **2.1. Research Methods**

Quantitative research is the method the author uses to analyze and test the factors affecting the application of management accounting in small and medium enterprises in Can Tho City.

The author uses a scale to conduct the research, which is a 5-level Likert scale. To investigate the factors affecting the decision to apply management accounting in SMEs in Can Tho City, the author uses a 5-level Likert scale as follows: 1 = “very low”; 2 = “low”; 3 = ‘normal’; 4 = “high”; 5 = “very high”. To solve the research objectives, the author uses the following data analysis methods: Descriptive statistics method, Measuring scale reliability by Cronbach’s alpha coefficient, Exploratory factor analysis (EFA), and Multivariable regression analysis to explain the factors affecting the application of management accounting in small and medium enterprises in Can Tho City. Quantitative research was carried out with SPSS 26 software.

The author sent 150 survey questionnaires to leaders, financial directors, chief accountants, or accountants at small and medium enterprises in Can Tho City. The author eliminated questionnaires with invalid answers, such as responses answered by subjects other than small and medium-sized enterprises, consistently rated responses from top to bottom, or left too much blank. After analyzing and removing invalid questionnaires, the author obtained 144 satisfactory questionnaires and put them into processing (reaching a rate of 96 % compared to the distributed questionnaires).

## 2.2. Research Model and Hypothesis

From the research overview, the proposed research model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e_t$$

Trong đó:

$X_1$ : Corporate culture

$X_2$ : Business strategy

$X_3$ : Perception of Business owners /managers

$X_4$ : Expenses for the organization of management accounting

$X_5$ : Information technology system

$\beta_0$ : Constant

$\beta_i$ : Coefficient of regression ( $i = 1, \dots, 5$ )

$e_t$ : Error

H1: Corporate culture has a positive relationship with the application of management accounting in Can Tho small and medium enterprises.

H2: Enterprises with flexible business strategies are more likely to successfully apply management accounting.

H 3: The ability to successfully apply management accounting is greater in firms whose owners/operators understand management accounting and recognize the value of technical management accounting tools.

H 4: When applying management accounting, the lower the investment requirements, the lower the cost of management accounting, the higher the possibility of successful management accounting application.

H 5: Information technology systems has a positive relationship with the application of management accounting in Can Tho small and medium enterprises.

**Table 1: Description of Variables in the Model**

<b>Variable Names</b>	<b>Symbol</b>	<b>Expectations</b>	<b>Observable Variables</b>
Apply management accounting	Y		<ol style="list-style-type: none"> <li>1. Applying the cost management accounting system.</li> <li>2. Applying manufacturing business estimate.</li> <li>3. Apply to evaluate operational efficiency.</li> <li>4. Applying to analyze information to support decision making.</li> <li>5. Applying for strategic analysis.</li> </ol>
Corporate culture	VH	+	<ol style="list-style-type: none"> <li>1. Support from managers for employees in enterprises.</li> <li>2. Mutual support from employees in departments in the enterprise.</li> <li>3. Consensus on the common development goals of the enterprise.</li> </ol>
Business strategy	CL	+	<ol style="list-style-type: none"> <li>1. The mission of the business is clearly defined.</li> <li>2. Strategic goals are specifically formulated by the business.</li> <li>3. Provide after-sales support service.</li> <li>4. Producing specialized goods and services according to customer requirements.</li> </ol>
Perception of business owners / managers	NT	+	<ol style="list-style-type: none"> <li>1. The business owners has a future plan orientation based on management accounting information.</li> <li>2. Administrators have understanding of the management accounting system</li> <li>3. Administrators appreciate the usefulness of management accounting information.</li> <li>4. Managers accept high costs for investment in the management accounting system.</li> </ol>
Expenses for the organization of management accounting.	CP	+	<ol style="list-style-type: none"> <li>1. Invest in technology to serve the organization of management accounting.</li> <li>2. Advice from organizations/experts on management accounting organizations.</li> <li>3. Cost of operating the management accounting apparatus</li> </ol>
Information technology system	CN	+	<ol style="list-style-type: none"> <li>1. The flexible IT system allows the collection, analysis and reporting of appropriate data for the application of management accounting.</li> <li>2. The IT system provides a complete and up-to-date database to support the application of management accounting.</li> <li>3. The accounting software can connect with other applications/software in the enterprise (if any) so that the accountants can access data for the application of management accounting.</li> </ol>

(Source: Compiled by the author)



## 4. RESEARCH RESULTS

### 4.1. Descriptive statistics of variables

The perception assessment results of accountants, business owners, and heads/deputies of departments at small and medium-sized enterprises in Can Tho on the *corporate culture* scale are measured in the following table:

**Table 2: Descriptive statistics of variables**

No.	Cod	Variables	N	Min	Max	Mean	Std. Deviation
1	VH1	Support from managers for employees in the enterprise.	144	1	5	3,74	0,96
2	VH2	Mutual support from employees in departments of the enterprise.	144	1	5	3,38	0,85
3	VH3	Consensus on the common development goals of the enterprise.	144	1	5	3,66	0,87
4	CL1	The mission of the business is clearly defined.	144	2	5	3,84	0,77
5	CL2	Strategic goals are specifically formulated by the business.	144	1	5	4,17	0,75
6	CL3	Provide after-sale service.	144	2	5	3,99	0,80
7	CL4	Producing specialized products according to customer requirements.	144	2	5	3,94	0,83
8	NT1	The business owners has a future plan orientation based on management accounting information.	144	1	5	3,81	0,85
9	NT2	Administrators have understanding of the management accounting system.	144	1	5	3,92	0,89
10	NT3	Administrators appreciate the usefulness of management accounting information.	144	2	5	3,81	0,81
11	NT4	Managers accept high costs for investment in the management accounting system	144	2	5	3,78	0,81
12	CP1	Invest in technology to serve the organization of management accounting.	144	1	5	3,68	0,82
13	CP2	Advice from organizations/experts on management accounting organizations.	144	1	5	3,68	0,95
14	CP3	Cost of operating the management accounting apparatus	144	1	5	3,47	0,92
15	CN1	The flexible IT system allows the collection, analysis and reporting of appropriate data for the application of management accounting.	144	1	5	3,83	0,86
16	CN2	The IT system provides a complete and up-to-date database to support the application of management accounting.	144	1	5	3,93	0,84
17	CN3	The accounting software can connect with other applications/software in the enterprise (if any) so that the accountants can access data for the application of management accounting.	144	1	5	3,89	0,87

Source: Actual survey data, 2023

Corporate culture is measured by variables including support from managers for employees in the enterprise (VH1), Consensus on the common development goals of the enterprise (VH3) and Mutual support from employees in departments of the enterprise (VH2). These variables have mean values from 3.66 to 3.74. This indicates that measurement scales are appropriate to measure corporate culture factor and have impact on management accounting application. Business strategy is measure by 4 items including the mission of the business is clearly defined (CL1), Strategic goals are specifically formulated by the business (CL2), Provide after-sale

service (CL3) and Producing specialized products according to customer requirements (CL4). These variables have mean values ranging from 3.84 to 4.17. Perception of business owners/managers is measured by 4 items reflecting the increasing level of opinion. These variables have mean values ranging from 3.78 to 3.92. Costs for organizing management accounting is measured by 3 items including the variables invest in technology to serve the organization of management accounting (CP1) and advice from organizations/experts on management accounting organizations (CP2) have equal average values of 3.68. The cost of operating the management accounting apparatus (CP3) has the lowest average value 3.47. Information technology system variable is considered in the following aspects: the IT system provides a complete and up-to-date database to support the application of management accounting (CN2) and The accounting software can connect with other applications/software in the enterprise (if any) so that the accountants can access data for the application of management accounting (CN3) have nearly equal average values of 3.93 and 3.89. The flexible IT system allows the collection, analysis and reporting of appropriate data for the application of management accounting (CN1) has the lowest average value (3.83). The standard deviations of the observed variables are all less than 1 and, showing that there is not much difference between the respondents' opinions.

#### 4.2 Reliability test (Cronbach's Alpha)

The results shown in Table 3 show that the Cronbach's Alpha coefficient of the cost variables for the organization of management accounting, corporate culture, business strategy, perception of business owners/managers and information technology system, applying management accounting is 0.847 respectively; 0.737; 0.746; 0.862; 0.720 and 0.894 are both greater than 0.7 and the correlation coefficient of the total variable is greater than 0.3. All scales satisfy the conditions for EFA exploratory factor analysis. The reliability of the scales is summed up in the table below (Table 3).

**Table 3: Scale Test Results**

No	Variables	Cod	Number of Observed Variables	Cronbach'sAlpha
1	Expenses for the organization of management accounting	CP	3	0,847
2	Corporate culture	VH	3	0,737
3	Business strategy	CL	4	0,746
4	Perception of business owners /managers	NT	4	0,826
5	Information technology system	CN	3	0,720
6	Apply Management Accounting	Y	22	0.869

(Source: Actual survey data, 2023)

#### 4.3 Exporatory Factor Analysis (EFA)

Factor analysis was performed with Principle Component extraction, Varimax rotation for the dependent observed variable. The results show that the coefficient KMO = 0,703 (condition > 0,5); Significance level and Barlett test = 0.000 (meet condition < 0.05). This shows that EFA analysis is appropriate. The total variance extracted is 67,727% > 50%, and the loading factors are all greater than 0,5, so they are satisfactory (Table 4). The official scale after EFA processing includes 5 independent variables with 17 observed variables.

**Table 4: Results of EFA Analysis**

	Factor				
	1	2	3	4	5
NT4	0,846				
NT1	0,822				
NT2	0,757				
NT3	0,737				
CP3		0,864			
CP2		0,860			
CP1		0,829			
CL4			0,793		
CL2			0,737		
CL3			0,734		
CL1			0,731		
CN1				0,809	
CN3				0,807	
CN2				0,725	
VH3					0,803
VH2					0,786
VH1					0,769
Eigenvalues	4,070	2,284	1,981	1,707	1,471
Extracted variance (%)					67,727
Coefficient KMO					0,703
Level of significance					0,000

(Source: Actual survey data, 2023)

#### 4.4 Regression Analysis

Linear regression analysis aims to evaluate the influence of independent variables on the application of management accounting in SMEs in Can Tho. After performing EFA exploratory factor analysis and Pearson correlation analysis, 5 independent variables and 1 dependent variable were included in the multivariate regression model for estimation.

The author uses the linear regression technique according to the OLS method of least squares (ordinary least square) and the method of including at the same time (the Enter method) all explanatory variables, using the software SPSS 26 obtained the following results:

**Table 5: Summary table of regression model**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,728	0,530	0,513	0,35713	1,828

a. Predictors: (Constant). VH, CL, NT, CP, CN

b. Dependent Variable: Y

The results show that adjusted R Square = 0,513 (table 5), which means that 5 independent variables can explain 51,3% of variance of management accounting application in enterprises at Can Tho City, the remaining 48,7% may be accounted for by other variables or random errors.

To check if the regression model is consistent with the data set collected and has a relevant application or not. The author continues testing the suitability of the model through accreditation ANOVA as follows (Table 7).

Sig test  $F = 0.000 < 0.05$ , so the regression model evaluates the influence of 5 factors (corporate culture, business strategy, epenses for the organization of management accounting, perception of business ownerss /managers and information technology system) on the applicability of management accounting in SMEs in Can Tho City.

The sig test value for each independent variable  $< 0.05$ : all variables are significant in the model.

Beta coefficients are all positive: all variables have the same effect on the dependent variable (Figure 1).

The model’s F-statistic has a Sig value. = 0.000  $< 0.05$ , which shows that the model fits the data set and can be generalized. VIF coefficients of 5 independent variables rang from 1.509 to 1.811, which are smaller than 2, thus, there is no multicollinearity (table 6). Furthermore, Durbin –Waston = 1.828 which indicates that there is no autocorrelation (table 5). Regression results showing the influence of 5 factors on management accounting application of Can Tho City small and medium enterprises are shown in the table below (Table 6). Therefore, the regression equation reflecting relationship between independent variables and dependent variable is presented as follows:

+ According to unstandardized coefficients:

$$Y = 1,089 + 0,107VH + 0,161CL + 0,144NT + 0,96CP + 0,147 CN + \varepsilon$$

+ According to the standardization coefficient:

$$Y = 0,162VH + 0,223CL + 0,204NT + 0,158CP + 0,203 CN + \varepsilon$$

**Table 6: Regression analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1,089	0,199		5,475	0,000		
VH	0,107	0,052	0,162	2,603	0,041	0,552	1,811
CL	0,161	0,057	0,223	2,844	0,005	0,556	1,799
NT	0,144	0,051	0,204	2,847	0,005	0,662	1,509
CP	0,96	0,046	0,158	2,096	0,038	0,602	1,660
CN	0,147	0,056	0,203	2,650	0,09	0,579	1,729

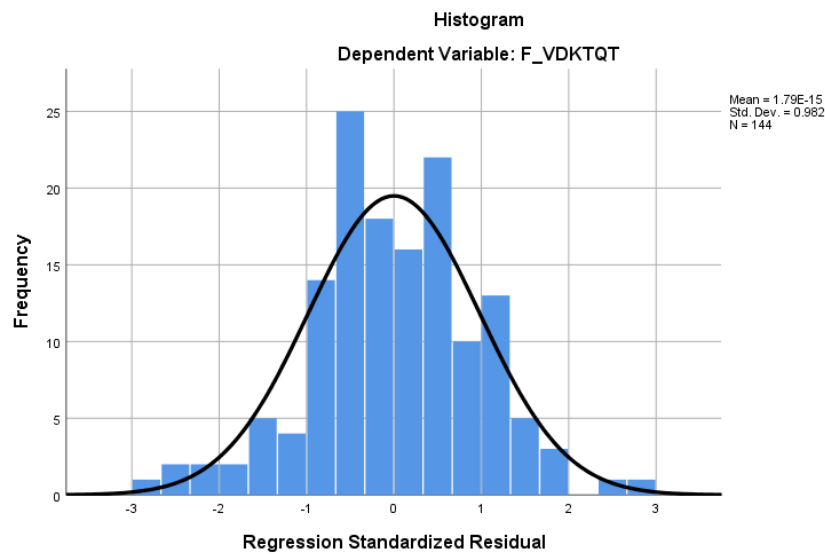
(Source: Actual survey data, 2023)

**Table 7: Suitability Test (ANOVA Model)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,817	5	3,963	31,075	0.000
	Residual	17,601	138	0,128		
	Total	37.418	143			

a. Predictors: (Constant). VH, CL, NT, CP, CN

b. Dependent Variable: Y



**Figure 1: Normalized Residual Frequency Plot**

## 5. DISCUSSION AND CONCLUSION

- The information technology system had a favorable impact on the implementation of management accounting in this study, with a coefficient of 0.203. Research results show that the application of information technology in SMEs in Can Tho City is necessary. If SMEs have modern computer systems and complete and up-to-date databases, there are connections between there will be connections between parts of the business. Furthermore, the speed and quality of cost information will be processed and provided, ensuring regularity, timeliness, and better meeting the needs of cost information for management accounting applications. This result is consistent with research by Halbouni, S. S. (2014).

- The research results show that the expenses for the organization of management accounting have a positive impact on management accounting application at SMEs in Can Tho with a coefficient of 0.158. If the cost of investing in technology, operating the management accounting apparatus, and consulting from management accounting organizations/experts is acceptable within the capabilities of the enterprise, it will increase the level of applying management economics. This result is consistent previous studies of Tran Ngoc Hung (2016), Nguyen Thu Hien (2019). Currently, cost is a factor that enterprises always consider carefully in SMEs. They are always consider making investment decisions for applying the management accounting system because the finances of enterprises are limited and benefits from applying management accounting.

- This study proved that corporate culture has a positive impact on the application of management accounting at SMEs in Can Tho (coefficient = 0.162). Experimental results show that consensus on the common development goals of the enterprise, mutual support between em-

employees of different departments in the enterprise, and support from administrators to employees all create the premise for the application of management accounting in business. Cohesion, close coordination, information sharing, and mutual support among managers and parts of the business are required to deploy an effective management accounting system that provides timely information to support managers' decision-making process. This result is consistent with the study of Erserim (2012), Tran Ngoc Hung (2016), and Nguyen Thu Hien (2019).

- The results of regression analysis show that the perception of business owners /managers has a positive effect on the application of management accounting in SMEs in Can Tho, with the coefficient = 0.204. Business owners/managers are knowledgeable about management accounting tools, and the value of management accounting information, have a plan based on management accounting information, and accept the amount of expenditure. This result is consistent with the research of Tran Ngoc Hung (2016), Tran Thi Yen (2017), and Nguyen Thu Hien (2019).

- The factor of business strategy has the highest impact on the application of management accounting, with a coefficient of 0,223. Research results show that the business has a clearly defined mission, specific strategic business goals, and after-sales service, and manufacturing special products according to customer requirements will potentially increase the feasibility of the application of management accounting in SMEs in Can Tho City. This comes from the business advantages of SMEs that are very flexible, due to their small size and simple structure so adapting to the business environment to meet the needs of the market is also done more flexibly.

Based on the results of quantitative research on factors affecting the application of management accounting in small and medium-sized enterprises in Can Tho City, the following conclusions can be drawn:

Can Tho small and medium enterprises should choose quality goods, select business items that are appropriate for the local social conditions as well as the nature of their industry, strive to improve the quality of customer service, develop after-sales services, understand customer needs and create all conditions for businesses to meet customer needs. This activity will improve the quality of customer service, contributing to enhancing the business strategy of the enterprise in the market.

Managers should provide support to employees in the firm under the effect of corporate culture. Therefore, it is necessary to change the perception of managers/business owners in operating and managing the company, aware of the importance of management accounting information from which to run the business more scientifically.

Managers and business owners must constantly acquire and update knowledge, increase qualifications, actively learn management experience, and approach scientific breakthroughs as well as new management accounting methods. In addition, managers/business owners need to develop policies and mechanisms for recruiting and appointing personnel openly and equally. Managers need to pay attention to employees' comments, suggestions, and feedback in improving and completing processes and improving operational efficiency. In addition, when businesses start to deploy the management accounting apparatus, managers need to exchange



and support accounting staff as well as have training policies for the management accounting apparatus to operate effectively. Managers must pay attention and enthusiastically support accountants in using management accounting procedures to address information needs for effective corporate governance.

With the rapid advancement of science and technology, particularly information technology, businesses cannot afford to neglect the use of information technology in production and management. In the present day, firms must enhance their use of information technology to automate the process of data collection and processing, generating favorable conditions for the implementation of management accounting approaches. This will help businesses develop sustainably and improve business performance in the business.

Management accounting is considered of management system in enterprises. Managers can use management accounting to perform management functions and achieve business objective. This study using quantitative research method proved that business strategy, perception of business owners/managers, and information technology systems, corporate culture, and expenses for the organization of management accounting are the factors that have influence on the application of management accounting in SMEs in Can Tho City.

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# THE EFFECTS OF LEVERAGE AND AGENCY COSTS ON FIRM PERFORMANCE: EMPIRICAL RESEARCH ON MANUFACTURING FIRMS IN VIETNAM

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**Abstract:** *The article examines how firm leverage affects firm performance in the context of high and low agency costs. It explores the agency theory's proposition that loans can mitigate the agency problem between shareholders and managers while potentially exacerbating the problem between shareholders and lenders. The study employed a mixed-methods approach, combining qualitative and quantitative methods. Secondary data from financial reports in Finn Pro and other sources was collected. The analysis utilized the Fixed Effects Model (FEM) on data from 114 manufacturing sector firms listed on the Ho Chi Minh City Stock Exchange between 2013 and 2021. The study determined that firm profitability is negatively affected by leverage, and this impact is more pronounced for firms with greater agency costs (higher growth opportunities and lower levels of Total Assets turnover). Conversely, firms with agency costs related to free cash flows, such as higher levels of available cash, experience a lower impact of leverage on profitability.*

**Keywords:** *Leverage, Agency Costs, Firm Performance, Manufacturing Firms, Vietnam.*

## 1. INTRODUCTION

The relationship between leverage and firm performance has long been a subject of study in corporate finance literature. Leverage allows firms to magnify their returns and potentially enhance their performance by leveraging external funds to finance investments. However, excessive leverage can increase the financial risk and the cost of debt, potentially leading to financial distress and deteriorating firm performance. Consequently, finding an optimal level of leverage that maximizes firm performance is a critical concern for managers and investors. On the other hand, agency costs arise from the separation of ownership and control in corporations, creating conflicts of interest between shareholders (principals) and managers (agents) (Jensen and Meckling, 1976). These conflicts can result in agency problems, such as managerial opportunism, shirking, or empire-building, which can negatively impact firm performance. Understanding the relationship between agency costs and firm performance is crucial for designing effective corporate governance mechanisms and aligning the interests of shareholders and managers.

The agency theory suggests that loans can reduce the agency problem of shareholder managers (enhance the agency problem of shareholders lenders) and increase (decrease) the performance of a firm. Debt financing mitigates the agency costs of free cash flow by reducing the excess cash flow under the control of managers (Jensen, 1986). Debt payments force managers to behave efficiently and in a manner consistent with the interests of shareholders.

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According to these arguments, Leverage contributes to higher performance by mitigating agency costs.

Although numerous studies have investigated the effect of leverage on firm performance, it remains a relatively new and worthy topic of attention in Vietnam. In addition, Vietnam is considered an emerging economy with a rapidly growing manufacturing sector. Studying the effects of leverage and agency costs on firm performance becomes particularly relevant as the country undergoes an economic and industrial transformation. The unique institutional context and business environment of Vietnam may present distinct challenges and opportunities for manufacturing firms. Thus, examining the relationship between leverage, agency costs, and firm performance in this context can provide valuable insights for other emerging economies facing similar challenges.

Moreover, the statistics show that the General & administration expenses tend to increase. At the same time, the asset performance has not met the expected level, resulting in a negative impact on the operational performance of enterprises. For this reason, the proposed research topic is to “The effects of Leverage and Agency Costs on Firm Performance: Empirical research on Manufacturing firms in Vietnam”. Based on the systematic organization of theoretical issues related to agency costs, the study analyses and evaluates the current situation of expected costs in listed companies in the Vietnamese stock market through specific criteria and utilizes case studies in the manufacturing industry. As a result, this research proposes recommendations to minimize agency costs for listed joint-stock companies to meet the requirements of long-term and sustainable development.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. Agency costs

Agency costs refer to the expenses incurred due to the conflicts of interest between stockholders (the principals) and management (the agents) in a corporation. These conflicts arise because managers may not always act in the best interest of the shareholders, leading to potential financial losses and reduced company performance (Ross, 2015).

Jensen and Meckling (1976) mention that agency costs include three types:

Firstly, **Monitoring Cost**: These are the costs incurred by owners (shareholders) to oversee agents and ensure that the agents act in the best interests of the owners. Monitoring costs refer to the expenses borne by owners to measure, supervise, and examine the activities of agents. They may include costs for monitoring activities, costs for contracting and compensation arrangements, and costs for dismissing agents. Initially, these costs are borne by the owners, but according to Fama and Jensen (1983), these costs are borne by the agents themselves because their salaries, bonuses, and other benefits are adjusted to offset these expenses. Denis and colleagues (1997) argue that the effectiveness of monitoring board activities is limited for certain groups or individuals. The monitors must possess the necessary expertise and motivation to oversee the entire management process, while also providing reliable guidance for auditing the company's operations. In contrast, Burkart and colleagues (1997) suggest that excessive monitoring can restrict the innovativeness and autonomy of executives. According

to Himmelberg and colleagues (1999), the optimal level of monitoring managerial activities is specific to each company's contractual scope.

Secondly, **Bonding Cost**: The agents bear the costs to ensure that they do not infringe upon the interests of the principals. If the agents ultimately bear the monitoring costs and that they can establish an operational system to maximize shareholder profit, or face compensation if they violate the terms of the agency contract. The costs of setting up and maintaining this system are called bonding costs. Denis (2001) suggests that an optimal bonding contract should focus on the agents making decisions reasonably that maximize shareholder benefits. However, any constraints imposed by the principals cannot fully eliminate the inherent conflicts of interest in the agency relationship since the agents cannot fulfill all the shareholders' desires.

Thirdly, **Residual Loss**: The alignment of interests between agents and shareholders remains uncertain and not entirely consistent despite monitoring and constraints. As a result, there are still costs arising from the agency problem and conflicting interests. These losses occur when the costs incurred to ensure the effectiveness of the agency contract exceeds the benefits derived from contract enforcement. Due to the challenges in monitoring managerial activities, it is impossible to have a comprehensive contract for every situation. Consequently, residual losses arise. For example, agents may exploit insider information for personal gain by entering contracts with partners and enjoying the full commission.

Therefore, the total cost of monitoring, bonding, and residual losses is referred to as agency costs because they arise from the relationship between principals and agents.

Agency theory defines agency costs as the sum of various types of costs: monitoring costs to oversee the activities of agents (such as audit expenses); bonding costs to establish a mechanism that minimizes undesirable managerial behavior (such as appointing outside members to the board or restructuring the company's organizational system); and residual losses or opportunity costs when shareholders hire agents and impose restrictions (for example, the damages resulting from agents abusing their delegated authority for personal gain, and loss arising from measures aimed at controlling agent activities).

## 2.2. Leverage

Financial leverage refers to the utilization of debt in a company's capital structure (Ross, 2015). It involves the proportion of debt relative to the total assets of the firm. As this debt-to-assets ratio increases, the degree of financial leverage also rises. The concept draws an analogy to a lever, as debt can act as a mechanism that substantially amplifies both gains and losses for the shareholders.

By employing financial leverage, a firm enhances the potential returns for its shareholders. When the firm performs well, the returns on equity can surpass those of an unleveraged firm due to the reduced investment of equity capital. Consequently, shareholders can enjoy increased profits relative to the initial equity investment.

However, this increased financial leverage also entails higher risks. In times of unfavourable economic conditions or reduced business performance, the firm faces a greater burden of debt payments, which can lead to financial distress. The risk of business failure escalates as the company may struggle to meet its debt obligations, impacting its financial stability and overall viability.



There are three commonly used leverage measures, each providing valuable insights into a company's financial leverage. Additionally, variations and adaptations of these measures are utilized to suit specific analytical needs. The three widely used leverage measures are as follows:

- **Debt-to-Equity Ratio (D/E Ratio):** The debt-to-equity ratio assesses the relative proportion of a company's total debt to its total equity. The formula for calculating the D/E ratio is:  $(\text{Total Debt}) / (\text{Total Equity})$ . This ratio reveals the extent to which a firm relies on external debt financing in comparison to its internal equity. A high D/E ratio indicates a greater dependency on debt, potentially increasing financial risk and the company's vulnerability to economic downturns.

- **Debt-to-Assets Ratio:** The debt-to-assets ratio gauges the percentage of a company's total assets that are funded by debt. The formula for calculating the debt-to-assets ratio is:  $(\text{Total Debt}) / (\text{Total Assets})$ . This ratio demonstrates the proportion of a company's assets that have been financed through borrowing. A higher debt-to-assets ratio signifies a more substantial usage of debt to fund the firm's assets.

- **Interest Coverage Ratio:** The interest coverage ratio evaluates a company's ability to meet its interest payments on outstanding debt. It is computed by dividing the company's earnings before interest and taxes (EBIT) by its interest expenses. The formula for calculating the interest coverage ratio is  $\text{EBIT} / (\text{Interest Expenses})$ . A higher interest coverage ratio indicates that the company generates sufficient operating earnings to cover its interest obligations, reducing the risk of default.

### 2.3. The indicators assess a firm's performance.

The employment of financial indicators is crucial in assessing the efficiency of business operations. Currently, there are various approaches to evaluating business performance. Most studies on the impact of ownership structure on firm performance, such as Palmer (1973) and Short and Keasey (1999), suggest using profitability indicators like ROA and ROE to assess operational effectiveness. On the other hand, Chen et al. (2005) argues for the use of the Q-Tobin ratio, which reflects the market value of stocks and the market evaluation of firm performance.

#### Return on Asset (ROA)

$$\text{ROA} = (\text{Net income}) / (\text{Total Asset})$$

ROA is a ratio that provides investors with information about the profitability generated from total assets, indicating how much profit after taxes is generated per unit of investment in total assets. A company's assets are formed by debt and equity. Both sources are used to finance the company's operations. A higher ROA is favorable as it indicates that the company is generating more profit from its total assets.

#### Return on Equity (ROE)

ROE, also known as return on investment, is a ratio that reflects the profitability of the owners' capital investment. This ratio is often compared to the interest rate on borrowed capital from banks, as investors typically view this interest rate as an opportunity cost.



$$\text{ROE} = (\text{Net income}) / (\text{Total Equity})$$

This ratio is considered a measure to evaluate how much profit after taxes can be generated from a unit of invested capital and accumulated. Investors often analyze this ratio to compare it with stocks in the same industry on the market, using it as a reference when deciding which company's stocks to buy. Shareholders and investors are always concerned about this ratio because it is related to the profit they can receive. If the ROE ratio is high, it indicates that the profitability of the business is good as the invested equity has generated a high level of after-tax profit.

### ***Q-Tobin Ratio***

$$\text{Tobin's Q} = (\text{Market Enterprise Value}) / (\text{Total Asset Replacement Value})$$

For listed companies, the Q-Tobin ratio is widely used as a good financial efficiency evaluation tool. It is calculated as the Market Value of Equity plus the Market Value of Liability divided by Total Asset Replacement Value.

Among these ratios, ROA and ROE are indicators of efficiency in business operations and reflect the profitability that the company has achieved in past accounting periods. These two indicators provide a historical perspective or assess the short-term profit potential of the business (Hu and Izumida, 2008). On the other hand, the Q-Tobin ratio can indicate the future efficiency of the business as it reflects the market's assessment of the company's profit potential in the future (reflected in the stock market price). This is consistent with the purpose of stock valuation methods using discounted future cash flows at a certain level of risk. That is also why Tian and Estrin (2008) argue that market valuation is always based on future cash flows and expected risks.

In summary, the firm's performance can be evaluated through a combination of these ratios. Although there may be different calculation methods, mainly due to the determination of profit in the coefficient calculation, the combination of these two ratios can provide managers, business leaders, shareholders, and the market with comprehensive evaluations of past operational efficiency as well as the profit potential and future growth of the business. However, due to data limitations, this paper will only use ROA as indicators to reflect the efficiency of business operations. The reason for choosing these indicators is that they represent cost variables, namely revenue to total assets, which are closely related to the profitability of the business.

### **2.3. The effect of leverage on firm performance**

Jensen and Meckling (1976) mention that a debt instrument can be a valuable tool to monitor agency costs. The increase in the company's debt ratio will put more stress on its manager because he must pay more interest expenses and debt principal in the future. As a result, he needs to avoid inefficient investment to preserve the ability to meet debt obligations. This may help to reduce the conflict between the company's shareholders and managers and thus reduce the agency costs between them.

However, the costs of interest expenses and principal debt directly impact the company's operational efficiency. In other words, the higher the level of financial leverage, the lower the firm's performance. According to Le Duc Hoang (2019) The primary reason for this is the excessive

use of debt relative to total assets, leading to a significant interest burden while businesses do not effectively leverage the financial leverage, thereby negatively affecting firm performance.

According to the previous arguments, the effect of leverage on firm performance is an empirical question and the author predicts that the company's debt instrument has the potential to diminish the operational efficiency of the firm.

***H1: Leverage has a negative impact on firm performance.***

#### **2.4. Leverage, Agency Costs of Free Cash Flow and Firm Performance**

According to Opler, Pinkowitz, Stulz, and Williamson (1999), managers who have excess cash flow may make poor investment choices when there are no valuable investment opportunities available. This means that managers might utilize the surplus cash on investments that have a negative net present value, resulting in a negative impact on the firm's performance. Several studies, including Mirzaeifar, and Javadghayedı (2014), and Kadioglu, Kilic, and Yilmaz (2017), support this perspective.

Leverage plays a crucial role in reducing conflicts between managers and shareholders, as noted by Datta and Raman (2005). Debt requirements compel managers to exercise greater discipline (Cheffou, 2011). Research conducted by Cheng and Tzeng (2011) indicates that debt helps alleviate the free cash flow problem. Ang, Cole, and Lin (2000) suggest that increased debt and monitoring by banks can decrease equity agency costs. Harvey, Lins, and Roper (2004) demonstrate that debt is particularly beneficial for firms facing significant managerial agency costs. Park and Jang (2013) find that leverage reduces free cash flow and enhances firm performance. Similarly, Kadioglu and Yilmaz (2017) highlight a negative relationship between free cash flow and leverage. Furthermore, Saita and Nawaz (2012) provide evidence that firms with higher leverage tend to be more efficient and experience fewer agency costs resulting from free cash flow. In conclusion, these arguments collectively suggest that leverage is more advantageous for firms facing significant agency costs associated with free cash flow. This reasoning results in the following hypothesis:

***H2: The negative (positive) effect of leverage on firm performance is alleviated (accentuated) by the agency costs of free cash flow.***

#### **2.5. Leverage, Agency Costs of Debt and Firm Performance**

Based on the agency costs of debt framework proposed by Myers (1977), firms with high levels of leverage are more prone to encounter the underinvestment problem. In this scenario, managers tend to reduce investments in valuable projects since the benefits primarily accrue to debtholders rather than shareholders. Numerous studies, including Dang (2010), Cai and Zhang (2011), Haque (2014), and Sajid, Mahmood, and Sabir (2016), have found that leverage has a negative impact on investment.

Based on the studies conducted by Ang et al. (2000), Singh and Davidson (2003), and Wang (2010), the variables selected to measure agency costs are Sale Assets and Growth in Assets. A low assets turnover reflects higher agency costs, as it indicates managerial inefficiency in utilizing the company's assets through making inefficient investment decisions or using the company's assets for personal purposes.

The underinvestment problem, in turn, can lead to lower firm performance. Morgado and Pindado (2003) demonstrated that the relationship between firm value and investment follows a quadratic pattern, suggesting the existence of an optimal level of investment. Firms with suboptimal investments are likely to face the underinvestment problem, resulting in a reduced value. Farooq, Ahmed, and Saleem (2014) discovered that the underinvestment problem has a detrimental effect on firm performance.

If high leverage increases the likelihood of firms bypassing valuable investments, it is reasonable to expect a negative association between high leverage and firm performance. Therefore, in the presence of shareholder-debtholder agency problems, leverage is less advantageous. This reasoning results in the second hypothesis:

**H3: The negative (positive) effect of leverage on firm performance is exacerbated (alleviated) by the agency costs of debt.**

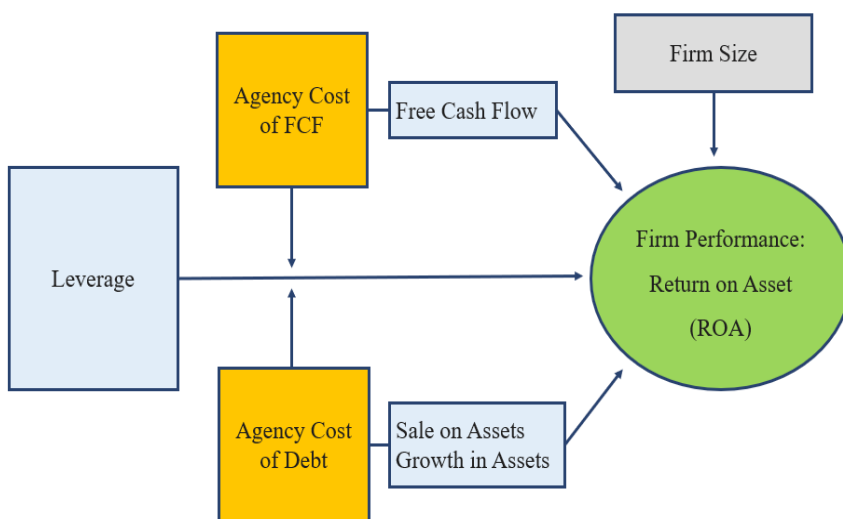
**3. DATA AND METHODOLOGY**

**3.1. Data**

This study used the financial data of 114 manufacturing firms listed on Ho Chi Minh Stock Exchange for the period 2013-2021. The author collected the data from financial reports on the firm’s websites or electronic stock trading websites (FinnPro, Investing.com, Finance.Yahoo.com). The resulting unbalanced panel data provides 1,137 firm-year observations.

**3.2. Research methodology**

Research model is as follows:



**Figure 3.1: Research Model**

**a. Variables Construction**

Description of variables as follows:

**Table 3.1: Description of Variables**

Variable	Description of calculation
Dependent variable	
ROA	
Independent variables	
Leverage	
FCF	
SA	
Size	The natural logarithm of total assets
Control variables	
INV	

### b. Estimation Techniques

To examine the impact of leverage and agency costs on firm performance, baseline regression analysis is employed. A notable advantage of this method is that it can remedy the absence of unobservable characteristics of each company. Specifically, the following models are estimated:

$$ROA_{it} = \beta_0 + \beta_1 (Lev_{it}) + \beta_2 (SA_{it}) + \beta_3 (Size_{it}) + \beta_4 (INV_{it}) + \varepsilon_{it} \quad (1)$$

Here:

i: Indexes Company

t: Typical for year t; t = 1, ..., 9 (9 years from 2013 to 2021)

$\varepsilon$ : The error terms

$\beta_0$ : Coefficient of origin

$\beta_1 - \beta_5$ : Estimated coefficient of the independent variables.

**Table 3.2: Expected tendency direction of the independent variables.**

Variables	Expected tendency direction
Lev	-
SA	+
Size	+
INV	+
FCF	+

To test whether the effect of leverage on firm performance is alleviated (accentuated) by free cash flow, the author adds an interaction term between leverage and a free cash flow dummy (FCF\_Dum) variable, in the baseline model Eq. (1). The author also divides the total sample into two subsamples: firm-years with high free cash flow (FCF\_Dum = 1) and firm-years with low free cash flow (FCF\_Dum = 0). The author estimates the baseline regression Eq. (1) separately for the two subsamples.

To test whether the effect of leverage on firm performance is exacerbated (alleviated) by the underinvestment problem, the author estimates equation (1) with an interaction term (Lev\*INV\_Dum) between leverage and investment opportunities dummy (INV\_Dum) variable

which takes a value of one when INV is larger than the median value and zero otherwise. We also divide the total sample into two subsamples: firm-years with high investment opportunities ( $INV\_Dum = 1$ ) and firm-years with low investment opportunities ( $INV\_Dum = 0$ ). The author estimates the baseline regression Eq. (1) separately for the two subsamples. We also construct an interaction term ( $Lev*SA\_Dum$ ) between leverage and a Sale asset dummy ( $SA\_Dum$ ) variable which takes a value of one when the Sale Asset (SA) is larger than the median value and zero otherwise. The baseline regression equation (1) is estimated with this interaction term, and separately for two subsamples ( $SA\_Dum = 1$  &  $SA\_Dum = 0$ ).

However, in a panel data regression model, OLS may face issues when the data contains fixed effects or random effects. To ensure the correctness of OLS, the author uses the Fixed Effects Model (FEM) or Random Effects Model (REM).

- **Fixed Effects Model (FEM):** Used when there are fixed effects that affect the dependent variable and do not change over time. Adding dummy variables for each fixed effect group and estimating using the Least Squares Dummy Variable (LSDV) method.

- **Random Effects Model (REM):** Used when the effects influencing the dependent variable are random. Testing for random effects using the Hausman test, then estimating using the Generalized Least Squares (GLS) or Maximum Likelihood Estimation (MLE) methods.

The choice between FEM and REM depends on the nature of the data and assumptions about the effects. FEM is suitable when fixed effects are significant, while REM is appropriate when random effects play a role.

## 4. EMPIRICAL RESULTS

### 4.1. Descriptive statistics

**Table 4.1: Descriptive Statistics**

	ROA	Lev	FCF	SA	Size	INV
Min	-0.407	0	-58.034	-0.414	10.919	-0.998
Max	0.722	4.9	2.046	0.42	32.814	189.915
Mean	0.074	0.491	-0.006	0.082	26.531	0.428
Std.dev	0.075	0.292	1.75	0.083	4.975	6.24
Obs	1,140	1,400	1,140	1,138	1,140	1,140

Table (4.1) presents descriptive statistics for the variables used in this study. The average firm performance, measured by return on assets (ROA), is 7.4%, which is consistent with the growth observed from 2013 to 2021. However, the low average ROA suggests that manufacturing firms have relatively inefficient operations.

The results also indicate that the mean value of leverage is 0.491, indicating a high level of leverage usage. This is an indicator of significant hidden financial risk in the operations of these businesses. Additionally, the mean value of free cash flow is -0.006, suggesting that manufacturing companies are facing difficulties in cash flow and liquidity, resulting in high levels of risk in their business operations. Among the control variables, the sale assets have a relatively low value, with an average of 0.082. It is important to note that the mean value of

free cash flow to revenue is negative (-0.006), further indicating the challenges manufacturing companies face in terms of cash flow and liquidity. Furthermore, the growth in assets (INV) has a mean of 0.428. The significant difference between the minimum and maximum values of these variables suggests that it may be necessary to investigate agency costs in Vietnam.

**Table 4.2: Correlation Matrix**

	(1)	(2)	(3)	(4)	(5)	(6)
ROA	1.000					
Lev	-0.104	1.000				
FCF	0.414	-0.046	1.000			
SA	0.446	-0.031	0.160	1.000		
Size	0.115	-0.001	0.096	-0.000	1.000	
INV	0.144	-0.025	0.097	0.018	0.053	1.000

Table (4.2) provides a correlation matrix for the variables examined in the research. The findings indicate that the correlation coefficients between the explanatory variables are all less than 0.7, suggesting the absence of multicollinearity in the model. The author finds a negative and insignificant relation between leverage and return on assets (ROA). Moreover, firm size and growth in assets are also insignificantly and positively related to firm performance. On the other hand, Free Cash Flow and Sale Assets are significantly and positively correlated with performance.

**Table 4.3: Variance Inflation Factor (VIF)**

Variable	Correlation coefficient	VIF
Lev	- 0.104	1.011
FCF	0.414	1.207
SA	0.446	1.248
Size	0.115	1.013
INV	0.144	1.021

According to the results, none of the dependent variables have VIF values greater than 2, indicating the absence of multicollinearity in the model.

## 4.2. Results

### a. Hausman Test

For the study's sample, the fixed effects method (FEM) is preferable compared with the random effects method (REM). The Hausman Test helped identify the better model: fixed model or random model.

**Table 4.4: Hausman Test (FEM & REM)**

Models	Dependent variable: ROA	
	FEM (1)	REM (2)
Constant	0.045 (0.000)	0.039 (0.000)



Lev	-0.022 (0.000)	-0.022 (0.000)
SA	0.198 (0.000)	0.247 (0.000)
Size	0.001 (0.005)	0.001 (0.002)
INV	0.001 (0.000)	0.001 (0.000)
FCF	0.002 (0.020)	0.002 (0.016)
N	1,137	1,137
Hausman Test	Chi2 (5) = 75.46 Prob>chi2 = 0.0000	

The test results showed that the random effects model hypothesis is rejected, therefore the study uses the regression results based on FEM to analyze the impact of leverage and agency costs on firm performance. However, it cannot be claimed that this is the most effective model because it may violate certain regression assumptions that the study has not considered.

#### b. Interactive effect of leverage and free cash flow on firm performance

**Table 4.5: Leverage, Free Cash Flow and Firm Performance**

Models	Dependent variable: ROA		
	Model 1	Model 2 Firms with high (FCF)	Model 3 Firms with low (FCF)
Constant	0.045*** (0.000)	0.093*** (0.000)	0.002 (0.914)
Lev	-0.022** (0.025)	-0.015* (0.053)	-0.026** (0.021)
SA	0.198*** (0.003)	0.128** (0.023)	0.337** (0.032)
Size	0.002* (0.053)	-8.02E-06 (0.991)	0.001 (0.171)
INV	0.001* (0.100)	0.001 (0.155)	0.004 (0.174)
FCF	0.002** (0.021)		
Adjusted R2	0.2172	0.1074	0.3552
F	5.50*** (0.001)	2.93** (0.024)	3.30** (0.014)
N	1,137	786	351

- This table presents the FEM estimation results for the interactive effect of leverage and free cash flow on firm performance.

- N is the number of observations.

- P values are reported in parentheses.

- \*, \*\*, \*\*\*, indicate significance at the 10%, 5%, and 1% levels, respectively

Table (4.5) presents the FEM estimation results for the interactive effect of leverage and free cash flow on firm performance.

In the baseline regression (model 1), the author finds that leverage insignificantly and negatively affects firm performance (ROA). In addition, the coefficient on Firm Size and investment opportunities (INV) is not significant (0.002 and 0.001, respectively). However, the author also finds that the coefficients on Sale Assets are significant and positive (0.198 at the 1% level), indicating that the higher Asset turnover has better performance.

The author obtains results when estimating the baseline regression Equation (1) separately for firms with high FCF and low FCF (models 2 & 3). Model 3 shows that the negative effect of leverage on firm performance (ROA) is lower and insignificant for high-FCF firms (-0.015). On the other hand, model 4 indicates that the negative effect of leverage on (ROA) is higher and more significant for low-FCF firms (-0.026).

These results support the first hypothesis, which suggests that the negative (positive) effect of leverage on firm performance is alleviated (accentuated) by the agency costs of free cash flow. In addition, the adverse impact of leverage also highlights the need for listed manufacturing companies in Vietnam to implement measures to restructure their capital structure by reducing the debt-to-equity ratio, particularly for companies with low free cash flow.

### c. Interactive effect of leverage and agency costs of debt on firm performance

**Table 4.6: Leverage, Agency Costs of Debt and Firm Performance**

Models	Dependent variable: ROA					
	Model 1	Model 2 Firms with high (INV)	Model 3 Firms with low (INV)	Model 4	Model 5 Firms with high (SA)	Model 6 Firms with low (SA)
Constant	0.031** (0.012)	9.46E-02** (0.013)	0.101*** (0.000)	0.048** (0.012)	0.078*** (0.006)	0.015** (0.013)
Lev	-0.021** (0,035)	-0.071* (0.056)	-0.019** (0.021)	-0.032** (0.035)	-0.009** (0.033)	-0.029* (0.056)
SA	0.195*** (0,003)	0.684*** (0.000)	0.164*** (0.005)	0.202*** (0.003)	0.180*** (0.000)	0.342*** (0.000)
Size	0.001*** (0,002)	-0.001 (0.429)	-0.001* (0.052)	0.001*** (0.002)	0.000 (0.521)	0.002 (0.429)
INV	0.001 (0,167)	-0.001** (0.013)	0.080*** (0.000)	0.001 (0.167)	0.001 (0.367)	0.003** (0.013)
INV_Dum	0.045** (0,037)					
Lev*INV_Dum	-0.027 (0.693)					

SA_Dum				0.013** (0.037)		
Lev*SA_Dum				-0.026** (0.039)		
Adjusted R <sup>2</sup>	0.2025	0.3443	0.2474	0.2104	0.1363	0.1158
F	9.63*** (0.000)	8.07*** (0.000)	23.25*** (0.000)	6.78*** (0.000)	2.01*** (0.098)	24.36*** (0.000)
N	1,137	103	1,034	1,137	496	641

This table presents the FEM estimation results for the interactive effect of Leverage and Agency Costs of Debt on Firm performance.

- N is the number of observations.
- P values are reported in parentheses.
- \*, \*\*, \*\*\*, indicate significance at the 10%, 5%, and 1% levels, respectively

Table (4.6) presents the FEM estimation results for the interactive effect of leverage and agency costs of debt on firm performance. The results of model 1 in Table (6) show that leverage has a negative (-0.021) and significant sign.

On the one hand, the coefficient on the interaction term (Lev \* INV\_Dum) is negative (-0.027), however, it is insignificant. This suggests that the negative effect of leverage on ROA is not moderated through INV. On the other hand, the author obtains results when estimating the baseline regression Equation (1) separately for firms with high INV and low INV (models 2 & 3). The author finds that the negative effect of leverage on firm performance ROA is higher for high-INV firms (-0.071) than for low-INV firms (-0.019). The absolute value of the difference between the two coefficients is (0.052). However Lev\*INV\_Dum variable is not significant. Therefore, it is not concluded that the level of INV can moderate the effect of leverage on ROA.

The results of model 4 show that the interaction term between Sale Assets and Leverage is negative and significant at the 5% level, suggesting that the negative impact of agency costs on firm performance can be ameliorated when the company's leverage is high. For example, if a firm does not use any debt, the reduction by one standard deviation in Sale Assets can lead to a decrease in ROA by 2.0 percentage points ( $= 0.202 \times 0.083$ ). However, the magnitude of this decrease in ROA will decline by 0.1 percentage points ( $= 0.026 \times 0.491 \times 0.083$ ) if the company has a leverage of 0.491 (the mean of leverage in the sample). This implies that the drawbacks of utilizing debt (such as increasing the firm's default risk) outweigh the advantages of using debt (such as lowering the firm's agency expenses).

Model 5 shows that the negative effect of leverage on (ROA) is lower and insignificant for high-SA firms (-0.009) while model 6 indicates that the negative effect of leverage on (ROA) is higher and significant for low-SA firms (-0.029).

These results are consistent with the second hypothesis, which suggests that leverage should be less beneficial for firms that are more susceptible to the underinvestment problem and agency costs of debt (firms with more investment opportunities and lower Sales on Assets). However, the results are not consistent with the pecking order model of corporate

leverage, which suggests that the asymmetric information costs are lower under debt financing than under equity financing. Firms with more investment opportunities are more likely to face information asymmetry problems (Fosu, Danso, Ahmad, and Coffie, 2016), and therefore, the pecking order model predicts that debt financing should be performance-enhancing for firms with high investment opportunities.

## 5. CONCLUSION

In conclusion, this study contributes to the finance literature by examining the relationship between leverage, firm performance, and agency costs. The findings reveal several key insights. Firstly, the study confirms that leverage has a negative and significant impact on firm performance. This suggests that increased levels of debt can prevent a firm's ability to achieve favorable performance outcomes. Moreover, the analysis highlights the role of free cash flow in mitigating the negative effect of leverage on firm performance. It is observed that high-free cash flow firms are less adversely affected by leverage compared to low-free cash flow firms. This indicates that firms with ample internal resources are better equipped to manage the challenges associated with debt and maintain their performance levels. Additionally, the research findings demonstrate that leverage can serve as a beneficial tool for firms facing agency costs of free cash flow. Leveraging can help alleviate these agency costs by imposing financial discipline and reducing the availability of free cash flow that can be misused. However, the study also underscores the importance of considering the agency costs of debt. The results reveal that the negative impact of leverage on firm performance is exacerbated for firms that are more likely to face such costs. These firms, characterized by greater investment opportunities and lower levels of sale assets, may experience difficulties in meeting debt obligations and managing the associated financial risks.

Since the research is conducted based on theories, empirical evidence, and the author's own knowledge, there are limitations, such as a lack of comprehensive assessment for other industries in Vietnam, the model's factors not fully considering the specific characteristics of the manufacturing sector, and a failure to account for macroeconomic factors and other external influences. Therefore, further studies should be conducted to address the problem.

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# VIETNAM MONEY MARKET IN THE CONTEXT OF INDUSTRIAL REVOLUTION 4.0

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**Abstract:** *Advances in science and technology, especially the strong development of the Fourth Industrial Revolution (Industry 4.0), the era of the digital revolution, have been having significant impacts on the financial market in general. Including the money market. In addition, in the context of deepening international integration, transactions on the money market are increasing both in size and the diversity and complexity of banking and financial products and services goods, changing payment methods and cash flows. The article studies the current situation and proposes some solutions to develop the money market in Vietnam in the context of the Fourth Industrial Revolution to create maximum conditions for mobilizing financial resources at home and abroad, promoting money flow. Money transfer, contributing to sustainable economic development in the coming time.*

**Keywords:** *Money market; Industry 4.0; Banking and financial services.*

## 1. INTRODUCTION

The Vietnamese currency market has been formed with all components and is increasingly essential in regulating national currency circulation. The development of the Money Market has supported financial institutions and companies in storing short-term excess capital; supporting the Government, financial intermediaries, and companies to access short-term capital; balancing and harmonizing solvency among banks, and contributing to regulating money circulation on a national scale. However, in the revolutionary context of Industry 4.0, the digital revolution era also increases the complexity and Diversity of banking and financial products and services, changing payment methods and cash flow. Therefore, along with this development trend, the money market, in particular, and the management and administration of the Central Bank, in general, must also develop and make changes suitable for the new context.

## 2. THEORETICAL BACKGROUND AND RESEARCH OVERVIEW

### 2.1 Overview of the Money Market

Mishkin (1992), in his research on monetary economics, banking, and financial markets, defined the financial market, according to which: Money market is a financial market in which only companies' Short-term debt instruments (maturity less than one year) are traded. Loretan et al. (2008) argue that the money market is the market for short-term debt instruments that provide capital to financial and non-financial institutions, performing several essential eco-

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conomic functions. Randall Dodd (2012) defines a money market as providing tools for borrowers and borrowers to satisfy their short-term financial needs. Vo Thi Thuy Trang (2010), Duong Thi Thanh Huyen (2017), Le Thi Thuy Van (2017), Dao Hong Chau (2018), Nguyen Thi Thuy Duong et al. (2019) also mentioned the money market in their studies: “The money market is a short-term capital market, where short-term buying and selling of valuable papers, including credit treasury bills, State Bank bills, certificates of deposit and other valuable papers.”

In general, the money market has the following essential functions:

*First, temporarily transfer idle capital to people who lack capital for business and have investment opportunities.* With this function, the money market has created a public market in which economic institutions with a temporary surplus of capital can find an excellent place to earn their excess wealth, and institutions without money find a place to meet their short-term capital needs.

*Second, balance and regulate solvency among banks, and regulate money circulation on a national scale.* The main participants in the money market are the Central Bank, commercial banks, and other credit institutions, which the Central Bank regulates commercial banks and credit institutions. The money market provides the means through which the Central Bank can implement the Monetary Policy, coordinate the money supply and the degree of credit expansion, and control the banks’ reserve ratio—Commercial goods. If commercial banks and credit institutions cannot pay their customers, the Central Bank will be the lender of last resort.

*Third, finance the lack of liquidity of economic actors.* The money market was created to meet short-term capital needs by pairing those with temporary idle capital with those with temporary shortfalls, benefiting both parties. The money market has the effect of balancing solvency among credit facilities. This is especially meaningful for credit institutions, primarily commercial banks. Thus, the money market is the “rescue” place to finance credit institutions and other economic entities when these entities lack liquidity.

## **2.2 Impact of Industry 4.0 on the development of the Money Market**

*First, the impact on money market management*

Industry 4.0 is not only the digitization and internalization of devices but also the convergence and integration of many technologies and their interactions in many fields on a large scale, such as Big data; Artificial intelligence; Connected things, automation, robotics, uncrewed vehicles; 3D printing technology, virtual reality technology combined with biotechnology, nanotechnology ... Subjects in the money market in the context of Industry 4.0, increasing the application of information technology and digital technology in its management of the money market. The application of digital technology in management activities will help the Central Bank store a large amount of information, making it easier to look up information to conduct inspection and supervision activities on the market. This facilitates management activities to be carried out quickly and conveniently. However, the Fourth Industrial Revolution will also create complexity in the operation of the money market, requiring money market management agencies to issue stricter supervision documents to avoid risks. Occur, especially information technology risks.

*Second, the impact on the development and diversity of tools and goods on the market*

- Digital banking trend: Digital banking is a bank that digitizes all operations, programs, and functions. It digitizes products and services, automates processes, and connects with middleware. Digital banking is a step ahead of online banking. Digital banking is based on big data and analytics and includes cutting-edge technologies focused on customer experience. A bank is considered a digital bank if it has digitized all functions, from product development to customer service. In the context of Industry 4.0, the digital banking trend is getting stronger and stronger.

- Trends in using artificial intelligence:

+ “Chatbot” customer support: this tool answers customer questions 24/7. The advantage of chatbots is that they can work continuously, without a time limit, like humans; the cost of installing chatbots on websites or social networking sites is also lower than hiring a call center staff.

+ Voice assistant for account service: if the chatbot is for messaging, the voice assistant integrates a voice application so that users can interact with the robot more easily. Banks can provide spending information to customers to help them control their account balances, such as how much they spend, in which stores or locations, and when they spend the money. In addition, voice assistants can also make money orders and pay users when required.

+ Personal financial management: banks will use artificial intelligence to create applications to help customers manage their finances. Artificial intelligence in the form of an intelligent assistant will help customers check their accounts, make payments, and automatically deduct a small amount of money into the user’s savings account.

*Fourth, the impact on the diversity and capacity of market participants*

Industry 4.0 has increased market participation. The birth and development of Fintech companies have changed the distribution channels and traditional banking products and services through the intense development trend of online transaction channels such as Internet banking, mobile banking, and networks. The competition for expanding bank branches will no longer exist; banks must develop self-service devices based on automation and multi-connection technology. Afternoon.

*Fifth, the impact on the development of infrastructure supporting market operations.*

In the context of Industry 4.0, the application of information technology will increase, tending to use big data. Banks can analyze big data to detect behaviors that pose a risk of fraud or loss of bank assets. This technology analyzes data from websites and mobile applications to trace the activity of potentially fraudulent transactions and prevent them in the first place. Instead of before, fraud was detected after a loss incident; now, thanks to new technology, fraud in banking transactions is prevented in the first place, helping to avoid enormous losses for the bank and customers.

*Sixth, the impact of the increase in market size*

Industry 4.0 helps to connect with markets around the world with the participation of different actors. Buying and selling on the money market is done quickly. With the diverse

involvement of market members and enormous market scope, it is necessary to increase the size of the money market by increasing the number of members, the trading volume, and the number of members—currency market transactions.

### 3. RESEARCH METHODS

This paper studies the current situation and proposes some solutions to develop the money market in Vietnam in the context of the Fourth Industrial Revolution to create maximum conditions for mobilizing financial resources at home and abroad, promoting money flow. Money transfer, contributing to sustainable economic development in the coming time. To conduct this article, we have used the qualitative research method.

Methods of collecting information: Synthesize the theoretical basis, research framework on the money market, the impact of the Industrial Revolution 4.0 on the money market...and other issues related to the money market. Research topics through studying documents, books, and published research works of scientists.

Document processing method: From the collected documents, the research team uses analytical methods to analyze the movements of the Vietnamese currency market in the 2016-2021 period, the impact of the industrial revolution, and the impact of the industrial revolution. Industry 4.0 to the Vietnamese currency market. From the point of view of dialectical materialism: use the deductive method to make speculations, assess the current situation of the money market in Vietnam over the past time, use induction to conclude, and summarize to propose some solutions.

Data were collected from the World Bank, the State Bank of Vietnam, the World Economic Forum (WEF), the Ministry of Planning and Investment, the General Statistics Office (GSO), the Vietnam Chamber of Commerce and Industry (VCCI)....

### 4. RESEARCH RESULTS

#### 4.1 Current status of Vietnam's money market in the context of industrial 4.0

##### *a. Interbank local currency market*

From 2016 to the end of 2021, the number of members has increased significantly in the interbank local currency market. The trading method of the market has been gradually innovated; most transactions are done online, with flexible terms (overnight, one week, two weeks, one month, three months, six months, 12 months). The average transaction interest rate on the Vietnam Interbank Local Currency Market (VNIBOR) has also been developed based on daily quotations from several banks.

The total turnover of loans and deposits in the interbank market in VND reached 33,636 trillion VND, in USD converted to VND was 7,872 trillion dong, an increase of 95% and 12%, respectively, compared to 2020. Compared with lending and deposit activities, they were buying and selling in terms of valuable papers among credit institutions with smaller scale and turnover. They reached 858 trillion dong in 2021, up 14% compared to 2020. In terms of terms, transactions on the interbank market in 2021 continued to be mainly under one month, focusing on overnight tenors, one week. Overnight trading volume in VND for the whole year

reached 26,130 trillion VND, and in USD totaled 5,469 trillion VND, which equals 77% and 69%, respectively, of the total amount of trade for the year as a whole<sup>1</sup>.

Compared to the standard level in recent years, the interbank interest rate in 2021 is relatively stable at a low level due to abundant system liquidity thanks to the inheritance of a good liquidity position from the end of 2020 and the system's continued growth—an additional source of VND from the sale of foreign currency by credit institutions to the State Bank. On average, for the whole year, VND interest rates for overnight, 1-week, and 2-week terms are at 0.76%/year, 0.93%/year, and 1.07%/year, respectively.

#### *b, Foreign currency market movements*

From the beginning of 2021, the SBV implemented a plan to buy foreign currency with a term of 6 months, reducing the frequency of intervention and gradually lowering the forward buying rate, creating conditions for the exchange rate to move more flexibly while absorbing supply. Abundant foreign currency in the market, ensuring the smooth operation of the foreign currency market. After relatively stable movements in the first seven months of the year, from August 11, 2021, the domestic exchange rate tended to decrease when the State Bank actively stopped buying foreign currencies for futures, buying foreign currencies on the spot, and gradually lowering the foreign currency buying rate to match market conditions, and at the same time support VND liquidity in the context of complicated developments of the COVID-19 epidemic. In the early days of December 2021, the exchange rate in the market tended to increase rapidly due to the unfavorable balance of supply and demand of foreign currencies and the market-adjusted expectations about the Fed's monetary policy narrowing roadmap. However, after the SBV listed the intervening selling rate at 23,150 VND/USD (December 8, 2021), it was ready to sell foreign currencies to support liquidity and stabilize the market and exchange rates. Interbank tends to decrease again. By the end of 2021, the central exchange rate will increase by 0.06% compared to the end of 2020, and the VND/USD exchange rate on the interbank market will decrease by 1.32% compared to the end of 2020. The foreign currency market is stable., market liquidity was smooth, the legal needs of the economy to buy and sell foreign currencies were fully and promptly met, and the SBV purchased a large amount of foreign currency to supplement the State's revenue. The foreign currency market has been maintained stably thanks to the solid domestic macroeconomic foundation and favorable foreign currency supply and demand; The central exchange rate mechanism continues to be effective in creating conditions for the market exchange rate to move flexibly and in line with market conditions, supporting the absorption of external shocks to the economy and to limit speculation and hoarding of foreign currencies.

#### *c, Gold price movements*

In 2021, the domestic gold bar price fluctuated according to the international gold price movement; Except for the period from June to September 2021, the domestic gold price remained almost unchanged, remaining around 57 million dong/tael because most gold shops were closed under the regulations on social distancing while the price of gold remained unchanged. International gold prices fell sharply, causing the difference between domestic and

<sup>1</sup> According to the State Bank's latest Annual Report (AGM 2021)



global gold prices to increase. From October 2021, the provinces and cities throughout the country began to reopen; the domestic gold price increased according to the international gold price. As of December 31, 2021, the domestic gold price traded at 61.25 million dong/tael, an increase of about 9% compared to the beginning of 2021; the difference between domestic and international gold prices remained at 10.7 million dong/tael.

*d, Open market*

Since the official start of operation (in 2000), open market operations (OMO) have had the participation of many members of different types of credit institutions, including domestic and commercial banks. Country, joint-stock commercial banks, joint-venture banks, foreign bank branches, financial companies, and the Central People's Credit Fund. However, the number of members participating in the transaction and participating in each trading session is still modest.

Trading volume on the market is also increasing; the number of trading sessions increases from 10 days/time to 1 time/week, then two times/week, and payment is made within the same day. Trading goods are short-term assets issued in VND registered with the State Bank, such as treasury bills, SBV bills, and several other short-term assets prescribed by the State Bank's governor; treasury bills and SBV bills (mainly State Treasury bills) are shared commodities.

**Table 1: Transaction volume on the open market (2017 – 2021)**

Year	Unit	2017	2018	2019	2020	2021
Total sales	Billions dong	101,200	403.490	505.617	556.448	61.244
Total sales	Billions dong	353.616	233.350	301.236	332,112	0
Number of trading sessions	Session	484	388	412	402	251
Number of Members	Member	1,903	1.023	1.132	1.128	34
Average winning bid volume/session	Billions dong	400	1.563	1.612	1.604	244
Average winning bid volume/session	Billions dong	1.531	1.127	1.131	1.216	0

*Source: Annual Report, SBV 2016 - 2021*

*e, Bank credit market*

Capital mobilization of the whole system increased by 10.3% compared to the end of 2020 (2020: 14.9%), in which VND deposits increased by 11.67% (2020: 15.06%), foreign currency deposits decreased by 3.5% (2020: 13.27%). Foreign currency mobilization dropped after four consecutive years of growth, causing dollarization in warranties (ratio of foreign currency deposits/M2) to decrease from 8% in 2020 to 6,98% in 2021. The proportion of capital mobilization of State-owned commercial banks increased. At the same time, other credit institutions and VBSP decreased: capital mobilization of State-owned commercial banks (excluding VBSP) accounted for 45.53% of total deposits. System (2020: 44.46%); VBSP accounted for 0.67% of system-wide mobilization (2019: 0.69%); the group of other credit institutions accounted for 53.8% (2020: 54.85%).

Credit to the economy increased by 13.61% compared to the end of 2020 (2020: 12.17%); VND credit grew by 13.44%, and foreign currency credit grew by 16.69%. Unlike the evolution of dollarization in terms of deposits, dollarization on loans (ratio of foreign currency



credit/M2) tends to increase from 4.13% per year. 2020 to 4.36% in 2021, but still below 5%. Credit to the economy continues to be focused and allocated by credit institutions in production and business sectors, which drive economic growth, thereby contributing to controlling inflation and supporting growth recovery Economy.

The credit balance of State-owned commercial banks (excluding VBSP) accounts for 45.27% of the system's total outstanding loans (2020: 46.2%); VBSP accounts for 2.37% (2020: 2.46%); the group of other credit institutions accounts for 52.36% (2020: 51.34%).

#### *f, Market liquidity*

It generally improved in the 2016-2021 period, and the loan/deposit ratio on the market 1 (the market for lending and depositing money between commercial banks and individuals, businesses, and economic organizations) decreased. From 91.36% in 2016 down to about 94% in 2020 2019-2020, the growth rate of capital mobilization from residents and economic organizations is always lower than the growth rate of credit outstanding. The ratio of short-term capital for medium and long-term loans tends to decrease. Market activities are stable and smooth. In 2021, although the capital mobilization rate decreased lower than the credit growth rate, banks did not face liquidity difficulties due to the weak credit demand due to the Covid-19 pandemic. The open market (including buying foreign currencies) neutralizes the money supply while supporting liquidity and controlling inflation and low interbank interest rates; banks can mobilize capital from this channel.

The banking system mainly mobilizes short-term capital (about 88% of deposits are with a term of 12 months or less) but still has to meet the needs of medium and long-term loans (over 52% of the system's VND credit balance). medium and long term) has put pressure on deposit rates. At the same time, the pressure to increase interest rates always exists because Vietnam has a sizeable economic openness, fluctuations in the financial market, and world currencies have an intense and rapid impact on domestic interest rates and exchange rates.

## **4.2. Impact of Industry 4.0 on Vietnam's currency market**

### *a) Impact on the structure and quality of goods in the market*

The Industrial Revolution, 4.0, with technologies such as the Internet of Things, Big Data, and artificial intelligence AI, etc., have strongly impacted the structure and quality of goods in the Vietnamese currency market. Specifically:

#### + E-wallet:

In the Vietnamese market, Fintech companies have fiercely competed for this lucrative market share when launching a series of branded e-wallets such as Momo, Samsung Pay, VTC Pay, Bankplus, Payoo, ZaloPay, IPay, Bao Kim, Vimo, Mobivi, along, Vi FPT, eMonkey, Pay365, TopPay, Ngan Luong, AirPay,... This fact has made the e-wallet market in Vietnam's electronics industry thrive in both the number of wallets and users. In 2015, Vietnam had five e-wallets; by 2017, this number had increased to 20; by 2022, the SBV had licensed 40 e-wallets to operate. From October 2018 to October 2022, the number of e-wallet users has grown impressively: from 12.3 to 41.3 million (i.e., a sharp increase of 330%). Around 57% of Vietnam's adult population currently uses e-wallets, as opposed to just 14% at the end of 2018.

### + P2P Lending

P2P Lending (*Peer-to-peer lending*) is a new business model, an innovative service designed and built on a digital technology application platform to connect borrowers with lenders directly. investors) without going through financial intermediaries such as credit institutions or foreign bank branches. Accordingly, P2P Lending businesses provide an online transaction platform for borrowers to connect loans with lenders directly. The online transaction platform records all borrowing and repayment activities (principal and interest) between the borrower and the giver in electronic and digitized tables.

Preliminary statistics from the State Bank of Vietnam show that Vietnam currently has about 100 P2P Lending companies (including companies that have been officially put into operation and some companies are in the testing phase) such as Tima, Trust Circle, Borrow, Lendmo, Wecash, InterLoan. ... However, the number of enterprises operating P2P Lending may be more challenging to measure accurately because the management agencies have not yet organized official statistics on information related to the deploying enterprises. P2P Lending activities in Vietnam.

**Table 2: List of some traditional P2P Lending companies operating in Vietnam**

TT	Communication	Operation form	Customers	Investment amount (USD)	Headquarters/Year of Establishment
1	FIN	Traditional P2P Lending	Consumer loans	700.000	Hanoi
2	ELOAN	Traditional P2P Lending	Business households, SMEs	1.000.000	Ho Chi Minh City/2017
3	VAYMUON	Traditional P2P Lending	Consumer loans, business households, SMEs	1.000.000	Hanoi/2017
4	VNVON	Traditional P2P Lending	Consumer loans, business households, SMEs	10.000.000	Hanoi/2018
5	MOBILIZATION	Traditional P2P Lending	Consumer loans	500.000	Ho Chi Minh City
6	MONEY BANK	Traditional P2P Lending	Consumer loans		Ho Chi Minh City
7	MOFIN	Traditional P2P Lending	Consumer loans	1.000.000	Hanoi
8	INTERLOAN	Traditional P2P Lending	Consumer loan advance salary	1.000.000	Ho Chi Minh City
9	TIMA LENDER	Traditional P2P Lending	Consumer loans	5.000.000	Hanoi
10	LENBIZ	Traditional P2P Lending	Business households, SMEs	2.000.000	Hanoi/2017
11	DRAGONLAND	Bank connection	Individuals, Households, SMEs		Ho Chi Minh City
12	FE68	Traditional P2P Lending	Consumer loans		Quang Nam
13	VALIDUS VIETNAM	Traditional P2P Lending	SMEs		Singapore/Vietnam Branch 2015
14	BINANCE	Traditional P2P Lending			Vietnam2020

Source: Lender.vn

P2P Lending activities in the Vietnamese market are in the development stage, need to be improved in all aspects, and need to be placed under the close management of the management agency. In the coming time, P2P Lending activities in Vietnam are expected to contribute to financial inclusion, expand capabilities and create more channels to access financial resources and lending methods to the economy. Especially for disadvantaged groups who have Internet access, thereby contributing to repelling the situation of “black credit.”

+ Virtual currency, cryptocurrency

With the inevitable development trend of Blockchain technology, the emergence and development of cryptocurrencies (cryptocurrencies) are considered the future trend. As of September 2021, there are 6721 cryptocurrencies in the world, of which Bitcoin holds the largest market share. In Vietnam, the cryptocurrency market is also developing very actively. Vietnam now has more than 16.6 million crypto holders. Of these, about 31% own Bitcoin. Vietnam is the leading country in the world regarding crypto adoption for two consecutive years, 2021 and 2022. In addition, Vietnam is also the country with the second largest percentage of cryptocurrency holders in ASEAN after Thailand, and is one of the top 5 countries in Blockchain.

Vietnam is seeing a rapid increase in the use of digital currencies. However, the International Monetary Fund (IMF) has warned that their use in “emerging” countries could threaten the stability of the national economy and monetary system. In it, it can be said that taking advantage of the issuance of cryptocurrencies to raise capital illegally or perform fraudulent acts.

*b) Impact on financial intermediaries, primarily commercial banks*

Vietnam is considered a potential market with opportunities for digital banking development, with 99.33 million people (December 31, 2022), a young population structure (adults account for about 70%), at the same time, 85% of the population owns a smartphone, 72.1 million Internet users, the number of internet users accessing by smartphone is 95.8%. Recognizing the strong impact of Industry 4.0 on the banking sector, most Vietnamese domestic banks currently have a digitalization strategy and digital banking development orientation. Recent years have witnessed an explosion of digital transformation activities in the banking industry, with a sharp increase in online banking transactions and e-payments.

The development trend of digital banking of Vietnamese commercial banks is quite diverse, focusing on the following four areas:

+ Application of Artificial Intelligence (AI) in banking

Some banks have implemented AI with the main functions: Consulting customers with information about interest rates, exchange rates, products, and fee schedules..., answering customers' questions about locations, transaction fees, and card opening processes like TPBank with T'Aio virtual assistant application on Facebook Messenger and VietABank with Chatbox operating on Fanpage. In addition, some banks have automated the registration and service change processes by implementing SMART FORM, thereby reducing the time spent at the counter to an average of 3 - 5 minutes (excluding waiting time, scan, and approval time). Some other banks use software to analyze information of millions of customers and assess and forecast their debt repayment ability to make accurate lending decisions, like BIDV using integrated software—Watson integration designed by Five 9.

+ Combine banking service provision with big technology companies.

The financial and banking services provided by Big Tech are diverse but have yet to be widely available. Specifically: Samsung Pay, Amazon (through an agreement to provide e-commerce services for VECOM), Alibaba (through its 83% ownership of Lazada), and JD.com (through a \$50 million investment in Lazada) Tiki). The big technology corporations

in Vietnam (FPT, Viettel, CMC, VNG, BKAV, VC Corp) still mainly focus on the main field of technology; a few have access to the banking service supply segment through developing electronic payment tools, such as WePay (VC Corp), Zalo Pay (VNG), Bao Kim (VNP)...

+ Switching core banking (Core Banking) and Cloud

This transformation is slow and formal and has yet to bring about commensurate efficiency mainly because commercial banks have had to prioritize resources for dealing with bad debt problems, ensuring liquidity... meanwhile, the transformation requires considerable financial resources. Regarding data integration on the “core,” most banks have not yet deployed cloud computing due to sensitive data characteristics and complex and unsynchronized data systems. Only a few banks have completed putting data on a Private cloud like VietABank.

+ Development of digital banking applications and e-wallets

Banks providing banking services using modern digital technology are diverse, with many utilities for customers. VPBank with Timo Bank digital banking service and YOLO digital banking application; Vietcombank with Digital Lab digital technology transaction space; MB-Bank allows customers to transfer money via Facebook application; TPBank with the launch of the LiveBank automatic banking service; BIDV launched BIDV SmartBanking mobile banking application with QR Pay utility; Sacombank with Sacompay payment application, using 2-factor authentication method; OCB with OCB OMNI app; Techcombank launched a card product with contactless payment technology; or LienViet PostBank with a Vi Viet non-physical card.

### **4.3 Assessment of the development situation of the market in vietnam in the context of the 4.0 industrial revolution**

#### *Outstanding Achievements*

*Firstly*, money market management is done relatively well and keeps pace with the development of the money market. The legal corridor for the operation of the market has been established at various levels, from Laws and Ordinances to sub-law documents, responding promptly to the conditions of Industry 4.0.

*Secondly*, about the development and diversity of instruments and commodities in the money market: Financial instruments traded on the market are abundant, such as bills, treasury bonds, and corporate bonds. , local government bonds, SBV bills, certificates of deposit, and some other valuables; in addition, some long-term bonds, such as government bonds, are also allowed to be traded on the market. The world’s basic money market operations have also been applied in Vietnam, such as interbank deposits, repurchase contracts (Repo), discounting, and derivative operations (swap, forward). , future, option) although yet to become famous.

*Third*, on the diversity and capacity of market participants: The composition of the Vietnamese currency market has developed to a higher degree with the formation of additional sub-markets. Participants, commodities traded on the market, and the operating turnover of money market operations were expanded; market activities have been gradually modernized, meeting the integration requirements. The number of market participants has increased over the years, especially in the interbank and open markets with almost all types of credit institutions,

from state-owned commercial banks, joint-stock commercial banks, and foreign banks to commercial banks—financial and insurance companies.

*Fourth*, the development of Industry 4.0 leads to the development of infrastructure to support market operations: Information technology infrastructure for transactions on the Vietnam Money Market has been gradually formed and has specific development steps; in which the critical role of the State Bank of Vietnam in creating an information technology infrastructure for transactions on the money market of Vietnam, thereby actively supporting the development of the money market. Vietnamese currency market.

*Fifth*, in terms of market size: There is an increase in market size, such as an increase in the number of members and transaction turnover in the period 2016 - 2021. Along with that, arbitrage activities on the market. The interbank foreign exchange market tends to increase.

#### *b, Limitations*

In addition to outstanding achievements, the development of the money market has many limitations, specifically as follows:

*Firstly*, in terms of money market management, there are still many limitations, the system of legal documents for the operation of the money market needs to be synchronized, and there are still many legal gaps in formulating policies for the money market. State Bank in Industry 4.0.

*Secondly*, about the development and diversity of instruments in the money market: Forms of transactions, all trading activities on the market are still limited to the traditional form of lending and deposits. The market for buying and selling a fixed asset (repo) has yet to develop. Hedging tools and operations in the money market need to be diversified, derivatives especially still need to be developed. The most popular on the interbank market are Government bonds, Treasury bills, SBV bills, and local government bonds. Other types of assets, such as commercial papers, bills of exchange, and promissory notes, have yet to become trading instruments on the market.

*Third*, on the diversity of market participants. The new participants in the Vietnam Money Market are mainly commercial banks, all of which aim to ensure liquidity, not currency trading. There is often a one-way situation in the market, where there is an excess or a shortage of available capital, so it often leads to a market freeze because there is a shortage of supply when there is demand, or when there is a supply, there is no demand. The market has yet to form professional members such as brokers, market makers, credit rating agencies, etc., so market members must spend a lot of time and money. to meet your needs promptly. On the other hand, the need for more professional intermediaries (currency brokers) and reputable rating agencies has hindered the development of the secondary market for valuable papers issued by foreign investors. Issuers.

*Fourth*, the domestic and international money market linkage must still be high. The expansion and development of monetary instruments in foreign markets have yet to be implemented.

## **5 DISCUSSION AND CONCLUSION**

The money market is an essential part of the financial market, playing the role of receiving and transmitting the effects of monetary decisions from the State Bank to the supply and



demand of the economy. The Industrial Revolution 4.0 has opened many opportunities, but at the same time, there have been many challenges to the development of the money market. Therefore, the study and proposal of solutions to develop the money market are significant in improving the efficiency of monetary policy management and market regulation in the current context. The solutions proposed in this study will be valuable references for managers in the process of market operation toward the goal of sustainable development of the currency market in Vietnam shortly. Some solutions for the development of the Vietnam money market in the conference of Industrial 4.0

*Firstly, continue to improve the money market's legal framework consistent with Vietnam's financial-monetary strategy to 2030 and the Party and State's excellent policy on actively participating in the economic crisis. Industry 4.0: supporting digital transformation through facilitating business model promotion and governance in the direction of breakthroughs and innovation; Building and completing the legal framework for Fintech activities, digital banking, peer-to-peer lending, cooperation between banks - Fintech and Bigtech in data sharing (Open banking ecosystem - Open banking) to facilitate for credit institutions to deploy digital banking, promoting non-cash payments; Continue to improve institutions and regulations for non-banking credit institutions (including Fintech) to participate in safe and healthy consumer lending, contributing to stimulating healthy consumption demand; Proposing a method of legalizing bad debt handling when Resolution No. 42/2017/QH14 of the National Assembly expires in August 2022... At the same time, the SBV is studying and preparing a draft amendment to the Law on the State Bank, The Law on Credit Institutions, and the Law on Deposit Insurance are suitable for the new situation.*

*Secondly, Diversification of trading instruments and forms of trading on the money market:* The diversification and standardization of financial instruments, including diversification of types, maturities, and international standardization, will be the key factors. Factors needing attention contribute to the development of money markets, significantly develop secondary calls for valuable papers, and encourage the use of negotiable instruments, repo, and derivative activities.

*Third, create favorable conditions for establishing and developing brokerage firms in the money market:* establishing currency brokerage companies in Vietnam will increase trading volume on the inter-bank market. Bank: reduce dependence on loans from the State Bank for credit institutions because when credit institutions lack available capital, they can look to these intermediaries to compensate for additional money.

*Fourth, strengthen the link between the domestic money market and the international money market:* take advantage of the Fourth Industrial Revolution to develop plans to release several tools on the money market to foreign markets, take advantage of being able to use foreign currency capital to implement foreign exchange policies; Strengthen linkages with international currency markets in formulating foreign exchange policies to create favorable conditions for the foreign exchange market in Vietnam.

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# DEVELOPMENT INVESTMENT IRRIGATION INFRASTRUCTURE IN BAC NINH PROVINCE

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**Abstract:** Bac Ninh is a province with a dense network of rivers from 1.0 -1.2 km/km<sup>2</sup> with large river systems flowing through Duong River, Cau River, Thai Binh River and the downstream part of Ca Lo River. With a dense river system and abundant surface water saving, the province's irrigation plays a particularly important role in water harvesting, drainage and flood prevention in the province. Over the years, the province has focused resources to invest in the development of irrigation infrastructure. However, after the process of exploitation and use, many works, work items, and drainage systems are seriously downgraded, only meeting 60%-70% of the design capacity, and need to be upgraded or replaced. Most of the systems do not have equipment to monitor water level, flow... to serve the management and mobilization. Therefore, urgent solutions are required to improve the efficiency of development investment irrigation infrastructure in the province in the coming time.

**Keywords:** irrigation, development investment

## 1. INTRODUCTION

According to Decree 129/2017/ND-CP stipulating the management, use and exploitation of irrigation infrastructure assets, irrigation infrastructure assets (including land associated with irrigation works) State-invested and managed as public property, including: dams (irrigation dams and ancillary works associated with irrigation dams), water reservoirs (including dams to create lakes, spillways, sluices, lake beds, etc.) water intake culverts, bottom discharge culverts...), culverts, dumping stations, water conduction and transfer systems, embankments, irrigation embankments and auxiliary works for irrigation management and exploitation (houses, stations, management roads), monitoring equipment, warehouses, supplies, border posts, signs).

## 2. RESEARCH OVERVIEW AND RESEARCH METHODS

Investment in the development of irrigation infrastructure has received much attention from domestic and international researchers.

For international research, in the study "Assessment of the impact of small-scale irrigation investors on poverty reduction: A case study of Dabaga city in Niger" by Abdoul-Aziz Ali Sara, I. Dellal (2022) analyzed the socioeconomic impact of small-scale irrigation investors on poverty alleviation in Dabaga, Niger. The study uses descriptive statistics and econometric equivalence tests to analyze the data. The results show that small-scale irrigation investment will help reduce poverty and food insecurity in this area. Confronting climate change adaptive irrigation investors, in the study "Development of irrigation infrastructure in the Limari Basin, Central Chile: implications for climate change adaptation" of S. Vicuna et al (2014) showed that

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to adapt to climate changes in agriculture, the solution is to build irrigation infrastructure. The Limari Basin in central Chile has relied on irrigation infrastructure to increase the availability of irrigation water as well as expand the irrigated area. In the study “Climate change, water security and the need for integrated policy development: the case of agricultural infrastructure investment in the irrigation sector in Australia” by T. Maraseni et al (2012) ) explored the trade-offs associated with adopting more energy-efficient but more energy-intensive irrigation technologies by developing an integrated assessment framework. A meta-analysis of five case studies shows a balance between water security and environmental security as the transition to pressurized irrigation is assessed in terms of fuel and energy related emissions, except in cases of replacement of older hand-cranked sprinkler systems. These results suggest that priority should be given to the implementation of policies on investment in farm infrastructure to replace inefficient and energy-intensive sprinkler irrigation systems such as hand irrigation and reels. The results indicate that related changes in the use of agricultural machinery and agrochemicals may also be important. The findings of this study support the use of an integrated approach to avoid potential conflicts in the design of national climate change adaptation and mitigation policies, both of which are under developed in Australia.

For domestic research, the study “Assessment of efficiency in the operation of irrigation works in agricultural production in Soc Trang province” by Nguyen Thi My Linh et al (2017) discussed the efficiency of the irrigation system. Irrigation process for agricultural production in Soc Trang province. Secondary data includes summary reports on surface water resources, long-term planning on water resources and map data collected from State management agencies in Soc Trang province. Data collected from direct interviews were processed by descriptive statistics, SWOT analysis and spatial analysis. The results show that the agricultural farming system of Soc Trang is highly dependent on irrigation works, especially in regulating water sources for production. Irrigation systems prevent the complex effects of salinity, thereby reducing damage to agricultural crops. Also, research related to investment efficiency of irrigation works, however, in Vinh Phuc province, author Bui Thi Bong Trang (2017) uses descriptive statistical method to analyze the effectiveness of projects. Investment project on construction of irrigation works in Vinh Phuc province, thereby proposing solutions to improve investment efficiency of irrigation works. Focusing on solutions to manage and exploit irrigation works, Le Manh Hung et al (2020) conducted a study on “Irrigation solutions for agricultural development to adapt to flood areas in the Mekong Delta in the future”. future”. The article analyzes the current status of the flood control system in the Mekong Delta, its effectiveness and limitations. The results show that, in the process of building a system of irrigation works to control floods in the Mekong Delta until now, flood control works have not been completed, lacked synchronism, many dikes , flood prevention roads are lower than the flood crest level; thereby proposing irrigation solutions for agriculture to adapt to the floodplain of the Mekong Delta such as the outer flood control system, in the immediate period it is necessary to build works items with sufficient scientific basis, clearly define objectives and tasks for each region...Also studied on irrigation solutions in the Mekong Delta,

“Orientation to modernize irrigation systems for sustainable agricultural transformation and development in the ecological sub-regions of the Mekong Delta” by Nguyen Van Tinh (2020) mentions both structural and non-structural solutions to modernize the irrigation system for sustainable agricultural development in the Mekong River Delta. In addition, there are also studies on solutions to management and exploitation of irrigation works in other localities such as the study in Hanoi, author Mai An Dong (2011), in the thesis “Research on some solutions to manage and exploit the system of irrigation works in Hanoi in the context of climate change” evaluated the current status of management and exploitation of irrigation works in Ha Noi. From there, some solutions were proposed such as perfecting mechanisms and policies, renovating and upgrading irrigation works, perfecting the management and exploitation apparatus of irrigation works. In the study “Proposing some solutions to improve the investment efficiency of the irrigation sector in the conditions of drought and saltwater intrusion in the Mekong Delta” by Nguyen Hong Nhung (2020), the author uses the method descriptive statistics, analysis, synthesis, interviews and discussions with experts to assess the current status of investment in the irrigation sector in the Mekong Delta, forecast the impact of drought and saltwater intrusion on the Delta. Mekong River and propose a number of solutions to improve the efficiency of investment in the irrigation sector in the context of drought and saltwater intrusion.

In general, both domestic and foreign researches have studied the development investment of the irrigation system in terms of technical aspects, the management and exploitation of the irrigation system in Vietnam and in some localities. Very few works mention the investment and development of irrigation infrastructure in Bac Ninh province fully. There has not been any research on the criteria to evaluate the efficiency of investment in the development of irrigation infrastructure in both theory and practice, from which to propose solutions for investment in the development of irrigation infrastructure system effectively in Bac Ninh. Therefore, the author finds that it is necessary to have a study on investment and development of irrigation infrastructure in Bac Ninh, evaluate the effectiveness and propose solutions to increase investment comprehensively, contributing the development of irrigation infrastructure in Bac Ninh to develop the economy of this economic region more strongly.

For research methods, this study uses descriptive statistical methods, comparative analysis of development investment of irrigation infrastructure in Bac Ninh province over the years in the period 2018-2022.

### **3. DEVELOPMENT INVESTMENT IRRIGATION INFRASTRUCTURE**

Development investment irrigation infrastructure is the activity of using capital and other resources to build irrigation works, creating assets that are works and equipment necessary for irrigation activities, in order to meet water resources to develop the national economy.

Investment resources for irrigation infrastructure include capital, land, labor, machinery and equipment for irrigation construction. Therefore, when evaluating the effectiveness of investment in irrigation infrastructure, it is necessary to fully consider the resources involved.

## 4. STATUS OF DEVELOPMENT INVESTMENT OF IRRIGATION INFRASTRUCTURE IN BAC NINH PROVINCE

### 4.1. Scale of investment capital to develop irrigation infrastructure

**Table 4.1. Investment capital for development of irrigation infrastructure in the period of 2018 – 2022**

*Unit: Billion VND*

Target	2018	2019	2020	2021	2022
Investment capital of the whole province	8,996,139	9,505,158	10,526,046	9,368,494	8,256
Investment capital for irrigation development	563,743	794,551	831,631	642,022	475,567

*Source: Bac Ninh Department of Planning and Investment*

Investment in the development of irrigation infrastructure is considered a key focus in the socio-economic development of Bac Ninh province. If in 2018, the investment capital of the whole province was 8,996,139 billion VND, by 2020 it has increased to 10,526,046 billion VND. In 2020 and 2021, due to the impact of the Covid-19 pandemic, the province's total investment capital decreased to 8,256 billion VND. Along with the increase in investment capital of the whole province, the increase in investment capital for irrigation development also contributes significantly. In 2019, the province's investment in irrigation development was 563,743 billion VND, by 2020 it has increased to 831,631 billion VND. On average, each year, investment capital to develop irrigation infrastructure accounts for about 7.1% of the total investment capital of the province.

### 4.2. Contents of investment in development of irrigation infrastructure

#### 4.2.1. Development investment of irrigation infrastructure according to technical factors

The contents of investment capital for irrigation development are classified by technical factors, including:

- Invest in the construction and installation of irrigation works
- Invest in purchasing machinery and equipment
- Other investment

**Table 4.2. Investment capital to development irrigation infrastructure according to technical factors period 2018 -2022**

Target	2018	2019	2020	2021	2022
Investment capital for irrigation development	563,743	794,551	831,631	642,022	475,567
Invest in the construction and installation of irrigation works	401,67	685,69	668,21	512,65	392,15
Invest in purchasing machinery and equipment	107,9	84,2	104,4	85,7	53,8
Other investment	54,173	24,661	59,021	43,672	29,617

*Source: Bac Ninh Department of Planning and Investment*

In the period of 2018 -2022, Bac Ninh invests in building more than 30 new projects, as well as renovating and upgrading more than 100 works with a total investment capital of irrigation of the whole province of VND 3,307,514 billion. In which, the total capital for construction and installation is 2,660.37 billion VND, accounting for 80.4%; capital for procurement of machinery and equipment is 436 billion dong, accounting for 13.18%; and other capital construction investment capital is 211.144 billion dong, accounting for 6.38%.

Investment in construction and installation of irrigation works: Capital for construction and installation of irrigation works accounts for a very large part of the province's total investment in irrigation development. In the past 5 years, the proportion of investment capital for the construction and installation of irrigation works has always increased, with a total of 2,660.37 billion VND/year, accounting for about 80.4%/year of the total investment capital for irrigation development. In 2019 accounted for the highest proportion due to focusing on investment in key projects as well as building dikes, solidifying canals and fields. During this period, the province has synchronously repaired key works, canal systems and works on the canal system to the field in the systems that have been built to ensure the drainage; upgrading and renovating pump stations that are too old; dredging drainage canals from the main drainage shaft to the in-field drainage ditches to effectively drain water for agriculture, industry and people's livelihood. Specifically, renovating and upgrading systems such as renovating and upgrading Huyen Khe river in the Bac Duong irrigation system invested by the provincial Department of Agriculture and Rural Development, renovating the canal bed and hardening the banks of the drainage canal. T2 section from K1+800-K3+450 Bac Ninh city, Tien Du district, ... In addition, there are also new construction such as construction of new canal from Lac Noi Nhue sluice to Van An pumping station, construction of Phuc Loc drainage pumping station in Pha Lai drainage area, Que Vo district, phase 2, construction project of drainage pumping station. Ngoc Tri Luong Tai district...

Investment for procurement of machinery and equipment: Irrigation works such as reservoirs, weirs, pumping stations, and culverts often have machinery and equipment items. The proportion of capital for investment in machinery and equipment procurement gradually decreases in the period of 2018-2022, if in 2018, this proportion is 19.15%, then by 2022 it will only account for 11.32%. The proportion of this capital varies from year to year depending on the characteristics of the irrigation works that were built in that year.

Other investment: The capital for different basic construction in the period 2018-2022 accounts for a low proportion, averaging 6.56% of the total investment in irrigation development in the province. Due to this time, the province focused on building infrastructure such as sluices, reservoirs, dams, pumping stations, etc., so the capital for other basic construction was low.

#### **4.2.2. Investment in development of irrigation infrastructure by target**

Investments classified by service objectives include:

- Development investment for irrigation works
- Development investment for embankment works
- Development investment for safety works of reservoirs and dams
- Development investment for integrated irrigation development investment projects

**Table 4.3. Investment by target serving the period 2018 - 2022**

<b>Target</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Investment capital for irrigation development	563,743	794,551	831,631	642,022	475,567
Development investment for irrigation works	110,49	155,73	97,96	54,99	118,13



Development investment for embankment works	77,06	108,61	92,31	82,95	76,47
Development investment for safety works of reservoirs and dams	24,1	37,26	10,47	79,97	24,35
Development investment for integrated irrigation development investment projects	352,093	492,951	630,891	424,112	256,617

*Source: Bac Ninh Department of Planning and Investment*

In the period of 2018 - 2022, investment capital for investment projects to develop general irrigation is the largest, 2156.664 billion VND, accounting for more than 60%; investment capital for development of dike and embankment projects also accounted for a significant part, VND 437.4 billion, accounting for 13.22% of the total investment capital for irrigation development in the province. That shows that the province has focused on investing in key projects serving multiple purposes.

#### a. Development investment for irrigation works

Mainly small and medium-sized irrigation works to serve agricultural irrigation, due to the natural conditions of the province, both favorable for agricultural irrigation development and under the influence of natural disasters. there must be water drainage works for agriculture. In the period of 2018 -2022, irrigation works with a total investment capital of 537.4 billion dong, accounting for about 16.24% of the province's total investment in irrigation development. Every year, the province pays attention to investing in the development of irrigation infrastructure for agricultural irrigation such as solidifying infield canals, renovating, upgrading and building new pumping stations, building sluices to take water at the beginning of the canals... The works for irrigation or drainage are specifically interested by the province as follows: Ngoc Tri pepper pumping station, Luong Tai district, Van Ninh irrigation pumping station, Gia Binh district, the project of renovating and dredging T11 drainage canal and the northern canal of the industrial park. Dai Dong – Hoan Son...

#### b. Development investment of embankment works

Bac Ninh is a province with 3 large rivers flowing through: Cau River, Duong River, Thai Binh River and a part of the downstream of Ca Lo River, which flows into Cau River at Ba Xa intersection. The dyke system of the province includes 241 km of dykes, 159 sluices and 38 embankments for shore protection and wave protection. In recent years, with the attention and investment of the State, the dike system has been repaired and upgraded focusing on completing the elevation, cross-section and hardening of the dike surface.

In the period of 2018-2022, investment capital for dike and embankment works in the province increased gradually, the proportion of capital accounting for a significant part of the total investment capital of dikes and embankments in the whole province reached 437.4 billion VND. Bac Ninh is a province affected by natural disasters, so in order to minimize the occurrence of natural disasters for the province's production development, the Ministry of Agriculture and Rural Development annually pays great attention to investing in developing projects. embankment. Especially in this period, investment capital for dike and embankment works increased because the dike and embankment works were built over many periods, the

geology has not been treated, and the potential for large dike rupture is high. The province has repaired and modernized dikes, as well as built new ones to ensure the living standards for people living along rivers and the sea.

c. Development investment for safety works for dams and lakes

Every year, the Ministry of Agriculture and Rural Development maintains investment capital for reservoir safety works in order to repair, renovate and upgrade reservoir works to ensure the safety of dams in the locality. The province is safe and avoids accidents in the rainy season, this proportion of capital is maintained regularly and depends on the number of damaged or at-risk works when floods come. Development investment capital for dams safety works in this period is 176.15 billion VND, accounting for 5.3% of the total investment in irrigation development in the province. This capital is usually allocated to the dike department for management and is responsible for allocating it to the localities for repair. Because this capital source is mainly from the local budget, on the other hand, in this period, the reservoirs and dams are still ensuring water supply as well as the peak of the flood, so the capital focuses on investment in reservoir safety projects. the dam is not large.

d. Development investment for integrated irrigation development investment projects

Development investment for general irrigation development investment projects in this period accounted for 65.2%, reaching 2,156.664 billion VND of the total investment in irrigation development in the province. Investment projects for the development of integrated irrigation such as large reservoirs, focal works, dams, and culverts serving the purposes of both irrigation and water supply, power generation and tourism. These are works of national strategic nature, creating an important basis and creating a premise for the development of the agricultural sector as well as other industries.

In short, if the allocation of investment capital for irrigation works, embankments, safety of reservoirs and dams, and integrated irrigation development are properly implemented, the capital will be effectively promoted. Besides large projects that require a lot of investment capital, investment capital must always be reserved for small and medium-sized projects to meet seasonal needs. If the investment structure focuses too much on the development of key works without paying attention to the investment in in-field irrigation works, it will cause water waste, and the efficiency of using the works is not high. Therefore, there should be a reasonable proportion between the works in each different stage.

## **5. ACHIEVEMENTS, LIMITATIONS, CAUSES**

### **5.1. Achievements**

#### *Amount of capital made investment in irrigation development*

The management and use of investment capital for irrigation development in the province has improved significantly in recent years. The planning and allocation of capital has gradually been consistent with actual requirements and the annual implementation capital also closely follows the approved investment capital plan. There are years due to the high volume of implementation that exceeds the specific plan as shown in the table below.

**Table 5.1. Amount of realized investment capital in the period of 2018 -2022**

Target	2018	2019	2020	2021	2022
Plan (billion VND)	574,07	753,12	840,88	658,48	493,84
Implementation (billion VND)	563,743	794,551	831,631	642,022	475,567
Implement the plan (%)	98,2	105,5	98,9	97,5	96,3

Source: Bac Ninh Department of Planning and Investment

In the period of 2018-2022, the province has made capital for investment in the development of irrigation infrastructure compared to the plan with relatively high results, over 96%. In which, in 2019, the actual situation exceeded the plan by 105.5% compared to the plan. In this year, because the province invested in projects under the socio-economic development program of the region such as the Dong Coi River Dredging Project - Dai Quang Binh, Thuan Thanh, Gia Binh, Luong Tai districts, Bac Ninh province; Dredging project of Hien Luong drainage canal, Que Vo district; and projects under the Target Program on agricultural economic restructuring and natural disaster prevention and control, stabilizing people's lives, such as: Project on renovating and upgrading Song Giang - Giang Son dike route, building roads for households, etc. dyke combined with rural traffic; the project of upgrading the right dyke line of Duong, upgrading the right dyke of Thai Binh; Kim Boi irrigation canal renovation and upgrading project...Achievement of such results is due to the fact that in the process of implementation, the province has well performed the work from the stage of investment implementation to the stage of payment and acceptance of the works.

*Fixed assets mobilized and additional service capacity in irrigation*

In the period 2018-2022, with investment capital for irrigation development, especially the State budget capital, mainly focus on building irrigation works for agriculture, water supply and drainage. Therefore, the volume of fixed assets mobilized over the years has increased, actively serving agricultural development.

**Table 5.2. Value of fixed assets mobilized and additional service capacity in irrigation in the period of 2018 -2022**

Targets	Result
Value of Fixed Assets mobilized	3307,514 billion VND
Increased service capacity	
Water supply works	
Reservoir	Spring crop: 119,000 ha
Spillways	Crop: 125,000 ha
Pump station	Irrigation and industrial crops 30,000 ha
Channel	Domestic water supply 160,200 m <sup>3</sup> /day
Drainage works	
Pump station	
Drain	
Dike works, natural disaster prevention	

River dike	Waterlogged area 21,000 ha Lost area decreased 8,500 ha Protected 10,7233 people Protected area 97,5142 ha
Sea dike	
Embankment	

Source: Bac Ninh Department of Agriculture and Rural Development

During this period, with the investment of the province and the State, the irrigation infrastructure has increased significantly, serving irrigation, prevention and mitigation of natural disasters in the province. During this period, drainage pumping stations with types ranging from 1000 m<sup>3</sup> to 8000 m<sup>3</sup>/h have been built, including large sewers such as Phu My Pumping Station, Kenh Vang II Pumping Station, Nhat Trai Pumping Station, etc. The newly built facility has served more than 114,000 hectares of agricultural land.

*The value of agricultural production increased*

**Table 5.3. Value of agricultural production in the province due to investment in the development of irrigation infrastructure in the period of 2018 -2022**

Unit: billion dong

Target	2018	2019	2020	2021	2022
Value of agricultural production	5.084,1	8.700	8.032	3.990,8	3.962,3

Source: Bac Ninh Department of Agriculture and Rural Development

The agricultural production value of the province in the period 2018-2022 tends to decrease, from VND 5,084.1 billion in 2018 to VND 3,962.3 billion in 2022. The reason is that agricultural land continues to be converted to other purposes and part of the area is sandwiched between residential areas, industrial parks and craft villages due to difficulties in transportation and irrigation. However, crop yields in cultivation tend to increase. Specifically, in rice production in 2022, the average yield reached 65.2 quintals/ha, the highest ever, an increase of 5.2% compared to the year plan and an increase of 0.3 quintals/ha over the year. 2021.

## 5.2. Limit

Firstly, the scale of investment capital for irrigation development is still small, causing delay in construction progress of irrigation works. The State allocates large capital, but the technical preparation has not met the requirements, the bidding and site clearance work is difficult, delayed, etc., affecting the project implementation progress.

Second, the management from preparation to operation is still weak. The local pumping stations are now assigned to management companies. However, in terms of infrastructure, equipment and machinery, all are degraded, especially in terms of human resources for management and operation of pumping stations, so there are many difficulties in the management, exploitation and operation of pumping stations. project maintenance.

Thirdly, investment in construction and upgrading of irrigation works has not been synchronized and closed from the focal point to the field, not focusing on management

equipment. Irrigation projects are invested by the State only in focal works, and from the focal point to the field surface are invested by the locality. Sometimes due to lack of capital, irrigation works have not been invested, reducing the efficiency of the focal works.

Fourth, Human resources for the irrigation industry have not been invested to meet the current requirements. Currently, the State only focuses on investing in irrigation works, while human resources for management and operation are still weak.

Fifth, the investment capital for new science and technology in the field of irrigation is still limited, causing many inadequacies in the management and operation of irrigation works in the locality because the irrigation works are scattered throughout the province.

Sixth, the management of capital construction investment is still lacking in synchronization, especially the decentralization between the central and local authorities in the area has not yet had specific regulations, has not brought into play local resources, participating in investment while the balanced capital of the central government cannot come, leading to the lack of synchronization between the focal point, the main canal and the in-field irrigation system, with low exploitation efficiency.

### **5.3. Reason**

Firstly, the irrigation planning is not comprehensive, in which it has not been closely linked to the production of daily life. In irrigation planning, it is mainly focused on irrigation works without paying due attention to water drainage and flood drainage. In agricultural production, it is mainly new to balance rice production, not paying due attention to upland crops, crops, fruit trees, etc.

Secondly, in the design for areas with complicated weather, climate, topographical and geological conditions, the applied design criteria have low efficiency. In the flood design of all reservoirs, single floods are calculated. In fact, double floods often occur when tropical depressions make landfall in succession.

Third, in construction due to the subsidy mechanism, the quality of some works is not high. The construction is lengthy and asynchronous, some works have been put into operation for decades but have only been accepted and handed over for settlement. Many works, including large reservoirs, have not built management roads to ensure mechanization and mobility in both dry and flood seasons. When construction did not pay due attention to operation management, so the equipment and means of management were still lacking.

Fourth, there are many shortcomings in the management, operation and protection of the works. From the work of acceptance and handover of works, although the Ministry of Agriculture and Rural Development has paid much attention to directing, the acceptance of a number of projects that have been put into management is still not strict and formal. on handover revealed some poor-quality parts. The management of the project according to the processes and technical regulations has not been seriously implemented. The inspection work before and after the flood has become routine, but in many places, it is still sketchy and formal.

Fifth, the funding for irrigation activities has not yet been implemented according to the approved economic and technical norms. The regional minimum wage policy regime changes,



the revenue from irrigation products and services tends to decrease gradually. Expenses for regular production and maintenance of irrigation works have increased, and the State's investment funds to renovate and upgrade the system of irrigation works are still limited.

Sixth, due to the rapid urban and industrial development in the province, leading to the fragmented irrigation system, the service capacity has not met the requirements.

## **6. SOLUTIONS TO IMPROVE THE EFFICIENCY OF DEVELOPMENT INVESTMENT OF IRRIGATION INFRASTRUCTURE IN BAC NINH PROVINCE**

### **6.1. Continuing to perfect the planning for the development of irrigation systems to 2030 and organize the implementation of the planning**

The development planning strategy is one of the economic management tasks of the State, in order to have specific plans for each region and each industry, it requires staff with high professional qualifications, careful consideration. When development plans are developed, it is the basis for determining the list of priority projects, which projects are implemented first, and the amount of capital invested in the project.

For irrigation infrastructure, it is necessary to develop a master plan for irrigation because this is an industry that requires large investments with many investment projects. Therefore, there must be an overall investment plan for the irrigation industry and it is necessary to complete the planning of the irrigation system, planning for each region and each locality to establish an effective investment plan, avoiding the overlapping. Thereby improving the efficiency of investment capital in irrigation.

### **6.2. Increasing capital mobilization for investment in irrigation**

Investment capital in irrigation can be mobilized from sources such as state budget funds, bank loans, contributed capital from the people, capital from the irrigation fund, own capital, sponsorship capital, capital revenues, etc. from the sale of products... However, the capital for irrigation investment accounting for the highest proportion is the State budget capital. Therefore, the irrigation sector can come up with policies to mobilize private capital for irrigation investment.

*For state budget capital:*

Annually concentrated capital construction capital: Prioritize payment for completed works and projects, loans that are due for payment, and arrangement of counterpart funds for committed projects; arrange transition works that can be completed and new projects to start construction, creating the ability to attract capital. For works invested, managed and used by district and commune level, assigned to district level for allocation from district and commune budget.

+ Targeted support capital and target programs: To arrange implementation in a concentrated manner for key projects, ensuring the right objectives and tasks of each program and project. Implement the integration of capital sources to speed up the progress and improve the efficiency of capital use.

+ Official Development Aid (ODA): Focus on inter-regional projects. Review ongoing projects to have solutions to speed up the progress and put the works into use soon. Focus on



attracting projects with a low proportion of reciprocal capital from the local budget (no more than 25-30%).

### **6.3. Training staff to manage investment and development of irrigation infrastructure**

- Review, analyze and evaluate the quality of human resources

Review, analyze and evaluate the quality of human resources in agencies, enterprises and units that are in charge of managing and exploiting irrigation works. Analyzing and clarifying the structure of age, gender, professional qualifications, training occupations, the suitability of the training profession with the work being performed, the proportion of direct and indirect labor... On the basis of the department sets up a strategy for training and developing human resources for each unit.

- Increase funding for training, create conditions for employees to have training opportunities to improve their capacity. Regularly organize short-term training classes to update knowledge for employees to hone and improve their knowledge and professional skills. At the same time, it is necessary to pay attention to propagating, encouraging and motivating employees to have a sense of learning and improving their qualifications and skills.

## **CONCLUSION**

In recent years, Bac Ninh province has always been a bright spot in Vietnam's socio-economic development, in which investment in the development of irrigation infrastructure has always been of interest to the province. Thanks to investment in the development of irrigation infrastructure, people's living standards have been improved, the value of agricultural output has been improved in both quantity and quality. Along with transport and telecommunications infrastructure, the synchronously invested irrigation infrastructure has helped the province attract many foreign investment flows into many different fields. However, besides the achieved results, in the process of investment in irrigation infrastructure in the province, there are still many limitations such as: investment capital for irrigation works is still dripping and behind schedule. In order to improve the efficiency of investment in irrigation infrastructure in the coming time, the province needs to synchronously implement solutions related to irrigation planning, strengthen attracting investment capital as well as training to improve the skills of workers to perform and manage irrigation works effectively.

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# SUSTAINABLE GROWTH RATE OF LOGISTICS SERVICE ENTERPRISES LISTED IN VIETNAM

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**Abstract:** *The fastest rate of development a company may experience while still retaining its capital structure was known as its sustainable growth rate. The company may have liquidity issues if its growth rate exceeds its sustainable growth rate as a result of a change in capital structure and excessive debt expansion. However, when a business grows at a rate that was below what is sustainable, it eventually stagnates. The article discusses how to calculate the sustainable growth rate and uses this approach to calculate the sustainable growth rates for 58 logistics service firms in Vietnam for the years 2019, 2020, and 2021. The difference in sustainable growth rate and the factors that determine an enterprise's sustainable growth rate (dividend payout, marginal revenue, asset turnover, and financial leverage) in 2020 compared to 2019 and in 2021 compared to 2020 will then be compared in the article. The findings of the study demonstrate that the rate of sustainable development and the rate of retained earnings of the sampled firms vary wildly from year to year and that the variation in financial indicators over time is not statistically significant. The essay presents several observations and suggests a few adjustments for the sample businesses.*

**Keywords:** *Sustainable growth rate, retained earnings ratio, profit margin, asset turnover, financial leverage.*

## 1. INTRODUCTION

By taking into account financial and economic variables in company outcomes, managers may calculate the maximum growth rate of a firm using the method for determining the sustainable growth rate provided by Higgins (1997)[3]. He thinks it is feasible to use sustainable growth as a foundation to determine the highest level of development that a company may accomplish while long-term retaining a specific financial structure. Additionally, determining and analyzing the sustainable growth rate enables regulatory bodies to encourage the sustainable growth of a specific industry by announcing suitable policies.

Logistics service enterprises make a great contribution to the economy because they help the movements of goods, services and people for economic development in general, however, there have not been many studies on the sustainable development of enterprises in logistics services field in Vietnam market.

This article will present calculations of sustainable growth rates in 2020, 2021 and 2022 of 58 listed logistics service companies in Vietnam. The main objective of this paper is to determine the sustainable growth rate of the logistics service industry in the period of 2020-2022, thereby making judgments and suggesting solutions for enterprises in the industry in next periods.

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If the average sustainability rate increases, it does not mean that the sustainability of this group of businesses will increase because it is possible that the increase in average value is due to the strong development of a group of businesses rather than the fully grown, so a Pair Sample T Test is needed to confirm the science of growth

The following hypotheses are tested in the paper.

**Hypothesis 1:** There is no significant difference in sustainable growth of listed logistics service companies through 2020 and 2021.

**Hypothesis 2:** There is no significant difference in sustainable growth of listed logistics service firms through 2021 and 2022

The rest of the paper has the following contents: Section 2 presents an overview of the literature related to sustainable growth rates. Section 3 provides information about the database used to calculate sustainable growth rates, as well as the research methodology. Experimental results are presented in Section 4. The final part ends the paper.

## 2. LITERATURE REVIEW

The subject of what is the greatest growth rate a corporation can attain was addressed by Higgins (1977)[3]. Higgins (1981)[4] additionally looked at how inflation affected long-term growth, taking into account the possibility that an increase in sales may be brought about by either an increase in a product's size or its price.

Research on US oil and gas businesses was done by McFaddin and Clouse in 1993 [6], and he created a model to assess how interdependent financial goals, operational effectiveness, and sustainable growth rate are. The research conducted by McFaddin and Clouse spans the years 1972 to 1989 and compares the output of the new model to both actual growth rates and the Higgins sustainable growth rate model. According to research findings, McFaddin and Clouse's model is a superior instrument for determining sustainable growth rates and directing the development of policies that would promote expansion in the oil and gas sectors. The study by Clouse and McFaddin (1994), which focused on the US gas industry from 1970 to 1990, attempted to find a relationship between real growth rates and sustained growth rate. The paper's conclusion is that the US gas company's ability to sustainably grow has been reflected through future stock issues, operational improvements, and changes in financial goals. They also conclude that the sustainable growth model can be considered an effective tool in financial planning and business policy to address the problem of stimulating growth in the US gas industry.

Platt et al. (1995) [7] proposed a formula to calculate sustainable growth rates for financially challenged firms, presenting a tool to assess the asset turnover of firms in financial difficulty and a means of controlling its actual growth rate. Platt's formula describes how much growth a company with limited or no access to financial markets can achieve.

Amouzesh et al. (2019) [1] used data from 54 firms registered on the Iranian financial market to explore the relationships between real growth rates' departure from sustained growth rates and return on assets, price-to-value books, current ratio, and quick ratio.

Huang Xiyuan and Uhang Jingui (2015) [5] determined the sustainable financial growth rates of the companies listed on the Stock Market and identified the factors that most influence

the sustainable growth rates. steady. The results of their study clearly show that profitability is the most influential factor for sustainable growth.

The Van Horne and Higgins models were evaluated by MM Fonseka et al (2020)[2] to find whether model is more suited for calculating sustainable growth rates. They discovered that profitable firms had sustained growth rates that were greater when based on Higgins' model than when based on Van Horne's model. On the other hand, they found in their analysis that Van Horne's model provides a greater sustained growth rate than Higgins' model in heavily leveraged enterprises. The authors come to the conclusion that there is little difference between the models and that both tested models are equally useful for managers and researchers.

The above-mentioned studies include foundational studies as well as studies in recent years, 2019, 2020, on the issue of sustainable growth and show that, although the issue of sustainable growth is not a new problem, but for each different approach for different target groups, the authors in previous studies discovered many differences in research results. When this concept is analyzed, new research samples will certainly have many different conclusions.

### 3. Data and Methods

**\*Database:** The author selects 58 logistics service companies whose stocks are traded on HOSE, HNX and UPCOME stock markets.

Companies are divided into small businesses (SB) (asset size less than 1000 billion dong) and large scale businesses (LB) (asset size greater than 1000 billion dong).

At the same time, businesses are divided into 3 groups by business type (transportation services (TSB), warehousing services (WSB) and transportation support services (TSSB)).

**\*The following formula is used to determine the sustainable growth rate:**

$$\begin{aligned} SGR &= \text{Retained Earning} \times \text{Return on Equity} \\ &= \text{Retained Earning} \times \text{Profit on Sales} \times \text{Revenue on Assets} \times (1 + \text{Financial Leverage}) \\ &= (1 - \text{Dividend Payout}) \times (\text{Marginal Revenue}) \times (\text{Asset Turnover}) \times (1 + \text{Financial Leverage}) \end{aligned}$$

where:

$$+ \text{Dividend payout} = \text{Dividend} / \text{Earning}$$

$$+ \text{Marginal Revenue} = \text{Earning after tax} / \text{Revenue}$$

$$+ \text{Asset Turnover} = \text{Sale} / \text{Asset}$$

$$+ \text{Financial Leverage} = \text{Debt} / \text{Equity}$$

**\* Research method:**

This paper uses the T Test - Paired Sample to test Hypothesis 1 in order to determine the statistically significant difference that can occur between the sustainable growth rate of enterprises in 2020 and 2021.

The T Test - Paired Sample is also used to test Hypothesis 2 to determine the possible statistically significant difference in the sustainable growth of businesses in logistics service industry in 2021 and 2022

All calculations are done in Microsoft Excel 2010 and SPSS.

## 4. RESEARCH RESULTS

### 4.1. Overview of sustainable growth rate and financial ratios of listed logistics service companies in Vietnam

The following table shows the percentage of retained earnings of enterprises in 3 years

**Table 4.1 Rate of Retained Earning ratio of logistics service enterprises listed on Vietnam stock exchange**

RR	Year 2020	Year 2021	Year 2022
Average	85.2%	81.0%	99.3%
SB	79.1%	74.2%	98.9%
LB	96.8%	94.0%	100.0%
TSB	77.6%	82.2%	98.1%
WSB	100.0%	76.9%	100.0%
TSSB	92.4%	95.0%	100.0%

*Source: Compiled by the author*

The category of businesses that pay dividends more frequently than small-sized businesses was those in the transportation and logistics industry. Large businesses have much more dividend payment activities than small businesses to compare with supported transportation and warehousing field. This is explained by the fact that paying dividends in cash would put a significant financial strain on large-scale businesses, and that the three-year study period was not a favorable time for these businesses to be successful. Businesses prioritize next-year profits because the average profit rate for the whole sample was always more than 80%, and in 2022, this ratio almost entirely reflects the fact that dividend payments throughout the three years of the research were extremely low the upcoming fiscal year

**Table 4.2 Return on Equity of logistics service enterprises listed on Vietnam stock exchange**

ROE	Year 2020	Year 2021	Year 2022
Average	0.3%	5.4%	5.2%
SB	1.3%	7.3%	8.5%
LB	-1.6%	1.9%	-0.9%
TSB	-9.0%	-4.2%	-4.6%
WSB	8.7%	12.3%	13.3%
TSSB	4.7%	11.2%	10.1%

*Source: Compiled by the author*

The group of transportation firms went through the worst time when their ROE was always negative, indicating that many businesses in the sector were always wasting money or that their number of companies of losses were always greater than their gains. Additionally, the growth rate of large businesses was much lower than that of small businesses..

**Table 4.3 Return on Sale of logistics service enterprises listed on Vietnam stock exchange**

ROS	Year 2020	Year 2021	Year 2022
Average	0.3%	5.4%	5.2%
SB	1.3%	7.3%	8.5%



LB	-1.6%	1.9%	-0.9%
TSB	-9.0%	-4.2%	-4.6%
WSB	8.7%	12.3%	13.3%
TSSB	4.7%	11.2%	10.1%

Source: Compiled by the author

Small firms and those that provide support for warehousing and warehouse operations have higher profit margins than the other categories during the course of the study period in terms of profitability ratio on a revenue scale.

**Table 4.4 Sales on Asset Ratios of logistics service enterprises listed on Vietnam stock exchange**

SOA	Year 2020	Year 2021	Year 2022
Average	98.0%	107.9%	116.0%
SB	116.7%	133.0%	148.0%
LB	62.3%	60.2%	55.1%
TSB	88.0%	88.2%	100.2%
WSB	104.1%	130.5%	163.2%
TSSB	108.2%	118.6%	108.2%

Source: Compiled by the author

The average value for asset exploitation over a period of three years was consistently around value of 1, and it happened primarily to small businesses and two groupings of the warehouse and transportation support sectors. Large-scale businesses and transportation businesses have grown apart from the other groupings.

**Table 4.5 Leverage of logistics service enterprises listed on Vietnam stock exchange**

LEV	Year 2020	Year 2021	Year 2022
Average	2.66	2.44	2.38
SB	0.74	0.87	0.68
LB	2.97	2.66	2.61
TSB	3.26	2.84	2.83
WSB	1.20	1.30	1.00
TSSB	1.23	1.36	1.50

Source: Compiled by the author

The group of major firms and the transportation enterprises were funded by a much higher amount of debt than the other group, despite the fact that the average financial leverage was approximately 2.5.

**Table 4.5 Substainbale growth rate of logistics service enterprises listed on Vietnam stock exchange**

SGR	Year 2020	Year 2021	Year 2022
Average	-0.5%	4.9%	5.2%
SB	0.2%	6.5%	8.4%
LB	-1.8%	1.8%	-0.9%
TSB	-10.6%	-5.0%	-4.8%

WSB	8.7%	12.2%	13.3%
TSSB	4.1%	10.7%	10.1%

Source: Compiled by the author

In conclusion, it can be shown that while large-scale corporations and transportation service providers have utilized more debt, their revenue profit margins were lower and their capacity to fully utilize their assets was also lower, which leads to decreases into profitability. The group of large-scale corporations operating in transportation services had a much lower sustainable growth rate than other businesses due to the requirement to pay out a big portion of revenues in dividends.

#### 4.2. Hypothesis test results

The results of testing the difference of SGR through 2020 and 2021 of logistics service businesses listed on the Vietnamese stock exchange are shown in the following table.

**Table 4.6. Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SGR.2020 - SGR.2021	1.75%	56.87%	7.97%	-14.24%	17.74%	0.2628	58	0.827
Pair 2	ROS.2020 - ROS.2021	-4.73%	21.84%	3.06%	-10.87%	1.42%	-1.8564	58	0.128
Pair 3	SOA.2020 - SOA.2021	7.68%	38.47%	5.39%	-3.14%	18.50%	1.7112	58	0.160
Pair 4	1+Lev.2020 - 1+Lev.2021	-0.64%	173.58%	24.30%	-49.45%	48.19%	-0.0312	58	0.029
Pair 5	1-DPR.2020 - 1-DPR.2021	-65.04%	287.18%	40.20%	-145.80%	15.73%	-1.9404	58	0.112

Source: Compiled by the author

The results of testing the difference of SGR through 2021 and 2022 of logistics service businesses listed on the Vietnamese stock exchange are shown in the following table.

**Table 4.7. Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SGR.2019 - SGR.2020	-15.49%	96.64%	13.54%	-42.67%	11.69%	-1.374	58	0.258
Pair 2	ROS.2019 - ROS.2020	2.22%	25.55%	3.58%	-4.97%	9.40%	0.744	58	0.538
Pair 3	SOA.2019 - SOA.2020	-9.07%	40.15%	5.62%	-20.36%	2.22%	-1.9368	58	0.113
Pair 4	1+Lev.2019 - 1+Lev.2020	19.16%	142.86%	20.00%	-21.02%	59.34%	1.1496	58	0.013
Pair 5	1-DPR.2019 - 1-DPR.2020	-244.00%	1941.89%	271.92%	-790.15%	300.97%	-1.0764	58	0.374

Source: Compiled by the author

If Sig. (2-tailed) < 0.05, the values have no statistic difference. Here, however, except for LEV, all other test pairs have a statistically significant difference. That indicates that, except for LEV, the change in other financial ratio of the businesses in the industry in 2020 and 2021 was noticeable enough to detect a statistically significant difference. In 2021 and 2022, the same thing happened with corporate financial metrics.

## 5. CONCLUSION

The listed logistics service organizations' sustainable growth rates fluctuate significantly throughout the three years from 2020 to 2022, making it challenging for businesses as a whole to achieve a sustainable growth rate. The research of specific financial indicators reveals that, in addition to financial leverage, which has remained relatively constant for the majority of firms throughout time, other financial indicators like profit margin, turnover ratio, etc., as well as the assets of businesses, have seen considerable changes.

There was a considerable difference in the financial ratios of these two categories of businesses when they were separated into groups of small- and large-scale firms. Large-scale businesses have much poorer financial ratios than small-scale businesses. Large-scale businesses also pay larger dividends than small-scale businesses do, which contributes less to the group's capacity for long-term sustainable growth.

Transportation service businesses had significantly more negative variations than the other two categories when grouped by type of company.

It is advised that during an unpredictable economic era, large-scale and transport businesses undertake steps to enhance asset utilization, profit margin on revenue, and minimize dividend payout, so that later on, firms may attain greater rates of sustained growth.

In the period of strong digital economy, in order to maintain sustainable growth, businesses can rely on the help of software to calculate and give suggestions, ensuring a smooth system development in more stable and efficient way.

In the future, when the economy returns to stability after the post-covid period, digital transformation and commercial business grow stronger, the sustainable growth of businesses in the industry will certainly continue to change and more research is needed to develop the research results of businesses in the industry on sustainable and long-term growth in the context of the new economy.

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# INDEMNIFICATION POLICY WHEN THE STATE RECOVERS LAND IN HANOI

Ph.D. Tran Thi Thanh Ha<sup>1</sup>, Ph.D. Vuong Minh Phuong

**Abstract:** *Indemnification, support and resettlement when the State recovers land is one of the important issues in state management of land, which directly affect the legitimate rights and interests of land users whose land is recovered. From 2013 to now, the compensation, support and resettlement have been implemented in accordance with the Land Law 2013 and its guiding documents and there have been many positive changes. However, this is a very difficult and complicated job; also reveals some limitations, such as : slow progress of site clearance; the settlement of resettlement requirements has not been synchronized and been inadequate; the situation of complaints related to site clearance is still complicated. . . Therefore, it is extremely urgent to find solutions to remove difficulties, speed up site clearance, support resettlement and, at the same time, ensure legitimate rights and interests of the subjects whose land is recovered. This is an important factor promoting the real estate market's safe, healthy and sustainable development.*

**Keywords:** *indemnify, clearance, resettlement*

## 1. INTRODUCTION

During renovation process in our country, especially in recent years, the construction of infrastructure, industrial parks and new urban areas has developed rapidly to meet the needs of industrialization and modernization of the country. The goal is to basically turn our country into an industrial country by 2030. Indemnification and site clearance are the initial and prerequisite conditions for project implementation. Site clearance can be understood as the process of performing work related to relocation of houses, trees, construction works and population on a certain land area that is planned for renovation, expansion or construction of a new construction work. Compensation, site clearance, and people's consent are decisive to the success or failure of the policy and progress of the project. This also raises the issue of land management needing to strictly comply with the provisions of law but at the same time must also be flexible, giving priority to ensuring and harmonizing the rights of people whose land is recovered. This article studies this situation in Hanoi city in recent years 2018 – 2022 and provide solutions by 2030.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Currently, there have been many studies that research and develop indemnification policies when the State recovers land. For Vietnam, perfecting the indemnification policy when the State recovers land to develop the real estate market is always an urgent requirement in the process of international economic integration.

“Law curriculum on planning and site clearance” compiled by the authors of Faculty of Law, Can Tho University, with Assoc. Prof. Dr. Senior Lecturer. Phan Trung Hien as the

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chief editor [1]. The curriculum studies the following contents: analysis of the law on land use planning and plans; construction plannings of inter-district regions, construction plannings of districts; construction plannings of urban areas; rural development planning; the law on indemnification, support and resettlement when the State recovers land; subjects managing and implementing the task of land recovery, indemnification, support and resettlement; order and procedures for land recovery, indemnification and resettlement.

The book “Learning effective legal tools on indemnification for site clearance and settlement of land disputes” in 2017 by MSc. Le Hong Phuong studies and learns effective legal tools on indemnification for site clearance and settlement of land disputes, contributing to effectively disseminating legal knowledge about land in order to improve knowledge and understanding among the people for proper implementation of policies and laws on land in Vietnam [2].

Thesis: “Speeding up site clearance progress in Hoanh Bo District in the period 2016-2021” by Nguyen Xuan Hai studies the characteristics, current situation of indemnification for site clearance, and proposes solutions to speed up the site clearance progress in Hoanh Bo District in the period 2016-2021 [3].

In general, scientists’ studies related to indemnification policy when the State recovers land has partly helped to better improve the theoretical and practical system in Vietnam. However, such studies have not directly mentioned and given specific solutions to the indemnification policy when the State recovers land. Facing the requirements of economic integration and development, the current inevitable trend is renovation and improvement of theory and practice for formulation and completion of indemnification policy when the State recovers land in order to develop a healthy real estate market, avoiding speculation and unrealistic prices.

\* Some relevant Circulars and Decrees:

From 1993 until availability of Land Law 2003: Since the early 1990s, the renovation process across the country has created many favorable conditions for domestic and foreign investors, there have been more and more development investment projects that require large-scale land use, and, inevitably, there has been land clearance, resettlement for people whose land is recovered. Facing that situation, the State has issued legal documents for indemnification for people whose land is recovered. In which:

- Decree No. 90/CP dated August 17, 1994 by the Government on indemnification when the State recovers land to use for security, national defense, national interests, and public interests, in replacement of all previous documents and policies of the State on indemnification and site clearance. Compared with previous documents, Decree No. 90/CP stipulates a higher level of indemnification and comprehensiveness. It clearly defines the beneficiaries of the indemnification policy. However, during the implementation process, the reality shows that, according to this Decree, the land price set by the State to indemnify is far different from the actual price. Therefore, it is necessary to have a new legal document to replace Decree No. 90/CP.

- Compared with Decree No. 90/CP, Decree No. 22/1998/ND-CP dated April 24, 1998 has many progressive points in the State’s policy on indemnification, site clearance and resettlement for those whose land is recovered, especially the person whose land is recovered has the right



to choose one of three options of indemnification: by land, cash or house. After several years of implementing the Decree No. 22/1998/CP, there are many shortcomings. Especially in the trend of strong socio-economic development since 2000, many policies have been outdated and cannot be applied in practice. After the State promulgates the Land Law 2003, land policies also change. Paying attention to the interests of people whose land is recovered, Decree No. 197/2004/ND-CP has shown the feasibility and positive role of legal documents after a period of implementation, especially after the introduction of Decree No. 84/2007/ND-CP.

After introduction of Land Law 2013: The issue of indemnification and support when the State recovers land is always the issue that receives the most attention of the whole society. Theoretically, it can be considered that “land recovery” is a privilege that only a single entity, the State, has. This privilege is recognized in Clause 3, Article 54 of the Constitution 2013: *“The State recovers land currently being used by organizations and individuals in cases of extreme necessity prescribed by law for national defense and security purposes; and socio-economic development for national and public interests”*. At the same time, a number of new regulations have been amended and supplemented to bring the policy on indemnification, support and resettlement in Resolution No. 19/NQ-TW to life. The Land Law 2013 has some innovative contents in the field of indemnification and site clearance.

For Hanoi City, the People’s Committee has issued the policy on site clearance, especially specific regulations under authority of the City People’s Committee in Decision No. 23/2014/QD-UBND dated June 20, 2014 regarding indemnification, support and resettlement when the State recovers land in the area. In principle of indemnification for land when the State recovers land, if the land users are eligible for indemnification as prescribed in Article 75 of the Land Law, they will be indemnified in cash in accordance with the specific land price of the type of land recovered under decision of the City People’s Committee. At the same time, the Decision No. 21/2014/QD-UBND dated June 20, 2014 by the City People’s Committee stipulating the contents under its authority on land recovery, land allocation, land lease, and land use purpose change is also thoroughly grasped in order to implement investment projects in the area and some contents related to site clearance under its authority. The Land Law 2013 stipulates that it is compulsory to have land-use planning and plan. This is a legal basis because the planning must be derived from previous plans of legal nature such as general planning of the capital, sectoral and specialized planning, detailed planning. Thus, land use planning is required to ensure legal accuracy. This Decision takes effect from August 1, 2014 to December 31, 2014.

Regulation on indemnification, support and resettlement policies when the State recovers land in Hanoi from April 8, 2017. This regulation includes 7 chapters and 46 Articles, specifically providing for indemnification, support and resettlement when the State recovers land in Hanoi City (including site clearance projects under planning) according to provisions of Articles 61 and 62 of the Land Law. According to this regulation, when the State recovers land, if the land users are eligible for indemnification as prescribed in Article 75 of the Land Law, they will be indemnified in cash in accordance with the specific land price of the type of land recovered under decision of the City People’s Committee. In case there is land fund, it is considered for indemnification by allocating land with the same use purpose as the type of land recovered.

On May 6, People's Committee of Hanoi City issued Decision No. 20/2022/QĐ-UBND amending and supplementing Clause 2, Article 26 of regulation promulgated together with Decision No. 10/2017/QĐ-UBND dated March 29, 2017 by People's Committee of Hanoi City promulgating the contents under the authority of the City People's Committee on indemnification, support and resettlement when the State recovers land in the city.

### **3. RESEARCH METHOD**

In the article, the author applied the theory and methodology of dialectical materialism, historical materialism, systematic approach, statistical method, comparative method, etc. The article uses secondary data sources, mainly from reports and information originating from official sources of the State management agencies, scientific research works, books, textbooks, journals, etc.

### **4. RESEARCH RESULTS**

Hanoi City is one of the cities with the largest number of investment projects in the country. Indemnification and site clearance are the initial and prerequisite conditions for implementing projects. Therefore, indemnification and site clearance when land is recovered are regular and continuous activities on a large scale.

The site clearance work for projects in Hanoi city recently has had shortcomings, slowing down the progress of some projects. The project to build Ring Road 3.5 through Hoai Duc district was approved by the City People's Committee to be implemented in 2016, but by 2020, one year past the deadline, it was still unfinished. Similarly, the Road 2.5 project, section from Dam Hong to National Highway 1A, through Dinh Cong and Thinh Liet wards (Hoang Mai district), needs to recover and clear 58,411.8 m<sup>2</sup> of land, and is behind schedule. many years, because currently Hoang Mai district still has 79/583 cases that have had compensation plans approved but have not received money or handed over the premises [4].

Hanoi City has approved a list of 2,497 land recovery projects in 2022 with an area of 8,523.9 hectares. Regarding funding for indemnification and site clearance: for projects using the city's budget, it is already included in the city's public investment plan, which is balanced in the Resolution on allocation of the city budget in 2022 by the City People's Council; for projects under district budgets, districts shall arrange by themselves; for off-budget projects, it is arranged by the investors according to the investment schedule, ensuring adequate funding for site clearance in 2022 [5].

In 2022, the whole city had 2,860 land recovery projects, with an area of 10,098.7 hectares, and 910 rice-land-purpose-change projects, with an area of 1,563.78 hectares. As of November 14, 2022, the city has carried out land recovery, land allocation, land lease, and land use change with 1,862 projects, total area of 6,574.3 hectares, reaching 65% of land recovery plan in 2022. It is estimated that, by December 31, 2022, 2,125 projects have been implemented with an area of 7,503.3 hectares, reaching 74.3% of the land recovery plan in 2022 [6].

People's Committee of Hanoi City has approved the list of 2,734 land recovery projects in 2023, with an area of 9,291.84 hectares, and 1,445 rice-land-purpose-change works and projects in 2023, with an area of 2,430.19 hectares [7].

Hanoi City is focusing all its efforts on site clearance, serving the project of Ring Road 4 - Capital Region. People's Committee of Hanoi City has issued 7 decisions, approving the land use plan in 2022 of the districts: Ha Dong, Soc Son, Me Linh, Hoai Duc, Dan Phuong, Thanh Oai, Thuong Tin. Investment project to build Ring Road 4 - Capital Region, the section in Hanoi City is about 59.2km long, passing through 7 districts, with total land area of about 766.3 hectares. Of which, there is about 17.2 hectares of residential land; 694.4 hectares of agricultural land; 54 hectares of non-agricultural land. The total number of households having their land recovered is about 16,932 households and 14,654 graves. Resettlement needs are estimated at 1,113 households [8].

The work of site clearance, indemnification and support for resettlement in Hanoi City has achieved the following results:

- + The Party Committee and People's Committee of Hanoi City have issued many specific and detailed directives and documents for each field, mobilizing the whole political system to get involved, requesting districts to clearly assign responsibilities of the leaders; established an advocacy group on indemnification and site clearance, directly communicated and clearly explained the provisions of the law to the people.

- + The process of publicity and transparency is fully implemented in order to minimize the questions and complaints of people whose land is recovered.

- + The city strengthens land management according to the approved land use planning and plan, prevents encroachment and illegal construction, limits disputes, ensures the basis for correct identification of the current status, origin and time of land use, promptly settles land violations, well serves the preparation of indemnification and support plans accurately and in accordance with regulations.

From the above facts, it can be seen that, although indemnification, support, resettlement and site clearance of projects have achieved some results, there are still difficulties, specifically as follows:

- + The main problem in practical implementation is support for the case of using greenfields, land managed by the People's Committee of communes and wards, land managed by cooperatives (with origin of agricultural land) on which households have built houses for living or stable business;

- + For agricultural land of gardens, ponds adjacent to residential land plots, which is not recognized as residential land; support for agricultural land having similar characteristics with adjacent agricultural land plot in terms of location, profitability and social conditions.

- + In addition, contents such as policies to support grave relocation; "resettlement" for graves; indemnification and support for the remaining land area that is not eligible for continued use after recovery; recovery for cases where they are not eligible to build houses... are also difficulties that localities such as Hung Yen and Bac Ninh also face.

- + The handling of suspended projects has not been effective. In fact, there has been a lot of land allocated or leased by the State for implementation of investment projects that is not used. Meanwhile, the handling measures are not "deterrent" enough for investors, leading to

waste of land, making it difficult for the State to determine the invested costs and funding for indemnification and handover to capable investors.

+ There are still cases where people use land for improper purposes or building illegal works, thus, there are many obstacles in determining to apply indemnification prices according to the State's regulations. The land price for indemnification and support to build projects is not close to the market price and there are many shortcomings in resettlement, leading to people complaining or delay in handing over land for the project. To solve this stage, the interests of the State - enterprises using land - the people must be harmonized.

\* Experience from Ho Chi Minh City

In 2019, Ho Chi Minh City started construction on Tang Long Bridge (Thu Duc city). According to the plan, the project will be completed in 2021, but it has been "covered with blankets" for the past 3 years when only 30% of the construction volume has been completed. Due to slow progress, this project's capital was increased from more than 450 billion VND to more than 688 billion VND. Also in Thu Duc city, Ong Nhieu bridge is expected to be implemented in the period 2016-2018 but has not been started yet, causing the total investment to increase from more than 425 billion VND to more than 763 billion VND [9].

Costs for site clearance for traffic construction projects account for about 50% of the total investment. The time to carry out investment and site clearance procedures for construction usually lasts from 14 to 18 months, even with projects lasting 2-3 years. The most difficult bottleneck in site clearance work is the compensation price.

To solve this problem, the People's Committee of Ho Chi Minh City has just issued the land price adjustment coefficient (K coefficient) to make a plan for compensation and resettlement support with the highest level of 15 times for residential land. and 35 times higher for agricultural land than the land price list issued by the State, effective from August 25, 2022. The K coefficient is evaluated more closely to reality. Applying this land price adjustment coefficient will shorten the time to prepare compensation and resettlement plans for people...

## 5. RESEARCH RESULTS

For two special urban areas, Hanoi and Ho Chi Minh City, there needs to be a special mechanism in investing in projects using public investment capital, for example, separating compensation and liberation projects. Premises with construction projects. This will ensure project construction implementation time. From the current situation of Hanoi city and the experience of Ho Chi Minh City, the article offers some solutions as follows:

Firstly: People's Committee of Hanoi City needs to direct People's Committees of districts, townships to develop implementation plans according to the volume of site clearance and closely follow the progress of the completion time assigned by the City. Strengthen the issuance of land use right certificates as a basis for indemnification for site clearance and resolutely handle cases of violations of land law and urban construction management...

It is necessary to supplement, update information and review the list of land recovery and land use purpose change projects proposed in 2023 to ensure compliance with the remaining land use targets of the period 2016-2020 and the period 2021-2025 as approved by the Prime

Minister and the land use plannings of the districts as approved by the People's Committee; including updating and supplementing the results and situation of land use purpose change in the locality.

Secondly: Strengthen decentralization and authorization of the grassroots, boldly authorize districts to carry out site clearance, indemnification, support and resettlement. Separate site clearance as an independent project, so that the indemnification, support and resettlement no longer depend on specialized technical factors of the work, and, at the same time, carry out site clearance immediately after red boundary line is approved.

Thirdly: The planning for construction of resettlement areas and points to serve investment and development projects in the city should be implemented in the city's annual land use plan, on the basis of projects of which investment capital has already been recorded and land recovery plan to implement the project has been approved by the City People's Committee.

There should be compulsory regulations on responsibilities of investors in allocating capital sources for construction of resettlement areas; at the same time, there should be policies to encourage investors who are allocated or leased with land by the State to participate in construction of technical infrastructure of the resettlement land and resettlement houses in order to increasingly improve the quality of life of the people under resettlement and introduce land law into social life. Experiences in localities show that people whose land is recovered will quickly stabilize their lives if local authorities have clear socio-economic orientations and planning as well as land use planning, enterprises have support and preferential policies for local workers, and households are proactive in changing their livelihoods. Thus, land recovery for project implementation will also be more favorable, complaints related to land recovery will no longer be a "hot spot".

Fourthly: Competent state agencies need to study and revise to suit the reality, build a land price frame to suit reality and close to the market price.

- Regarding flexible mechanism in determining land prices: It is necessary to amend the land law in the direction of separating tax calculation price and land use right transfer price into two separate prices. Accordingly, the land price prescribed by the State is only applied as a basis for calculating taxes and collecting land use levies when the State recognizes land use rights for households and individuals currently using the land, and for calculating the value of land use rights when allocating land without collecting land use levy. When the State allocates or leases new land, indemnifies and clears the site, the market price shall be applied, on the basis of auction of land use rights or equivalent calculation.

Supplement and complete regulations on mechanism of land price construction in the direction of becoming more and more consistent with market prices; transfer the function of land price determination from People's Committees of provinces to professional land valuation and consulting organizations. The state only plays the role of managing land valuation.

Fifthly: Implement democratic regulations associated with administrative reform, building and implementing conventions. In which, the work of simplifying administrative procedures should be well performed in the direction of publicity, transparency and convenience for



organizations and citizens; strengthen application of information technology in reception. For a city having a lot of projects that need land for construction investment like Hanoi City, it is necessary to have the most beneficial indemnification policies for the people on the basis of fairness, collecting opinions from the people, openly discussing with the people, not coercively imposing indemnification mechanisms, and creating trust among the people so that indemnification is highly effective in practice, site clearance is carried out quickly, long-standing problems and complaints are avoided, and investment activities of the State are not affected.

#### **CONCLUSION:**

In summary, problems arising in the implementation of compensation, support and resettlement are inevitable for any city or country, especially in developing countries. Overcoming these shortcomings will ensure stability and improve living conditions for people in areas where land is acquired. With drastic solutions implemented, the problems in site clearance are soon resolved, which will contribute to completing projects on schedule, contributing to the operation and sustainable development of the market. real estate in Hanoi city in particular and Vietnam real estate market in general.

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# SITUATION AND SOLUTIONS FOR APPLICATION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS IFRS 16 IN VIETNAM ENTERPRISES

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**Abstract:** *In the era of globalization, international economic integration and digital transformation has been deeply affecting all areas of the Vietnamese economy. One of the areas that will be greatly influenced is the accounting, auditing and financial sectors. Therefore, the trend of applying international financial reporting standards (IFRS) is inevitable, promoting transparency of accounting information, creating a common term in the global accounting language. One of the international financial reporting standards that have a great impact on the whole economy and the organization of accounting work of enterprises is lease accounting. IFRS 16 was created to replace the international accounting standard number 17 (IAS 17). In this research paper, we apply qualitative research methods to analyze the current situation of applying IFRS 16 in enterprises in Vietnam and thereby offer solutions to help Vietnamese enterprises apply IFRS 16 widely, bringing a lot of value to Vietnamese businesses.*

**Keywords:** *IFRS 16, accounting, auditing.*

## 1. INTRODUCTION

### 1.1. Overview of International Financial Reporting Standard No.16 - IFRS 16

In order to save and optimize the allocation of corporate resources, businesses tend not to own too many assets, but rather to have multiple lease contracts, which makes the balance sheets of those businesses poor. Therefore, leases' accounting needs to be changed to reflect the leased asset category on the balance sheet accurately and in accordance with the nature of the leased asset. As a result, in January 2016, the International Accounting Standards Board (ISAB) issued International Financial Reporting Standard No.16 (IFRS 16) to replace the previously inapplicable accounting standards for property leasing. This is considered the most fundamental change in lease accounting over the past 30 years.

IFRS 16 stipulates the principles of recording, measuring, presenting, and explaining leasing transactions. The standard proposes a model that requires tenants to record the assets and liabilities of all lease contracts, unless the lease term is 12 months or less or the leased assets are of low value.

The lessor continues to classify the lease as operating lease or financing lease, and the accounting approach of IFRS 16 for the lessor remains basically the same as the previous IAS 17 or VAS 16.

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## 1.2. Comparing International Financial Reporting Standard No. 16 (IFRS 16) with Vietnamese Accounting Standard No. 06 (VAS 06)

Serial	Criteria	VAS 06	IFRS 16
1	Objects of application	VAS 06 applies to businesses performing asset lease contracts. The object of application of VAS 06 is not limited to long-term assets, but includes all asset lease contracts signed by enterprises.	IFRS 16 applies to businesses that lease a long-term asset, such as premises, machinery or equipment. This means that when a business leases a long-term asset under an extended lease, IFRS 16 specifies requirements for recognition and disclosure in the financial statements.
2	Scope	VAS 06 applies to lease contracts, not limited to long-term assets. This Standard applies to all types of leases, including both long-term and short-term leases. This Standard provides guidelines for the recognition and treatment of leases in the financial statements.	IFRS 16 applies to long-term leases. It focuses on lease contracts such as premises, machinery and equipment. This standard requires an enterprise to classify and recognize leased assets and lease liabilities in its financial statements.
3	Contract	VAS 06 defines a lease contract as a contract where the lessor transfers the right of use of an asset to the lessee for a certain period of time, through the payment of a rental. This applies to all types of leases, not limited to long-term properties.	IFRS 16 defines a lease contract as a contract in which the lessor transfers the right to use an asset (referred to as the leased asset) to the lessee for a specified period of time at a rental price. This applies to leases of a long-term lease contract, including leases of premises, machinery, equipment, and other long-term assets.

Compared to Vietnamese Accounting Standard No. 06 “Leased Assets” (VAS 06), IFRS 16 has similarities in asset classification, which is based on whether the risks and benefits associated with owning assets belong to the lessee or lessor. In addition, the lessor’s accounting method is almost unchanged when it is still necessary to distinguish between a financial lease and an operating lease like VAS 06.

However, there are many differences in the recognition of lease contracts by lessee’s accountant in IFRS 16.

Regarding classification of lease agreements, if VAS 06 differentiates activity leases and financing leases for both lessors and lessees, IFRS 16 stipulates that all lease agreements are financing leases except for the following situations, which are considered as service or operating lease: Lease term is less than 12 months; Low value; Expenses recorded within the time limit or allocated.

Therefore, there are differences in asset recognition between VAS 06 and IFRS 16. According to VAS 06, financial leases are recognized as assets on the balance sheet, while operating leases are recognized as period expenses, IFRS, however, stipulates that all leases are recognized as assets.

The difference in asset recognition also changes the asset recognition criteria of IFRS 16 compared to VAS 06. IFRS treats assets as control over economic interests, while with VAS, the classification criteria to determine assets are based on ownership, who bears risks, and contract revenue.

In addition, the difference between VAS 06 and IFRS 16 lies in determining lease debt payability. VAS 06 records debt based on the fair value of the leased property at the initial lease, and if the fair value is higher than the present value of the minimum rent payment, it is recorded based on the present value of the minimum rent payment. IFRS 16 uses the discounted cash flow method to determine the future payable lease debts, including for operating lease assets.

IFRS 16 was also the first to introduce standards for evaluating, assessing, and recording property losses that were not covered by previous standards such as IFRS 06 and IFRS 17. Specifically, IFRS 16 requires periodic loss assessment of rental property by adopting IAS 36 – Loss of Property standard.

Thus, with the innovation of property lease liquidation, the lessor's accountant will record the property use right and debt payable related to the property lease transaction. At the same time, the accountant will have to record the depreciation expense of the right to use assets and the financial expenses.

## **2. SITUATION OF VIETNAMESE ENTERPRISES WHEN APPLYING IFRS 16**

Currently, IFRS 16 has been applied by a number of large and multinational enterprises in Vietnam, especially those listed on the stock exchange. However, the application of IFRS 16 is still in the early stage and has not become common in the Vietnamese business community.

A number of large and international enterprises have converted and applied IFRS 16 to prepare their financial statements. This is necessary because IFRS 16 changes the way long-term leases are recognized and reported, affecting important financial ratios such as assets and liabilities.

### ***The timeline and plan to apply IFRS and VFRS in Vietnam:***

*\*Objects of application:* (i) Enterprises include: businesses that have the need and have enough ability and resources to apply IFRS, which are determined as suitable in each period in accordance with the published timeline; and other enterprises of all fields and economic sectors operating in Vietnam applying VFRS (Except for SMEs); (ii) Training institutions, professional associations and accounting and auditing service providers; (iii) State management agencies, including: Ministry of Finance and related units in the development of plans, timeline and announcement, support for the application of IFRS; researching, developing, promulgating, training and guiding the implementation of VFRS.

#### *\* Phase 1: Voluntary application (2022 to 2025)*

(1) For the consolidated financial statements:

- The parent companies of the large-scale state economic groups or businesses having loans sponsored by international financial institutions;
- The parent companies are the listed companies;

- Large-scale publicly-traded corporations are the unlisted parent companies;
- Other parent companies.

(2) For separate financial statements: Enterprises with 100% FDI are subsidiaries of parent companies abroad

(3) Enterprises need to notify the Ministry of Finance before voluntarily applying

The period 2022 - 2025, also known as voluntary period: For consolidated financial statements, enterprises with needs and sufficient resources, notify the Ministry of Finance before voluntarily applying IFRS to prepare consolidated financial reports. For separate financial statements, enterprises with 100% foreign direct investment that have needs and sufficient resources should notify the Ministry of Finance before voluntarily applying IFRS to prepare separate financial statements.

*\* Phase 2: Compulsory application (After 2025)*

The period after 2025 is the mandatory period to apply IFRS. That is, the consolidated financial statements apply to the head company of the State economic group; head company is a listed company; large-scale public company is an unlisted parent company. For separate financial statements, on the basis of assessing the implementation of IFRS application of the previous period, the Ministry of Finance, based on the requirements of enterprises and the actual situation, prescribes methods of project, the time of voluntary or compulsory application of IFRS to separate financial statements for each group of subjects, ensuring efficiency and feasibility. The State Bank of Vietnam stipulates the mandatory or voluntary application of IFRS to classify financial statements for each specific entity belonging to the group of commercial banks and credit institutions. When applying IFRS, enterprises must ensure to provide sufficient information and explain clearly and transparently to tax authorities, management and supervision agencies and take responsibility before law for determining obligations to the State Bank.

Currently, Vietnam has only progressed to the 2nd year of phase 1 of voluntary application of the transition roadmap to apply international financial reporting standards, so domestic enterprises are not required to apply foreign IFRS 16 standards, except for foreign-invested enterprises that must prepare financial statements in accordance with IFRS 16 to merge with overseas companies and voluntarily converted enterprises to apply IFRS, in parallel with VAS. Therefore, when it comes to the mandatory application stage (after 2025), Vietnamese enterprises will also accumulate many experiences and lessons in applying IFRS 16 from domestic and international enterprises. In addition, accounting and auditing organizations and the Ministry of Finance continuously organize many programs to support domestic enterprises in converting to apply international financial reporting standards such as organizing training sessions, advanced projects on IFRS with businesses with the aim to perfect the State's institutions is continuously in order to create the most favorable conditions for the transition. This is a policy advantage to help businesses ready to apply international standards to integrate with the world.

However, the transition to apply IFRS 16 has many difficulties because the new accounting method for leased assets will change two most important reports in the enterprise's financial

statements, largely affecting the business that has many lease agreements. Applying IFRS 16 not only affects financial results, but may also require changes in corporate information systems to meet reporting requirements in accordance with international standards.

Therefore, in the process of applying IFRS 16, Vietnamese enterprises face many difficulties and challenges:

**Firstly**, currently, most Vietnamese enterprises are still accounting for leased assets according to VAS 06. Therefore, when applying a completely new accounting method in IFRS 16, the financial resources of the business will certainly inevitably be re-evaluated. In particular, for businesses that want to access to foreign markets, the regulations on transparency of financial information are more stringent.

**Secondly**, businesses must change the way they report for leased assets. This creates a huge challenge for the accounting profession. Once switching to apply IFRS 16 to replace VAS, the accounting department in the enterprises will be responsible for re-investigated all accounting information of the whole system, revising and consulting financial information with business owners and auditors in order to present the report in the most systematic way.

**Thirdly**, on the State side, the institutions for applying IFRS in Vietnam are not perfect, there are no specific plans and strict regulations, leading to the application of IFRS 16 faces up to many problems for businesses. .

**Fourthly**, international standards helps to improve the consistency and transparency of accounting information, but it is also completely changing the way property lease transactions are recorded, moreover, put a great pressure on businesses, especially retail businesses which often own many leased assets because all important factors on the report such as assets, liabilities, notably, the results of operations of the entire business system must be adjusted and updated. However, the current information system and accounting software of Vietnamese enterprises are not modern enough to update and convert information from VAS 06 to IFRS 16 quickly and in a timely way.

### 3. SUGGESTIONS AND SOLUTIONS

- ***On the part of the state***, the government should quickly improve the institutions and policies that support and reduce the burden of enterprise transformation. According to Mr. Dang Quyet Tien, Director of the Department of Corporate Finance (Ministry of Finance), in order to implement IFRS, it is necessary to perfect the State institution because there are many laws affecting it. In addition, the Ministry of Finance should strengthen the publicity and education of enterprise international financial statements standards (IFRS) through seminars and in-depth training, so as to solve the difficulties and problems of enterprises in the process of transformation in time.

- ***On the part of the businesses***, in order to overcome the enormous difficulties of transitioning from VAS 06 to IFRS 16.

*Firstly*, enterprises need to evaluate the impact on their accounting books, from the differences in recording methods, conversion options, to effects to operation and the process in which information and data are systematized, for the development of an appropriate conversion plan, avoiding large-scale and uncontrolled changes in enterprise financial information.

*Secondly*, enterprises should take measures to continuously improve the professional ability and operational efficiency of the organization of accounting, helping accounting departments gain a deeper understanding of the International Financial Reporting Standards, especially IFRS 16, to address human resource issues - one of the core elements of transformation. Thus, the financial information of enterprises will become increasingly close to international standards, which will improve the transparency of information and facilitate the current international market trend of enterprises' integration and listing.

*Thirdly*, enterprises must constantly update new progress in the application of information technology in accounting, software and information systems. A modern accounting information and software system will support the conversion to become convenient, easy, fast and accurate, following IFRS 16 standards, thereby ensuring the transparency of accounting information, supporting internal and external users to make economic decisions, and helping enterprises to quickly enter potential overseas markets.

#### **4. CONCLUSION**

International Financial Reporting Standard No.16 (IFRS 16) has had many positive effects on financial statement of enterprises, ensuring the transparency of transactions. However, the transition to completely different standards also brought many difficulties to Vietnamese enterprises. To overcome these difficulties, relevant ministries, departments and branches such as the Ministry of Finance and the State Auditor General need to be the lead and work alongside businesses in the transformation process by completing the institutions, promulgating policies to encourage and support businesses in the roadmap to adopt IFRS in general and IFRS 16 in particular.

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# MANAGING THE ISSUANCE AND USE OF E-INVOICES IN VIETNAM

Assoc. Prof. PhD. Nhu Trong Bach<sup>1</sup>, PhD. Dao Duy Thuan<sup>2</sup>, Nguyen Thi Linh<sup>3</sup>

**Abstract:** *E-invoices have brought great benefits to businesses and the whole society. The electronic invoice system will track all buyers' and sellers' data. Therefore, in case buyers and sellers commit acts of buying and selling illegal invoices, they will be detected more accurately, quickly, and easily, thereby promptly handling according to the provisions of law, avoiding loss of revenue to the state budget. However, over the past, there has been a phenomenon that some businesses, organizations, and individuals deliberately take advantage of the issuance and use of electronic invoices for export, purchase, and sale of invoices, violating the law for profit. The article has assessed the current situation of management and use of e-invoices in recent years in Vietnam, found out the weaknesses and limitations in the management and use of e-invoices and its causes, thereby proposing some solutions to improve the efficiency of management and use of e-invoices in Vietnam Male in due course.*

**Keywords:** *invoice, electronic invoice, enterprises, . . .*

## 1. INTRODUCTION

Recently, many “huge” lines of buying and selling invoices, with trillions of VND, have been dismantled by local police. The buying and selling of illegal invoices have caused losses in the State budget, created inequality among enterprises, and reduced the reputation of genuine businesses.

More specifically, at the end of 2022, during the investigation of the case of “illegal purchases and sales of invoices” and “tax evasion” in Bac Giang province, the police agency discovered that four people had bought and sold the invoices to many companies. This is an illegal inter-provincial invoice trading line of over 3,000 invoices, with the total value of goods and services recorded on the invoice being nearly 4,000 billion VND. Not only in Bac Giang province, the situation of buying, selling, and using illegal invoices has also occurred in many other localities with increasingly sophisticated means, which the police authorities have suppressed.

Therefore, the emergence of electronic invoices (at this moment abbreviated as e-invoices), on the one hand, has taken advantage of advances in science and technology to bring significant benefits to businesses and society. On the other hand, the e-invoice system keeps track of all data of buyers and sellers. Therefore, if buyers and sellers commit acts of buying and selling illegal invoices, they will be detected more accurately, quickly, and easily, thereby promptly handling them by current laws and regulations, avoiding loss of revenue to the state budget.

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However, in recent years, there has been a phenomenon that several businesses, organizations, and individuals have deliberately taken advantage of the issuance and use of e-invoices for issuing, buying, or selling fake invoices, which violates the law to make profits. To prevent the above situation, on April 12, 2023, the Minister of Finance Ho Duc Phuc signed the Official Telegram No. 01/CD-BTC that requests the General Department of Taxation to direct the Tax Departments of provinces and centrally affiliated cities to strengthen the management and supervision of the issuance and use of e-invoices. This article will focus on the current situation of managing and using e-invoices in Vietnam in recent years, outlining its weaknesses, limitations, and causes, thereby proposing several solutions to enhance the efficiency of management and use of e-invoices in Vietnam in the upcoming time.

## 2. OVERVIEW OF E-INVOICES

### 2.1. The concept of e-invoices

The European Commission (EC) has defined: “E-invoice as an electronic transmission of the information contained in an invoice between business partners (the sellers and buyers). It is essential to an efficient financial supply chain as it creates the linkages between a company’s internal processes and its payment system.”

According to Liu (2018) [4], an e-invoice is a receipt and payment of electronic information issued or received in purchasing and selling goods, provision of services, and other business activities; and uniformly printed by the tax authority.

According to Zhan (2009) [13], an e-invoice is a document issued from a business’s computer and transmitted over the Internet. According to Cai Lei (2014), an e-invoice is a receipt or payment document created during the interaction, including purchasing and selling goods and providing services; and stored in an electronic format. Zhang & Wang (2017) [14], E-invoice is a data file containing all information generated by the seller; it is sent to the buyer by electronic transmission method.

In Vietnam, according to Article 3, Circular 32/2011/TT-BTC dated March 14, 2011: “E-invoice is a compilation of e-data messages on goods sale or service provision, which is created, billed, sent, received, stored, and managed electronically. E-invoices shall be created, billed, and processed in an organization’s computer system with a tax identification number upon sale of goods or provision of services and stored in computers of involved parties under the law on e-transactions.”

There are two types of E-invoices: unauthenticated e-invoices and authenticated e-invoices. The comparison between these two types of E-invoices according to several aspects as follows:

		<b>Unauthenticated E-invoice</b>	<b>Authenticated E-invoice</b>
Subjects of application	of	For enterprises that meet the requirements for using invoices, they are responsible for their invoices.	For enterprises with tax risks, according to the tax authorities, or newly established enterprises that are not eligible to use self-created invoices.

Conditions on application	Enterprises under operation that conduct regular transactions with banks and tax authorities have valid e-signatures, have qualified infrastructure and service systems, and are eligible to create e-invoices and take responsibility for their activities according to law.	<ul style="list-style-type: none"> <li>- Enterprises have been granted a tax code and are in operation.</li> <li>- Enterprises have e-signatures that are still valid and have complete information about enterprises.</li> <li>- Enterprises operate in areas that can access and use the internet.</li> </ul>
Registration	Enterprises self-create, self-store, and report to the tax authorities by regulations.	Enterprises register with the tax authority, get the code, and then proceed with the transaction. The transaction system will issue a code for the transaction.
Advantages	<ul style="list-style-type: none"> <li>- Enterprises are proactive in creating invoices, ensuring quick issuance.</li> <li>- Do not need to worry about the network congestion of the General Department of Taxation since the invoice is issued directly by the seller to the buyer.</li> </ul>	Enterprises do not have to report using e-invoices because all invoice information has been submitted and stored in the General Department of Taxation database when conducting the authentication.
Disadvantages	Enterprises must store and preserve the data and make reports at the tax authorities' request.	E-invoices with authentication codes will depend on the transmission line of the General Department of Taxation because the seller must verify with the General Department of Taxation before issuing an e-invoice to the buyer.

*Source: Authors' compilation*

## 2.2. Rules for issuance and use of e-invoices

The rules for issuing and using invoices are specified in Clause 1, Article 4 of Decree 123/2020/ND-CP, dated October 19, 2020, effective from July 1, 2022. To be more detailed:

- Rules for using e-invoices must ensure that: the invoice number can be determined according to the continuity principle and chronological order; each can only be created and used once.

- The invoices issued in paper form but have been processed, transmitted, or stored electronically are not e-invoices. An e-invoice will be legally valid if the following conditions are simultaneously satisfied:

- + There is sufficiently reliable assurance of the integrity of the information in the e-invoice since the data is generated in its final form of e-invoices.

- + The criteria for assessing the integrity include that the data is complete and has not been changed, except for the changes in conditions that arise during the exchange, storage, or display of e-invoices.

- + The information contained in the e-invoices can be accessed and used in complete form when necessary.

## 2.3. The role of e-invoices in the economy

An e-invoice is a compilation of information and data on goods sales and service provision, which is created, issued, sent, received, stored, and managed electronically. E-invoices have

been made, printed, and processed on an organization's computer system that has been granted a tax code when selling goods and services; and have been stored on the computers of related parties by the law on electronic translation.

With a straightforward operation, the buyers can receive invoices anytime, anywhere, provided they can access the internet. Therefore, using e-invoices benefits businesses and strengthens the national financial system.

*First*, using electronic invoices helps businesses reduce costs. When using paper invoices, the companies must spend expenses such as printing, issuing, preserving, and storing invoices; the average price for a paper invoice is 1,000 VND (according to a preliminary estimate of the Department of Large Enterprises - General Department of Taxation). With about 2.5 billion invoices annually in the country, the expenditure is up to 2.5 trillion VND. Besides, using e-invoices helps businesses save much time (reducing up to 70% of the issuance process, up to 99% of payment time, and managing invoices, thereby saving 89% of costs for each invoice).

*Second*, using e-invoices makes it convenient for businesses to use. The application of information technology has shortened the payment time, simplified the management of searching invoices, and been suitable for accounting and data reconciliation. In addition, using e-invoices also helps managers and employees in enterprises have close coordination in each task, such as creating, digitally signing transmitting/receiving invoices.

Moreover, using e-invoices also motivates both managers and employees in enterprises to innovate, especially in terms of technology, to adapt quickly to changes and increase competitive advantage in a constantly changing business environment. If enterprises cannot take advantage of these changes, they will lose the opportunity to compete with other businesses due to delays in sending customer invoices.

While paper invoices usually take 3-5 days to be sent to customers at a cost of about 20,000-25,000 VND per sending, e-invoices only take 3-5 seconds to be sent via the Internet, and customers will receive them immediately. The delay in using paper invoices is the main reason causing difficulties for customers when they want to continue to transact with unissued invoices and an obstacle for businesses to spend time waiting to collect debts.

*Third*, using e-invoices contributes to modernizing and improving the efficiency of tax authorities' management. The use of information technology to collect, aggregate, and report data from e-invoices; as well as the faster sending and receiving processes of invoices thanks to electronic means; is expected to decrease the risk of losing invoices, reducing costs for businesses and dealing with illegal issuance and use of invoices [8].

Using e-invoices also helps the Tax sector to build up a database of invoices that supports tax inspection and refund, as well as risk analysis of enterprises and individuals when doing business. Regarding management, e-invoices help companies to be more accessible in reporting and post-inspection of the tax authorities.

With a transparent management process, e-invoices have helped enterprises operate smoothly, minimizing errors in the operation process. Since all data on e-invoices are digitized when stored, it is easier to look up and make reports at the request of governing bodies. At the same time, it helps to minimize conflicts between customers and suppliers.

#### 2.4. Legal framework related to management and use of e-invoices.

E-invoices are increasingly popular in commercial transactions and become an inevitable trend in that information technology is firmly applied in enterprises in Vietnam. Therefore, the State has established a synchronous and increasingly complete legal framework to create a legal basis for electronic transactions in general and the use of e-invoices in particular, such as the Law on Electronic Transactions promulgated in 2005, the Accounting Law promulgated in 2003 and amended in 2015.

In 2010, the Government issued Decree No. 51/2010/ND-CP dated May 14, 2010, providing invoices for goods sale and service provision. Accordingly, an invoice is a document created by the seller, recording information on the sale of goods and services as prescribed by law. Circular No. 32/2011/TT-BTC, dated March 14, 2011, guiding the creation, issuance, and use of e-invoices for goods sale and services provision, has been issued and officially applied since 2011.

In implementing e-invoices, the Ministry of Finance issued Decision No. 1209/QD-BTC dated June 23, 2015, on piloting e-invoices with authentication codes of tax authorities when selling goods and providing services to enterprises. On December 14, 2016, the Ministry of Finance continued to issue Decision No. 2660/QD-BTC on extending the implementation time of Decision No. 1209/QD-BTC.

On September 12, 2018, the Government issued Decree No. 119/2018/ND-CP prescribing the scope and subjects of application of e-invoices, considered an essential legal framework for promoting the process of implementing e-invoices in Vietnam. Accordingly, enterprises are required to use e-invoices when selling goods and providing services from November 1, 2020. However, to meet the requirements of the Law on Tax Administration No. 38/2020/QH14 dated July 15, 2020, it is necessary to expand the scope of the application and improve the process of managing receipts and documents by electronic method accordingly. Therefore, the Government has issued Decree No. 123/2020/ND-CP, replacing Decree No. 119/2018/ND-CP, published previously with some new points to make it more appropriate.

The regulations on e-invoices are mainly stipulated in the following two latest documents:

- *Decree 123/2020/ND-CP dated October 19, 2020*, of the Government regulating invoices and records. This Decree takes effect from July 1, 2022, replacing Decree 119/2018/ND-CP.

- *Circular 78/2021/TT-BTC dated September 17, 2021*, of the Ministry of Finance providing guidance on Law on Tax Administration dated June 13, 2019, and Government's Decree No. 123/2020/ND-CP dated October 19, 2020, prescribing invoices and records. This Circular takes effect from July 1, 2022, and replaces Circular 32/2011/TT-BTC, Circular 68/2019/TT-BTC and Circular 88/2020/TT-BTC.

In addition, there are several other documents related to e-invoices, such as:

- Circular 39/2014/TT-BTC, dated March 31, 2014, of the Ministry of Finance provides instructions on using e-invoices for goods sale and service provision on the Internet.

- Circular 04/2014/ND-CP dated January 6, 2014, of the Government, amending and supplementing several articles of the Government's Decree No. 51/2010/ND-CP dated May 14, 2010, providing for goods sale and service provisions invoices.



- Decision No. 78/QĐ-TCT dated February 2, 2023, of the General Department of Taxation on the promulgation of a set of indicators to assess and identify taxpayers with signs of risks in the management and use of e-invoice to help tax authorities analyze information and identify taxpayers with symptoms of high risk to switch to the form of e-invoices with tax authority's authentication code or to carry out the actual inspection of the management and use of invoices.

In the context of lack of consistency because of the overlaps in many documents regulating invoices and records, Decree 123/2020/ND-CP has been issued and clarified many specific issues as follows:

#### **Information Box No. 1**

Point 1: Decree 123 details the management and use of invoices when selling goods and providing services. At the same time, it stipulates the management and use of records when carrying out tax procedures and collection of fees. It also defines the tasks, powers, and responsibilities of agencies, organizations, and individuals in managing and using invoices and records.

Point 2: The Decree encourages agencies, organizations, and individuals that meet the conditions on information technology infrastructure to apply the provisions on electronic invoices and records of this Decree before July 1, 2022

Point 3: Decree 51/2010/ND-CP, Decree 04/2014/ND-CP, and Decree 119/2018/ND-CP continue to be effective until the end of June 30, 2022

Point 4: Repealing Clauses 2 and 4 of Decree 119/2018/ND-CP on applying e-invoices from November 1, 2020. However, for businesses to benefit from e-invoices early and promote digital transformation, the Government, the General Department of Taxation, and tax agencies nationwide always encourage enterprises to use e-invoices before November 1, 2020.

Point 5: Repealing Clause 2, Article 5 of Decree 12/2015/ND-CP of the Government detailing the implementation of the Law Amending and Supplementing several Articles of the Tax Laws, and amending and supplementing some articles of the decrees on taxes.

Point 6: Continuing to use ordered and self-printed invoices, e-invoices with/without authentication code, or invoices purchased from tax authorities that have been announced to be issued before October 19, 2020 (continuing to use from October 19, 2020, the issuance date of Decree 123/2020/ND-CP, until the end of June 30, 2022).

Point 7: Continuing to implement Decree 151/2017/ND-CP dated December 26, 2017, detailing several articles of the Law on Management and Use of Public Property when handling public property (paper invoices printed by the Ministry of Finance).

Point 8: Continuing to manage and use national reserve sales invoices when selling national reserve goods (paper invoices) as prescribed in Circular 16/2012/TT-BTC dated February 8, /2012. If there is a notice of conversion to the application of national reserve sales e-invoices, the units shall make the conversion according to regulations.

### **3. CURRENT SITUATION OF MANAGEMENT OF ISSUANCE AND USE OF E-INVOICES IN VIETNAM**

*Several positive signals - 100% of organizations and businesses have used e-invoices.*

From July 1, 2022, the General Department of Taxation has implemented an e-invoice system to serve taxpayers nationwide. Accordingly, enterprises, organizations, and individual businesses make the synchronous switch to using e-invoices instead of traditional paper invoices. Implementing the e-invoice system helps save the costs of issuing and keeping invoices and is convenient for comparing, reviewing, and checking tax declarations and tax refunds [7].

The General Department of Taxation always focuses on the operation and handling of the technical infrastructure of the electronic invoice system (e-invoice system) to ensure stable operation 24/7, meeting the requirements of receiving and granting e-invoice codes, not affecting the production and business activities of enterprises, organizations, and individual businesses. At the same time, the tax sector has been implementing many propaganda and



support programs for enterprises, organizations, and respective companies to help them understand and comply with regulations on invoices and e-invoices.

Currently, 100% of organizations and businesses across the country have switched to using e-invoices, with an increasing number of e-invoices being issued. Specifically, there are 851,372 organizations, enterprises, and branches (reaching 100% of the total number of organizations, enterprises, and branches that are using invoices and wishing to register to use e-invoices), and 65,576 households and individual businesses using the declaration method have registered and switched to use e-invoices according to Decree No. 123/2020/ND-CP and Circular No. 78/2021/TT-BTC. According to the latest report of the General Department of Taxation, as of September 27, 2022, the number of e-invoices received and processed by the Tax authority is more than 1.5 billion e-invoices, of which 416 million are e-invoices with authentication codes and 1.1 billion e-invoices without authentication code [7].

The number of household businesses using the declaration method have registered and switched to using e-invoices according to Decree No. 123/2020/ND-CP and Circular No. 78/2021/TT-BTC phase 2 in 57 provinces and cities is 42,701 household and individual businesses. The number of invoices received and processed by 57 Tax Departments reached more than 109 million invoices [7].

The General Department of Taxation has proactively arranged and utilized the existing technical infrastructure to deploy the e-invoice application to ensure the smooth operation of the system when all taxpayers switch to using electric invoices by the provisions of the Law on Tax Administration and Decree No. 123/2020/ND-CP from July 1, 2022.

Regarding the e-invoice management software operation at the Tax authorities, the General Department of Taxation has added resources to the system to meet the needs of taxpayers and tax officers, serving the official deployment of e-invoices nationwide. Up to now, the system has been put into stable operation, meeting the needs of exploitation and use.

Notably, the General Department of Taxation has deployed an application that supports tracking the results of invoice verification at the Tax authorities. The application allows to enter, send, look up, receive, update, assign management, approve, decentralize functions, and report summary verification of invoices to support inspection and anti-fraud work in value-added tax refunds.

The General Department of Taxation is also upgrading the application to add the functions of creating and sending verification requests/responding to verification request forms, and making trace reports of invoice and taxpayer information.

*Establish a database center for effective management.*

Implementing the Law on Tax Administration on April 21, 2022, the Ministry of Finance has implemented the electronic invoice (E-Invoice) system nationwide as a commitment to actively accompany enterprises in the digital transformation journey, contributing to the financial industry and the Government to achieve national goals on digital transformation, improving the business environment [8].

The General Department of Taxation has deployed the Electronic Invoice Database Center to analyze e-invoice data, serving the risk management of e-invoices in the entire Tax sector.

The database analysis and e-invoice management system were built to equip tax officials and civil servants in the whole industry with an application system to meet the urgent requirements

of e-invoice management; on that basis, helping units have tools and data sources to focus on reviewing, analyzing, and detecting signs of risks in the issuance and use of e-invoices.

The database analysis and e-invoice management system help to identify unusual purchasing/selling prices. Artificial intelligence technology is applied to natural language analysis to identify invoices for the sale and purchase of the same goods, thereby identifying invoices with unusual purchasing/selling prices.

With billions of invoices for various goods and services, when it is necessary to focus on controlling dangerous goods, the tool will help tax authorities filter invoices of purchasing and selling hazardous goods for in-depth analysis.

*There are still many difficulties and challenges with the management and use of e-invoices.*

In addition to the achievements in helping enterprises and the whole society, in recent years, taking advantage of the openness of mechanisms and policies, some subjects have established enterprises to illegally buy, sell, and use invoices, commit fraud when using invoices, to appropriate the State's tax money. To be more specific:

- Acts of violation on invoicing when selling goods and services:

**Information Box No. 2:**

+ Issuing invoices at the wrong time, not in order from small to large, wrong type of invoice according to regulations issued to the buyer or declared; issuing invoices without the approval notice of the tax authority or before the date on which the tax authority accepts the use of e-invoices with or without authentication codes of tax authorities; issuing invoices during the temporary suspension of business operations, except for the case of issuing invoices to customers to perform contracts signed before the date of notification of business suspension...

+ Issuing invoices not by the regulations: making incorrect and insufficient declarations; not issuing invoices for exported goods; commercial discount invoices but wrongly made into adjusted invoices; invoices issued incorrectly related to the currency, not in the correct money as prescribed, including the exchange rate for VND...; replacing invoices and replaced invoices have different values.

+ Canceling invoices not by the regulations: canceling e-invoices that have been issued with the tax authority's code and sent to buyers for unknown reasons, then sending a written request to the tax authority for approval; issuing invoices at the wrong time: goods and services have transferred ownership and use rights to buyers; the construction work has been completed and accepted in stages however not issuing invoices to customers in time, but left until next month and next quarter to issue invoices; transfer e-invoices data to tax authorities beyond the prescribed time limit; transfer the summary table of e-invoices data with the insufficient number of invoices created in the period; do not transfer e-invoices data to tax authorities within the prescribed time limit.

- The situation of soliciting, buying, and selling e-invoices is still active on social media such as Facebook and Zalo ... along with the promising commitment to issuing invoices in all industries such as construction, healthcare, agriculture, and petrol and gas... with complete delivery records and receipts upon request. This shows that, despite the stricter and more modern management, risk still exists, and the tax authorities have been unable to control it. The case of illegal trading of e-invoices with the most significant volume in the country, up to VND 25,000 billion, which was discovered by the Economic Police Department of Phu Tho Provincial Police at the end of 2022, has caused a stir in public opinion recently, is a typical example of the weaknesses in the management of using e-invoices [10].

In addition, to evade the inspection and detection of tax authorities and state management

agencies, the subjects often moved their business locations; for example, an individual living in this area or having a business location in this area but the enterprise's head office is in another place; a bogus business location or a counterfeit tenancy agreement to register a business location; the business registration authority, the tax authority has not yet had information to check whether the business location is correctly registered address or not...

In fact, enterprises are still facing the following main difficulties when using e-invoices:

*First*, enterprises need information technology infrastructure to use e-invoices such as computers, e-invoice software, digital signatures, etc... Accounting personnel using e-invoices should be trained in issuing, adjusting, and canceling e-invoices according to regulations. The procedures for issuing e-invoices and processing erroneous invoices are relatively new, causing difficulties for accounting personnel since e-invoices have just been applied recently.

*Second*, the guidance of Decree No. 123/2020/ND-CP dated October 19, 2020 (Decree No. 123) and Circular No. 78/2021/TT-BTC dated September 17, 2021, on e-invoices still has not been complete and precise as the Circular No. 39/2014/TT-BTC dated March 31, 2014, on paper invoices previously, thereby causing difficulties for enterprises in practice when issuing e-invoices and adjusting erroneous e-invoices.

*Third*, enterprises encounter problems in issuing e-invoices in the case of "internal consumption," especially since there are no instructions on what is "internal consumption" in the guiding documents. According to the previous Circular 39/2014/TT-BTC provisions on paper invoices, enterprises are not required to issue invoices in case of "internal consumption"...

#### **4. SEVERAL RECOMMENDATIONS TO IMPROVE MANAGEMENT EFFICIENCY AND USE OF E-INVOICES IN VIETNAM**

Looking back at recent e-invoice coverage, businesses have initially become familiar with e-invoices and realized many advantages of using e-invoices, such as improving the efficiency of operating and managing e-invoices and no personnel costs to write paper invoices as before. The storage of e-invoices is also more accessible and convenient, without worrying about loss, fire, or damage to invoices because e-invoices are stored in soft copies.

According to preliminary estimates of the General Department of Taxation, enterprises using paper invoices, on average, must spend over 1,000 VND/invoice. With 4 billion invoices/year, the yearly cost is more than 4,000 billion VND. Meanwhile, when using e-invoices, businesses can save more than 3,000 billion VND/year.

However, there are still difficulties and challenges that the Tax sector needs to deal with in the upcoming time. Therefore, the authors would like to propose several recommendations to improve the efficiency of management and use of e-invoices in Vietnam as follows:

*First*, promote propaganda and training on understanding e-invoices and the use of e-invoices by regulations.

It is necessary to strengthen propaganda and organize training on using e-invoices. To eliminate the fear of change, tax authorities must increase the training scale and propagandize and guide e-invoices to each region and each location. In addition to propagating the advantages and benefits of e-invoices, the tax authorities should have specific consulting and support policies for each target group. Due to the COVID-19 epidemic, the instructing propaganda on switching to e-invoices has been chiefly conducted online via Zoom software, resulting in low-efficiency records. Therefore, for small and micro enterprises, households, and individual

businesses who do not have much access to digital technology, the tax authorities need to have specific support measures, such as appointing tax officers to a particular area to support directly: guiding the installation process, using it to export, send and store invoices. In addition, the State needs to build and design a hotline to support users of e-invoices in overcoming problems related to the network and transmission lines in the fastest way, avoiding affecting the business and creating psychological safety for the users. Tax authorities coordinate with tax agents and services in the locality to advise and support individual companies to use services related to dossiers and procedures for using e-invoices to improve the efficiency of invoice conversion.

*Second*, strengthening risk analysis under the guidance of Circular No. 31/2021/TT-BTC of the Ministry of Finance; reviewing the declaration data of enterprises in provinces and cities to detect and prevent timely those who take advantage of the government's policy on encouraging the establishment of new businesses to set up "phantom" companies to illegally buy and sell invoices, causing losses to the state budget.

In particular, reviewing newly established enterprises doing business in industries such as catering, wholesale, and retail... who export sale invoices via e-invoice application; companies that use a large number of invoices should be put on the risk monitoring list; reviewing businesses that issue invoices in 1 day (week, month) with abnormal large quantities; checking details of items on invoices showing business in many industries, proposing unexpected inspection at the head office of enterprises.

On the other hand, focusing on inspection and examination after VAT refund according to thematic post-refund assessment; continuing to review tax refund dossiers that have reached the time limit for inspection and post-refund inspection according to the Law on Tax Administration provisions. For enterprises whose tax refund dossiers have yet to get the prescribed time limit for inspection and post-refund inspection, the tax authorities make the risk assessments and select the tax refund enterprises with high risks for inspection and post-refund inspection.

*Third*, the State should have policies to support and assist the users of e-invoices in having resources to invest in infrastructure for the application of e-invoices, such as: accessing loans with preferential interest rates so that businesses can invest in more equipment such as computers, transmission lines, and servers to store and retrieve data, or training expenses incurred in enhancing personnel's professional qualifications; or having particular policies on the use of e-invoices for enterprises located in remote, disadvantaged areas.

*Fourth*, minimize the security risks in using e-invoices. E-invoices are created based on digital technology. The creation and transmission of data are all through the Internet; data storage is also in the form of soft copies without printing on paper to save costs. Therefore, the need for a secure database system should be paid attention to and prioritised. Besides building the servers, the backup system needs to be actively equipped with more scenarios to prevent the attack of viruses and malicious codes.

## **5. Conclusions.**

The use of e-invoices to replace paper invoices is an inevitable trend in society to build up and synchronize national data, which is a premise in the application of machine learning models to create automation processes for accountants in the future. E-invoices play a fundamental role and are the base for checking and comparing data; minimising invoice fraud and tax evasion, which cause revenue losses to the state budget; thereby creating a healthy competitive environment

among enterprises and protecting a green and clean environment. However, the management and use of e-invoices still need to improve and overcome many difficulties and limitations that must be resolved. The article provides an overview of the current management situation and the use of e-invoices in Vietnam in recent years. It proposes several recommendations to improve management efficiency and service of e-invoices in the upcoming time.

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# THE IMPACT OF OFF-BALANCE SHEET ACTIVITIES ON THE FINANCIAL SAFETY INDICATORS OF VIETNAM JOINT-STOCK COMMERCIAL BANKS

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**Abstract:** *The research focuses on investigating the impacts of Off-Balance Sheet (OBS) activities on the financial safety indicators of Vietnam joint-stock commercial banks. By utilizing information on the outcomes of OBS activities and three groups of financial safety indicators of the top ten joint-stock commercial banks by assets on the Vietnamese stock exchange (details provided in the Appendix), the author presents insights into the effects of these business operations on various financial safety indicator groups. The experimental findings indicate that a bank's OBS activities affect profitability indicators, while having no impact on capital safety and asset quality indicators. Drawing from the experimental analysis, the study offers perspectives on potential risks and benefits associated with these activities for Vietnam joint-stock commercial banks within the scope of the research. The research results will contribute to a clearer understanding of how OBS activities influence the overall financial well-being of joint-stock commercial banks of Vietnam (as of March 31, 2023).*

**Keywords:** *Off-Balance Sheet activities, banks, joint-stock commercial, financial safety.*

## 1. INTRODUCTION

Off-Balance Sheet (OBS) activities refer to activities related to commitments or contracts that generate income for banks but are not recognized as assets or liabilities according to conventional accounting regulations.

Lending is a primary activity of commercial banks; however, OBS differs from conventional lending in that OBS loans are committed beforehand, and the utilization of these loans depends on the actual situation of the customer. In recent years, the pace of OBS development by commercial joint-stock banks has increased due to the benefits that such activities bring. OBS helps augment the income of these banks through commissions or fees, offsetting the declining income from traditional transactions. Additionally, undertaking OBS allows commercial joint-stock banks to avoid expenses like taxes, mandatory reserve costs, deposit insurance fees, and other costs that do not apply to OBS activities.

Nevertheless, numerous OBS also increase latent risks for banks, such as credit risk, market risk, liquidity risk, fraud risk, and more. A majority of OBS is not recorded on the balance sheet but represents potential assets or liabilities, which could affect the bank's internal balance sheet in the future, leading to risks such as derivative products, guarantees, and loan commitments. Thus, in 1986, the Basel Committee on Banking Supervision (BCBS) swiftly issued guidelines for managing and controlling OBS risks of commercial joint-stock banks.

In Vietnam, the OBS of commercial joint-stock banks mainly involves OBS business, derivatives, loan collateral commitments, letter of credit (L/C) commitments, and other guarantees. OBS is expanding in both scale and diversity, necessitating risk management to address

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emerging risks. This study employs a quantitative research model to examine the influence of OBS on the performance and quality of operations of the ten largest commercial joint-stock banks listed on the stock exchange.

## 2. LITERATURE REVIEW

OBS activities of commercial banks have been present for a long time, such as fee-based banking services and safekeeping of assets for customers. However, the diversity and volume of OBS activities have continued to expand. Hassan and Sackley (2002) argue that during the 1980s and 1990s, the banking sector faced comprehensive changes in the economic environment, leading banks to expand their OBS activities to generate additional income. Khambata and Bagdi (2003) also suggest that the rapid growth of OBS activities is driven by factors like competition, market pressures, regulatory relaxation, technological advancements, and the decline of traditional banking business segments. While OBS activities have become a prevalent trend in commercial banks, they also entail significant risks.

Regarding OBS activities, Bennet (2003) asserts that these activities pose credit risks as they provide opportunities to leverage without stringent regulatory oversight. Despite banks' efforts to maintain prudent investment portfolios, OBS activities still substantially increase credit risk exposure in transactions. Cates and Davis (2005) conclude that credit risks arising from OBS activities can be transferred to other assets of commercial banks. For instance, if a bank acquires an options contract, interest rate risk may decrease but credit risk could rise. Notably, among all OBS activities, loan commitments are the highest potential credit risk. Khambata (2001) compared Japanese banks with those in the United States and Europe, finding similar results that loan commitments pose the most significant credit risk among traditional OBS instruments.

The BIS (BCBS, 1986) has categorized the credit risk of OBS activities into three levels. Firstly, high risk (full risk) applies to OBS activities that share characteristics similar to credit activities, and their inherent risk is equivalent to similar lending activities on the balance sheet. Secondly, medium risk refers to OBS activities with lower risk compared to high-risk activities. Lastly, low risk indicates OBS activities with some degree of risk, but it is minimal, almost negligible.

**Table 1. Credit risks in OBS activities of commercial banks**

No.	OBS activities	Credit risk level
1	Guarantees and potential liabilities	
	Debt guarantees	High risk
	Payment guarantees	High risk
	Commercial letters of credit	Medium risk
	Standby letters of credit	Medium risk
	Banker's acceptances and compensation guarantees	Low risk

2	Commitment	
	Irrevocable commitment	High risk
	Revocable commitment	No risk
3	Derivative contracts (OBS, interest rate, and securities transactions)	
	Utilized for speculative purposes	Medium risk
	Used for risk hedging	Low risk
4	Consultancy and management activities	
	Delegation	No risk
	Issuance guarantee	No risk

Few studies examine the impact of OBS activities on banks' activities. To my knowledge there is no study considering the effect of OBS activities on MENA country bank profitability. Recent studies that investigate the efficiency of banks include OBS activities as a factor to determine the cost efficiency and profit efficiency. Lang and Welzel (1998), Drake (2001), and Tortosa-Ausina (2003) indicate that increasing usage of non-traditional activities generates non-interest fees income. Another set of studies employ a data envelopment approach (DEA) or stochastic frontier approach (SFA) to evaluate bank cost and profit efficiencies. These studies include OBS activities as an additional output in the profit and cost functions (Altunbas et al., 2001; Altunbas and Chakravarty, 2001; Isik and Hassan, 2003a; Isik and Hassan, 2003b; Bos and Colari, 2005; Rao, 2005). Lieu et al. (2005) inspect the influence of OBS activities on the cost efficiency of Taiwan banks.

Angelidis and Lyrouti (2005) investigate the impact of banks' OBS activities on the productivity of decision-making units in 11 European countries. Sinha (2006) compares Indian commercial banks (public and private banks) with respect to their ability to generate income out of OBS activities. Pasiouras (2008) also employs DEA to investigate the efficiency of Greek commercial banks. This study finds that OBS activities are statistically insignificant in explaining bank efficiency. Nachane and Ghosh (2007) examine determinants of OBS activities in the Indian banking sector. Khasawneh et al. (2012) study the effect of profit on OBS usage in the Jordan banking system and find a positive impact of profit on OBS usage. Sayilgan and Yildirim (2009) conclude that profitability decreases with growing OBS assets in the Turkish banking system. Literature relates OBS activities with bank risk comes in two groups, one support the hypothesis that OBS activities increase bank risk and cause bank failures (Wagster, 1996; Angbazo, 1997; and Fraser et al., 2002). More recently, Haq and Heaney (2012) employ a model that includes OBS activities in addition to banks specific variables and macroeconomic variables to identify determinants of bank equity risk and credit risk using data from 117 European financial institutions. Their results suggest a positive relationship between OBS activities and bank's risk. Barrell et al. (2012) include OBS activities in bank failure early warning model for fourteen OECD countries. They find significant impact of OBS activities on crises occurrence, which imply that OBS activities increasing OECD banks' risk.

Another group of researchers support the hypothesis that OBS activities are risk decreasing factors. Lyng and Lee (1987) and Hassan et al. (1994) find a negative association between OBS activities and bank total risk; although they find no evidence concerning the relationship between OBS activities and systematic risk. Boot and Thakor (1991), Angbazo (1997) and Esty (1998) also

suggest a negative effect of OBS activities on bank risk. Hassan et. al. (2002) show that banks with greater portfolio risk, high leverage and interest rate risk are less likely to issue letters of credit.

### 3. METHODOLOGY

This study conducts quantitative analysis using the SPSS software based on aggregated data from the period from 2014 to the end of 2022 extracted from the financial reports of the ten largest listed Vietnam joint-stock commercial banks on the stock exchange. These are the ten banks with the largest asset sizes according to the financial reports of banks traded on the stock market.

For the independent variable of OBS activities (encoded in the model as CL), the author aggregates based on loan commitment guarantees, L/C commitments, and other guarantees presented in the financial reports of the joint-stock commercial banks. For the dependent variable, five financial indicators reflecting the safety of the financial system are divided into three groups as follows:

#### ***Group 1: Capital safety indicators***

##### *Capital Adequacy Ratio (CAR)*

The capital adequacy ratio is a metric reflecting the relationship between own capital and risk-adjusted assets of the commercial bank. It's a fundamental measure for bank managers to assess the financial health of the bank. If a bank is deemed to lack sufficient owner's capital by regulatory authorities, it is considered unable to operate normally and might be required to close its doors.

Based on the capital adequacy ratio, the ability to repay short-term debts and absorb other risks can be determined. Therefore, regulatory agencies in various countries always define and monitor the minimum required capital adequacy ratio. Presently, under the Basel II standards widely adopted by global banking systems, the CAR is set at 8%. In Vietnam, according to Circular 36/2014/TT-NHNN, this ratio is defined as 9%. By the end of 2016, the State Bank of Vietnam issued Circular 41/2016/TT-NHNN, reducing the minimum ratio to 8% as prescribed by Basel II, with the effective date set for January 1, 2020.

#### ***Group 2: Asset quality indicators***

##### *Non-Performing Loan Ratio (NPL)*

$$\text{Formula: NPL} = \frac{\text{Total Non-Performing Loan}}{\text{Total Credit Balance}}$$

The NPL ratio indicates the quality and risk of the bank's loan portfolio, revealing how much out of every 100 borrowed Vietnamese dong is classified as non-performing loans.

##### *Loan-Loss Reserve Coverage Ratio (LLR)*

$$\text{Formula: LLR} = \frac{\text{Loan Loss Reserves}}{\text{Non-Performing Loan}}$$

The LLR ratio measures the bank's ability to defend against the risk of non-performing loans. During lending, banks often face the risk of not recovering loans. If the borrower cannot repay the loan after 90 days from the due date, it is considered a non-performing loan. The LLR ratio can be used to monitor and manage this risk.

### Group 3: Profitability indicators profitability

Profitability indicators profitability is measured by the Return on Assets (ROA) defined as the ratio of net income to total assets, and the Return on Equity (ROE) defined as the ratio of net income to owner's equity (Van Horen, 2007; Naceur and Omran, 2011; Olson and Zoubi, 2011; and others).

#### Return on Assets (ROA)

Formula:

$$ROA = \frac{\text{Net Income after Tax}}{\text{Total Assets}} \times 100\%$$

This index measures the profitability per unit of asset held by the bank. Generally, a higher ROA is better as it indicates that the bank is generating more earnings from the same amount of assets.

#### Return on Equity (ROE)

Formula:

$$ROE = \frac{\text{Net Income after Tax}}{\text{Owner's Equity}} \times 100\%$$

This index measures the profitability per unit of shareholder's equity. A higher ROE signifies that the bank's earnings are higher, making its shares more attractive to investors.

To evaluate the impact of OBS activities on the five indicators for the ten joint-stock commercial banks, the author employs the Fixed Effects Model (FEM) and Random Effects Model (REM) using panel data consisting of 90 observations from the 10 listed Vietnam joint-stock commercial banks over 9 years (from 2014 to 2022). The dependent variables are CAR, NPL, LLR, ROA, ROE, and the independent variable is CL. Subsequently, the Hausman test will be conducted to choose between the FEM and REM models, and the results suggest that the REM model is more appropriate. Therefore, the REM model will be chosen to run the official data. Then, to test for model deficiencies, the author performs the Breusch and Pagan Lagrangian Multiplier test for random variance errors. If  $\text{Prob} > \chi^2_{(1)} = 1.0000 > \text{Sig. level } 5\%, \alpha = 0.05$ , then the hypothesis is accepted, and it is concluded that the model does not experience the phenomenon of random variance errors changing. Lastly, the author employs the Generalized Least Squares (GLS) model to correct deficiencies and presents the results.

## 4. RESEARCH RESULTS

Based on the research methodology described above, the author proposes the following regression models:

$$\text{Model 1: } CAR = \beta_1 + \beta_2 * CL$$

Random-effects GLS regression		Number of obs =		81	
Group variable: id		Number of groups =		9	
R-sq:		Obs per group:			
within =	0.0026	min =	9		
between =	0.0000	avg =	9.0		
overall =	0.0003	max =	9		
corr(u_i, X) = 0 (assumed)		Wald chi2(1) =	0.17		
		Prob > chi2 =	0.6767		
ca	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
lncl	-.0005445	.0013059	-0.42	0.677	-.0031041 .002015
_cons	.1270898	.0229383	5.54	0.000	.0821317 .172048
sigma_u	.01728018				
sigma_e	.01052471				
rho	.72941731	(fraction of variance due to u_i)			

Testing the statistical significance of the coefficient  $\beta_2$  results in  $0.6767 > 0.05$ . Therefore, with a significance level of 5%, the coefficient  $\beta_2$  in the model is not statistically significant, meaning that CL does not have a significant effect on CAR.

**Model 2:  $NPL = \beta_3 + \beta_4 * CL$**

```
. xtglm npl lncl, corr(ar1) panel(h)
Cross-sectional time-series FGLS regression
Coefficients: generalized least squares
Panels: heteroskedastic
Correlation: common AR(1) coefficient for all panels (0.9141)
Estimated covariances = 9 Number of obs = 81
Estimated autocorrelations = 1 Number of groups = 9
Estimated coefficients = 2 Time periods = 9
Wald chi2(1) = 0.01
Prob > chi2 = 0.9098
```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
npl						
lncl	-.0000947	.0008355	-0.11	0.910	-.0017323	-.0015429
_cons	.0197317	.0142273	1.39	0.165	-.0081532	.0476167

Testing the statistical significance of the coefficient  $\beta_4$  results in  $0.9098 > 0.05$ . Therefore, at a significance level of 5%, the coefficient  $\beta_4$  in the model is not statistically significant, indicating that CL does not have a significant effect on NPL.

**Model 3:  $LLR = \beta_5 + \beta_6 * CL$**

```
. xtglm llr lncl, corr(ar1) panel(h)
Cross-sectional time-series FGLS regression
Coefficients: generalized least squares
Panels: heteroskedastic
Correlation: common AR(1) coefficient for all panels (0.8432)
Estimated covariances = 9 Number of obs = 81
Estimated autocorrelations = 1 Number of groups = 9
Estimated coefficients = 2 Time periods = 9
Wald chi2(1) = 1.35
Prob > chi2 = 0.2460
```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
llr						
lncl	.0440441	.0379678	1.16	0.246	-.0303714	.1184595
_cons	-.0121265	.631241	-0.02	0.985	-1.249336	1.225083

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Testing the statistical significance of the coefficient  $\beta_6$  results in  $0.2460 > 0.05$ . Therefore, at a significance level of 5%, the coefficient  $\beta_6$  in the model is not statistically significant, indicating that CL does not have a significant effect on LLR.

**Model 4:  $ROA = \beta_7 + \beta_8 * CL$**

```
. xtglm roa lncl, corr(ar1) panel(h)
Cross-sectional time-series FGLS regression
Coefficients: generalized least squares
Panels: heteroskedastic
Correlation: common AR(1) coefficient for all panels (0.9173)
Estimated covariances = 9 Number of obs = 81
Estimated autocorrelations = 1 Number of groups = 9
Estimated coefficients = 2 Time periods = 9
Wald chi2(1) = 5.88
Prob > chi2 = 0.0153
```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
roa						
lncl	-.0015546	.0006408	2.43	0.015	-.0002986	-.0028106
_cons	-.0154864	.0111901	-1.38	0.166	-.0374186	.0064459

Testing the statistical significance of the coefficient  $\beta_8$  results in  $0.0153 < 0.05$ . Therefore, at a significance level of 5%, the coefficient  $\beta_8$  in the model is statistically significant, indicating that CL has a significant effect on ROA. Additionally, the coefficient being greater than 0 suggests a positive relationship between CL and ROA.

$$\text{Model 5: } ROE = \beta_9 + \beta_{10} * CL$$

```
. xtglm roe incl, corr(ar1) panel(h)
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels (0.7512)

Estimated covariances =          9      Number of obs =          81
Estimated autocorrelations =        1      Number of groups =          9
Estimated coefficients =          2      Time periods =          9
                                           Wald chi2(1) =          5.19
                                           Prob > chi2 =          0.0227
```

	roe	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
	incl	-.0125731	.0055182	2.28	0.023	.0017576 .0233885
	_cons	-.0670158	.0949402	-0.71	0.480	-.2530951 .1190635

Testing the statistical significance of the coefficient  $\beta_{10}$  results in  $0.0227 < 0.05$ . Therefore, at a significance level of 5%, the coefficient  $\beta_{10}$  in the model is statistically significant, indicating that CL has a significant effect on ROE. Additionally, the coefficient being greater than 0 suggests a positive relationship between CL and ROE.

## 5. DISCUSSION

The empirical research results obtained through the five above models demonstrate the OBS activities affect profitability (ROA and ROE) but do not impact CAR and asset quality indicators (NPL and LLR) of commercial banks.

*The OBS activities have a positive impact on the profitability of commercial banks.*

The quantitative research results support the author's hypothesis that the scale of OBS activities positively influences ROA and ROE. This finding aligns with previous studies by Lang and Welzel (1998), Drake (2001), and Tortosa-Ausina (2003), reinforcing the view that OBS activities are an additional source of income not present in the banks' balance sheets.

From 2014 to 2022, the scale of OBS activities of the 10 listed commercial banks on the stock exchange has rapidly increased, with ROA and ROE ratios trending upwards.

Despite some minor fluctuations, over the past 9 years, OBS activities have provided optimistic signals for the operational performance of commercial banks. The benefits derived from OBS activities outweigh those from domestic activities, with lower capital costs and interest rates. This offers banks an opportunity to swiftly enhance their profitability.

Under the influence of the scale of OBS activities, ROA and ROE are positively affected by OBS activities. This signals that the profitability of the banking system benefits positively from the growth of OBS activities.

The impact of off-balance sheet activities on ROA and ROE can be explained by several reasons as follows:



First, OBS activities often involve offering specialized financial products and services, such as derivatives, securitization, and fee-based services like letters of credit. These activities generate additional revenue streams for the bank without requiring a proportional increase in on-balance sheet assets. The increased revenue contributes to higher net income, which positively impacts both ROA and ROE.

Second, engaging in OBS activities enables a bank to diversify its risk exposure beyond its traditional lending and investment activities. By participating in different markets and financial instruments, the bank reduces its overall risk concentration. A more diversified portfolio generally leads to stable earnings and improved risk-adjusted returns, contributing positively to both ROA and ROE.

Third, certain OBS activities, such as trading derivatives or currency exchange contracts, can amplify profit potential through leverage. While leverage introduces risk, effective management of these activities can lead to higher returns on invested capital. As profits generated from OBS activities flow through to the bottom line, both ROA and ROE benefit.

Fourth, OBS activities can help banks make more efficient use of their capital. Since many OBS activities involve transactions that don't require holding a significant amount of capital on the balance sheet, banks can allocate capital more strategically. This optimization enhances the bank's overall profitability, positively impacting both ROA and ROE.

Fifth, OBS activities often involve interacting closely with clients, addressing their specialized needs, and building stronger relationships. Providing comprehensive financial solutions can lead to cross-selling opportunities for other banking products and services. The resulting increase in business volume contributes to higher revenue and improved ROA and ROE.

Sixth, offering a diverse range of OBS products and services can differentiate a bank in a competitive market. This can attract a broader client base, enhance customer loyalty, and potentially command higher fees. The competitive advantage translates to increased revenue, thereby positively influencing both ROA and ROE.

Seventh, OBS activities can sometimes allow banks to manage regulatory capital requirements more effectively. By moving certain assets off the balance sheet, banks can reduce their capital commitments while still deriving income from those assets. This capital efficiency can boost profitability metrics like ROA and ROE.

Generally, OBS activities can positively impact a commercial bank's ROA and ROE by generating diverse revenue sources, diversifying risk, leveraging profit opportunities, optimizing capital utilization, fostering customer engagement, providing a competitive edge, and enhancing capital efficiency. However, banks must carefully manage these activities to ensure that potential risks are well-controlled and the benefits are maximized.

*OBS activities do not impact capital adequacy indicators or asset quality indicators of commercial banks.*

These results are contrary to previous studies. Wagster (1996), Angbazo (1997), Fraser et al. (2002), Haq and Heaney (2012), and Barrell et al. (2012) argued that OBS activities increase banking risk and lead to bank failures. Conversely, the empirical research results of

Lynge and Lee (1987), Berger and Udell (1990), Hassan et al. (1994), and Khasawneh et al. (2012) suggest that foreign operations (OBS) play a role in risk reduction within the banking sector; although they did not find any evidence regarding the relationship between OBS activities and systemic risk.

The OBS activities might not significantly impact the NPL and LLR indicators of joint-stock commercial banks for several reasons:

OBS activities involve financial transactions and contracts that often don't directly involve loans or credit exposures. NPLs and LLRs specifically pertain to the quality of the loans on the bank's balance sheet. Since OBS activities are separate from the lending activities that generate NPLs, they don't inherently impact these indicators. Next, OBS activities might not appear on the balance sheet itself, which can make it challenging for them to directly influence NPLs and LLRs. These activities might have limited impact on the bank's credit risk exposure and, therefore, on the associated indicators. Besides, OBS activities often involve collateral, security, and specific contractual terms that limit the exposure to default and credit losses. These arrangements can provide safeguards against losses that could potentially affect NPLs and LLRs. Many OBS activities are short-term in nature and don't lead to the same extended credit risk exposure that traditional loans do. This shorter duration can result in less of a direct impact on NPLs and LLRs. In addition, banks often maintain operational separation between their OBS activities and core lending functions. The segregation helps in isolating the potential risk impact of OBS activities from the bank's loan portfolio.

The data from the financial reports of credit institutions indicates that, overall, the most favored OBS-related activities within the group of OBS activities are those involving currency exchange, including foreign currency and foreign currency-denominated instruments, as well as OBS transaction commitments. The second most common subgroup of foreign operations is related to commitments, guarantees, lending, non-cancelable lending, and L/C. These two subgroups together constitute 85-100% of foreign operations activities at credit institutions. The remaining subgroup, concerning interest rate swaps and other commitments, holds a relatively low proportion, approximately 0-15%.

So, it is important to note that while OBS activities might not have a direct impact on NPLs and LLRs, they can still have indirect effects on the overall risk profile of a bank and its financial stability. Banks need to carefully manage and monitor their OBS activities to ensure that they align with the institution's risk appetite and contribute positively to its overall financial health.

However, due to inconsistent data across different banks, with some banks reporting results of foreign currency operations, foreign currency-denominated instruments, and OBS transaction commitments while others do not, the author excluded this portion of information from the data. This might partially affect the research outcomes. Additionally, this research's findings can be explained by the influence of foreign operations on the performance indicators, which depend on the type of activity, risk management level, credit risk of the bank, and the impact of those activities on the bank's assets, liabilities, and equity. The results from the period 2014 - 2022 of joint-stock commercial banks within the study scope reveal that these banks possess effective risk management capabilities, thereby mitigating the impact of credit

losses on these ratios. Therefore, in the subsequent study, the author will collect a more comprehensive set of research data and extend the research period, on a larger scale, in order to draw conclusions that either support or refute the impact of foreign operations on capital adequacy ratios or asset quality indicators of the bank.

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#### APPENDIX

The ten largest listed joint-stock commercial banks in terms of total assets on the Vietnamese stock market (as of March 31, 2023)

No.	Name of bank	Abbreviation	Stock Code	Stock Exchange	Total Assets (trillion VND)
1	Joint stock Commercial Bank for Investment and Development of Viet Nam	BIDV	BID	HOSE	2,107
2	Joint Stock Commercial Bank for Foreign Trade of Vietnam	Vietcombank	VCB	HOSE	1,846
3	Vietnam Joint Stock Commercial Bank for Industry and Trade	Vietinbank	CTG	HOSE	1,824
4	Military Commercial Joint Stock Bank	MB	MBB	HOSE	761
5	Vietnam Technological and Commercial Joint – Stock Bank	Techcombank	TCB	HOSE	724
6	Vietnam Prosperity Joint Stock Commercial Bank	VPBank	VPB	HOSE	678
7	Asia Commercial Joint Stock Bank	ACB	ACB	HOSE	611
8	Saigon Thuong Tin Commercial Joint Stock Bank	Sacombank	STB	HOSE	597
9	Saigon-Hanoi Commercial Joint Stock Bank	SHB	SHB	HOSE	570
10	Ho Chi Minh City Development Joint Stock Commercial Bank	HDBank	HDB	HOSE	459

# INTERNATIONAL EXPERIENCE ON MANAGEMENT ACCOUNTING INFORMATION SYSTEM AND LESSONS FOR VIETNAMESE ENTERPRISES

Nguyen Thu Ha<sup>1</sup>

*Abstract: This paper studies the management accounting information system - a system that provides information for managers to support effective business decisions. This system is a key factor to enhance the competitiveness of Vietnamese enterprises in the context of international economic integration and increasing competition. It is because of the importance of the management accounting information system that all countries in the world are interested in this issue. The article summarizes experiences on management accounting information systems in some countries around the world. Thereby, the author draws some lessons for Vietnamese businesses to improve the management accounting information system.*

*Keywords: Experience, information system, management accounting, enterprise.*

## 1. INTRODUCTION

A management accounting information system is a system that collects, records, stores, and processes data to produce information for decision makers. It includes people, procedures and instructions, data, software, information technology infrastructure, internal security and controls. (Nguyen Thi Mai Le, 2021). Management accounting information system is a part of enterprise accounting information system. It is an indispensable part of information in the business to help managers make business decisions to meet the development goals of the business. Management accounting information system has been applied effectively in many countries around the world, especially developed countries.

The management accounting information system in a broad sense is a system that collects, processes, stores and reports financial-accounting data of agencies, organizations, units or individuals. This system not only serves the internal management objectives of the business, but also serves other objectives such as: fulfilling tax obligations, complying with legal regulations, providing information to stakeholders such as shareholders, customers, suppliers, banks, government, audit agencies, state management agencies, community... The role of this system in a broad sense is to contribute to enhancing transparency, accountability and efficiency of economic and social activities.

In the current context of international economic integration and increasing competition, businesses need to pay more attention to management accounting information systems. The context of international economic integration and increasing competition affects businesses by creating new challenges and opportunities. For challenges, businesses have to face fierce competition from domestic and foreign rivals, market and supply chain volatility, changes in

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customer demand and behavior. For opportunities, businesses can expand their markets, take advantage of new resources and technologies, create breakthrough and differentiated values. The role of the management accounting information system in this context is very important. The management accounting information system is a system that collects, processes, stores and analyzes accounting data related to the activities of the business. This system helps businesses obtain accurate, timely and useful information to support strategic, operational and control decisions. The management accounting information system helps businesses grasp their financial situation, operational efficiency, costs and profits. This system also helps businesses analyze the factors affecting their business performance, identify opportunities and risks, evaluate strategic options and monitor implementation results. The management accounting information system aims to provide practical, timely and comprehensive information for managers, which is the basis for improving competitiveness and creating value for enterprises through controlling and using resources most efficiently. In addition, the management accounting information system is an integral part of the enterprise's overall management system, and is an important bridge between functional departments in the enterprise.

## **2. MANAGEMENT ACCOUNTING INFORMATION SYSTEM IN ENTERPRISES IN SOME DEVELOPED COUNTRIES**

In developed countries, management accounting information system is very important. The study of the experience of other countries in the management accounting information system is very necessary for Vietnamese enterprises.

### **2.1. Management accounting information system in enterprises in Japan**

Japan is a country with the leading developed market economy in Asia. Management accounting information system is of particular interest to Japanese enterprises. Research by Yoshikawa (1994) has shown the difference in the management accounting information system of Japan compared with other countries. Many enterprises in Japan have used management accounting in a way to promote employee engagement through consultation to improve employee image, to educate and remind employees so that they can contribute the most to the company.

In Japan, the management of management accounting information focuses on improving the quality and nature of information to reduce losses, improve the efficiency of management of economic resources to create value. The techniques for processing information in the management accounting information system in Japan include: Developing standards and classifying costs, income, and profits; building an annual operating budget estimation system; developing standards for evaluating investment capital, accounting for responsibility centers; analyzing of cost fluctuations; building operating system and cost assessment, balance sheet of results, analyzing of cost balance. Through the processing process, the management accounting information system at Japanese enterprises provides the administrator of the management accounting reporting system in detail (Nguyen Thi Hong Duyen, 2020).

### **2.2. Management accounting information system of French enterprises**

France is also one of the economically developed countries. Businesses in France are also very interested in management accounting information systems. This is considered an important part of the information supply system for the management and administration of



production and business activities of French enterprises. A special feature in France is that management accounting is separate from financial accounting, using a separate system of accounts, accounting books and separate accounting reports.

Management accounting uses its own system of accounts, accounting books and separate accounting reports; provides information on costs, income and results of each type of business and production activities of enterprises for each product or service. Management accounting in France is considered a private job of enterprises. Enterprises themselves build detailed information to provide information according to management requirements (Nguyen Thi Hong Duyen, 2020).

### **2.3. Management accounting information system of American businesses**

Like France and Japan, the management accounting information system was formed and developed, becoming an important part of the information supply system for the management and administration of production and business activities of American enterprises. However, different from the point of view of the application of the French accounting model, for businesses in the US, the US accounting apparatus organization is a combination model of financial accounting and international accounting. Accordingly, management accounting is not organized into a separate department but is organized with financial accounting. According to this model, the chief accountant is generally responsible for the entire accounting work in the enterprise, from organizing the construction of the accounting apparatus, rotating documents, using accounts and reporting systems... The accounting staff have the function of collecting and providing accounting information both in general and in detail... at the same time, making general and detailed estimates according to management requirements.

As a strong economic country, enterprises in the US have invested heavily in modern equipment for the organization of international accounting information systems. The computer system is equipped with modern technological equipment to perform management accounting work. The management accounting staff of enterprises in the US have been intensively trained, ensuring to meet job requirements and information technology application issues.

Regarding techniques used to process management accounting information: Enterprises in the US focus on solving problems of cost classification and product cost determination; analyze cost-volume-profit relationships, develop cost norms, analyze divisional reports and analyze overall costs to provide information for business planning and decision-making. The management accounting information system in enterprises provides many types of reports to provide information to managers in a variety of ways (Michael D. Shields & Yutaka Kato, 1991).

### **2.4. Management accounting information system of enterprises in Germany**

In Germany, in the accounting activities of enterprises, there is always a clear separation for financial accounting and management accounting. Accordingly, if financial accounting is considered as recording, reflecting, synthesizing data, making financial statements, mainly serving the information needs of entities outside the enterprise, then management accounting is known under the function of "control". In the operation of German enterprises and of many German-speaking countries, there are always different accounting departments (different

accounting apparatuses) responsible for financial accounting and for “controlling activities”. German enterprises and researchers attach great importance to “control” activities for their operations, since then, they always pursue and apply advanced cost management accounting methods (Sharman, P.A and Vikas, K., (2004).

In a country with a developed economy like Germany, the management accounting information system is specially designed to create the most favorable conditions for decision-making of business managers. However, because of this, the amount of information management accounting provides to managers before they make operating decisions is very large. For German firms, to ensure that they achieve such a level of detail before so much accounting information, they often have very powerful integrated information systems, called Enterprise Resource Planning Systems. Another feature of the German management accounting information system is that information technology plays an important role in the application of accounting systems including standard software, SAP ERP, SAP BW... (Nguyen Hai Ha, 2021).

### **3. LESSONS LEARNED IN MANAGEMENT ACCOUNTING INFORMATION SYSTEMS OF ENTERPRISES IN VIETNAM**

Management accounting information systems play a very important role for businesses, especially in the context of globalization. Therefore, Vietnamese businesses need to constantly improve their management accounting information systems. Organizing an effective management accounting information system in order to provide practical, timely and comprehensive information for managers. This is the basis for improving competitiveness and creating value for businesses through controlling and using resources in the most effective way. A well-organized management accounting information system will help businesses get a quality and effective source of information, serving to make reasonable and timely decisions to improve the operational efficiency of the business.

From the study of the accounting information systems of some countries in the world, including France, Japan, the US and Germany, the article draws lessons from the international accounting information systems of enterprises in Vietnam as follows:

Firstly, with the current size of enterprises in Vietnam, most of them are small and medium-sized enterprises, so applying the model of combining financial accounting and management accounting in the same accounting system is appropriate. Because this model allows the use of vouchers and accounting books in financial accounting, which will help save costs. The compact, scientific and reasonable accounting apparatus will promote high efficiency in providing information to administrators. However, this combination needs a separation and clear assignment of content and scope of information provision as well as the relationship between management accounting and financial accounting, between the general accounting department and the detailed accounting department to avoid overlapping and delay in processing and providing information.

Secondly, the management accounting reporting system is designed, prepared and presented to be flexible, not uniform and compliant like the financial accounting report but still under internal control. The management reporting system should be divided into the following types of reports: Reports for the planning function of the administrator; The report serves the

inspection and control function of the administrator; The report serves the decision-making function of the administrator.

Thirdly, enterprises need to invest in upgrading infrastructure and modern equipment, providing solutions to build management accounting software systems in particular and for the whole enterprise in general to better serve the collection, processing and analysis of information. Thereby, shortening the implementation time and improving the quality of information provided to administrators. Currently, the general trend in developed countries is the application of ERP solutions. This is the optimal solution to create efficiency in corporate governance, the cohesion of departments in enterprises and between enterprises to form a unified information system, thereby effectively exploiting resources. Vietnamese enterprises should soon apply ERP to optimize resource use, improve management efficiency, and enhance competitiveness in the context of economic integration.

Fourthly, in the field of human resource training to organize management accounting information system, training should be focused in the direction of developing management capacity, professional capacity, and ability to apply modern technology. Accordingly, training international accounting experts to grasp modern and advanced management accounting techniques and methods. In order to ensure the realization of management accounting information system's goals, with the tendency of management along the value chain, considering the benefits created by management accounting information system organization for enterprises, management accounting can be considered as an essential part of management, a tool of strategic management.

Fifthly, enterprises need to establish a management accounting reporting system in accordance with the operating characteristics of the enterprise and the information needs of the administrator. The reporting system needs to be applied in a combination and complement each other towards using information to increase the management efficiency of the administrator.

Sixthly, the management accounting reporting system is designed, prepared and presented to be flexible, not uniform and compliant like the financial accounting report but still under internal control. The management reporting system should be divided into the following types of reports: Reports for the planning function of the administrator; The report serves the inspection and control function of the administrator; The report serves the decision-making function of the administrator...

In order to apply the lessons learned in the management accounting information system from developed countries in the world, Vietnamese enterprises need to do many things, such as: Building a legal framework that is unified and modern for the management accounting information system, ensuring transparency, reliability and compliance with international regulations; Training and improving the level of accounting staff, equipping them with the knowledge, skills and attitudes necessary to use and manage the management accounting information system effectively; Applying information technology to the management accounting information system, taking advantage of software applications, hardware, networks and security to collect, process, store and report financial-accounting data quickly, accurately and safely; Vietnamese enterprises can seek opportunities for cooperation, exchange and sharing with international enterprises in this field.

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# SUSTAINABLE DEVELOPMENT OF VIETNAM'S COMMERCIAL BANKING SYSTEM TODAY

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**Abstract:** *In this article, the author mentions the theory of sustainable development of commercial banks, the criteria for assessing the level of development of commercial banks, and its practical application with proven data in the period 2017 - 2022 to assess the sustainable development of Vietnamese commercial banks and propose some solutions to sustainably develop Vietnamese commercial banks by 2030.*

**Keywords:** *Commercial banks, sustainable development of commercial banks*

## 1. INTRODUCTION

Sustainability in banking operations is increasingly discussed in developed countries, in which the integration of environmental and social issues in business activities is extremely important to the success of banks. goods in the future. For a bank, it must be able to demonstrate a sustainable business model, have a positive awareness of and contribute to growth and development on sustainability issues that are embedded in the way the business is run. Many large banks in the world have developed sustainable models such as Alpha Bank, Allied Irish Banks... even more proving the importance of bank sustainability in the trend of deeper and broader financial industry integration.

Currently, Vietnamese commercial banks still have many barriers in the process of implementing the sustainable model such as: many banks do not have an environmental and social risk management system, implementation solutions are lacking, and a legal framework. In recent years, the information technology industry has really developed strongly, digital transformation in banking is an inevitable trend. The emergence of integrated shopping portals, social channels and mobile apps has opened a lot of doors for banks to reach out to their customers. In the trend of globalization, the commercial banking system must integrate deeply and widely, so sustainable development in order to improve competitiveness, create prestige and position of the bank is an inevitable trend in line with the trend. international integration

## 2. CONTENT

### 2.1. Reasoning

#### 2.1.1. Sustainable development of commercial banks

Over the past years, the global economy has experienced significant development and growth, along with an increase in negative conditions such as income disparity, poverty, problems of overconsumption of resources, and more. resources and environmental degradation. Sustainable development to ensure economic growth, social justice, reduce poverty and ensure ecological balance becomes necessary and urgent.

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- Overall, for sustainable development, an organization needs to focus on and integrate economic, social and environmental goals in its policies and practices. (i) The environmental aspect of sustainable development means that we must maintain the balance of the environmental ecosystem, exploit and use resources rationally, ensure the renewable recovery of natural resources. Encourage the use of clean and renewable energy in production and business, avoiding activities that damage the environment and climate change. (ii) Social aspects of sustainable development need to focus on ensuring fairness in labor use issues such as gender equality, income policies, rewards, promotion opportunities, prohibition of young workers. I... respect human rights in all activities of the organization, creating favorable conditions for everyone to be able to bring out their best. (iii) Economic efficiency is very important for sustainable development. Organizations need to maintain a stable and healthy level of development, achieve economic efficiency without harming the natural environment, ensure fairness in employment and transparency of information.

Sustainable commercial bank development has the following characteristics: (i) healthy, efficient and sustainable financial capacity. This means that when there are risks arising from external influences, a sustainable bank has the ability to self-sustain and recover. The Bank has medium and long-term strategies to maintain a strong enough financial capacity to be able to self-recover when business losses occur. (ii) have policies to encourage and support companies and investment projects with environmental and social responsibility in order to contribute to promoting sustainable economic growth. The Bank has solutions to guide and supervise customers in carrying out environmental impact assessment and measures to minimize impacts on the environment and society. (iii) Sustainable banking operations not only benefit shareholders but also other stakeholders such as customers, regulators, employees, suppliers and more broadly. benefits for the whole community. The sustainable development strategy of each bank is built and implemented based on the bank's size, market position, and core values. Sustainable development strategies aim to meet the requirements of the bank and the community while considering short-term and long-term values.

### **2.1.2. System of criteria to evaluate the development of commercial banks**

Criteria for the size of owner's equity

- Equity growth rate: The equity capital is large enough to help the bank withstand losses due to risks, contribute to the protection of depositors, and allow the bank to expand its scale and diversify improve products and services, enter into joint ventures, associate with strategic partners, establish subsidiaries, etc.

- Financial leverage ratio: shows the ratio of financing between equity and debt in the total capital of the bank, if the bank has too high financial leverage, it will negatively affect profitability. owners and investors.

Criteria to reflect credit risk

- Ratio of bad debts to total outstanding loans (NPL): reflects bad debts compared to the total outstanding loans of the bank. The higher this index, the lower the credit quality and the ineffective risk management capacity of the bank.  $NPL = \text{Bad debt} / \text{Total outstanding balance}$

- Bad debt to equity ratio:  $\text{Bad debt to equity} = \text{Bad debt} / \text{Equity}$



Criteria reflect profitability: The higher the profitability, the more likely the bank will be able to accumulate capital, expand its business, and invest in technology to improve service quality, bring convenience and satisfaction. please for customers. On the other hand, high profitability generates income for shareholders and investors.

- Net profit to total assets (ROA):  $ROA = \text{Profit after tax} / \text{Total assets}$

- Net return to equity: The higher this ratio, the higher the net profit for shareholders.  $ROE = \text{Profit after tax} / \text{Equity}$

Marginal Interest Income Ratio: Marginal interest income ratio reflects net interest income to total profitable assets of the bank.  $NIM = \text{Net Interest Income} / \text{Profitable Assets}$

Group of criteria reflecting executive management capacity

- Growth rate of total assets: The size, structure and quality of assets will determine the existence and development of commercial banks.

- Growth rate of outstanding loans: The growth rate of outstanding loans is one of the criteria that reflects the bank's management and governance capabilities.

- Net income growth rate: The total net income of the bank includes: income from net profit, net profit (loss) from service activities, net profit (loss) from foreign exchange business, profit (loss) net from trading securities trading, net profit (loss) from trading investment securities, net profit (loss) from other activities, income from capital contribution, share purchase.

Group of criteria reflecting liquidity

- Liquidity of a bank is the ability to pay, pay for customers and the ability to self-recovery and compensate for losses when risks occur in business activities. This is the basic criterion to evaluate the quality and safety in the operation of a bank.

- + Customer deposits compared to total assets

- + Outstanding balance to total deposits (LTD)

- + Liquidity reserve ratio

- + 30-day affordability ratio

Criteria group on technological level

- Branch density: More branch density will help banks reach more customers

- System of ATMs, POS: This service has the advantage of simple and convenient payment, besides ensuring more safety and security than cash payment methods: transactions are encrypted. and comply with security standards in card payments. In addition, when using this service, customers can also enjoy promotions of card-accepting units exclusively for customers who are cardholders.

- Developing new payment services: SMS banking, mobile banking and internet banking to provide customers with many conveniences in choosing payment methods, money transfer is done via phone or computer.

Criteria that reflect the stability, soundness and sustainability of commercial banks

- Equity structure: maintaining a reasonable equity structure will have a positive impact on the bank's profitability, ensuring the level of capital adequacy in accordance with international practices and ensuring the ability to self-finance. NH recovery.

- Minimum capital adequacy ratio: The standard for determining CAR according to Basel II is to maintain the ratio of 8%, including the following 3 pillars:

+ Pillar I: minimum capital requirements, how to determine CAR according to

Standard and advanced methods include risk categories: credit risk, operational risk and market risk.

+ Pillar II: inspection and supervision processes, regulators need to ensure that commercial banks establish effective processes and regulations for risk assessment. Manage additional risks that pillar I has not mentioned such as interest rate risk in bank books, centralized credit risk and strategic risk.

+ Pillar III: transparency and market discipline.

- Ratio of short-term capital for medium- and long-term loans: the maximum ratio of short-term funds used for medium- and long-term loans according to the roadmap until the end of 2018 is 45% by the end of 2019 is 40%.

- Income structure: Analyze the income structure of commercial banks to evaluate and clearly indicate the importance of different incomes in the bank's operations.

- Bad debt structure: The bad debt structure is the debt size of groups 3 (substandard debt), group 4 debt (doubtful debt) and group 5 debt (potential loss of capital). The higher the debt group 5, the greater the bank's ability to lose capital.

- Cross-ownership status: a credit institution may not own shares of 5% or more of the charter capital of another credit institution.

Another set of criteria...

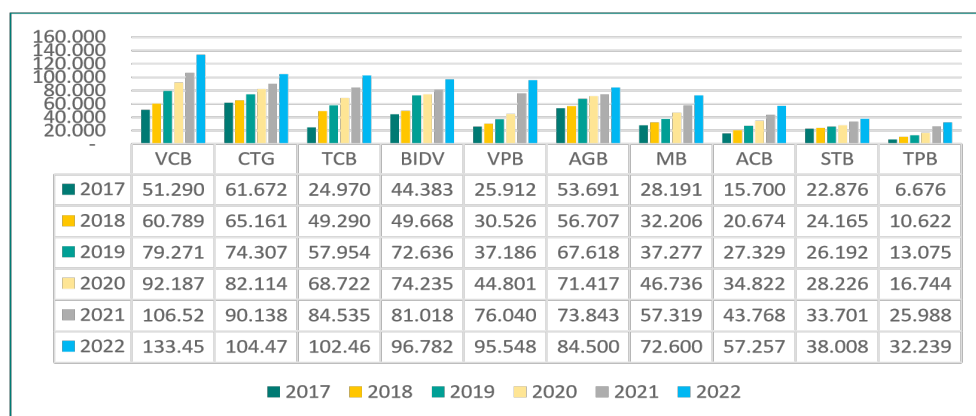
## 2.2. Status of sustainable development of Vietnamese commercial banks 2017 - 2022

Analyze the situation of sustainable development of Vietnam's commercial banks from 2017 to 2022 through some of the following basic criteria (criteria):

About equity growth rate

**Figure 1. Equity size of Vietnamese commercial banks 2017 - 2022**

Unit: Billion VND



Source: Annual reports of banks

The equity of all banks is higher than the legal capital applied until 2011 of VND 3000 billion as stipulated in the consolidated document No. 07/VBHN-NHNN. By the end of 2017, CTG had the highest total equity capital among commercial banks at VND 61,172 billion, followed by VCB with VND 51,290 billion. TPB has the lowest equity capital of only VND 6,676 billion.

About financial leverage ratio

**Table 1: Average financial leverage ratio of some Vietnamese commercial banks 2022**

Bank	Medium
MB	90,0
STB	91,2
VPB	91,8
TCB	91,9
VCB	92,7
CTG	93,3
ACB	93,8
BIDV	94,5

*Source: Financial statements of banks*

The average financial leverage ratio of commercial banks in this period was quite high, reaching 91.91%, liabilities accounted for over 91% of total assets of banks. State-owned commercial banks have a high financial leverage ratio compared to joint-stock commercial banks. BIDV has the highest average financial leverage ratio in this period, reaching 94.5%.

Criteria to reflect credit risk

**Table 2: Bad debt ratio of some Vietnamese commercial banks 2017 - 2022**

Unit: %

Bank	2017	2018	2019	2020	2021	2022
VCB	1,14%	0,99%	0,79%	0,62%	0,64%	0,68%
TCB	1,61%	1,76%	1,34%	0,47%	0,69%	0,74%
ACB	0,70%	0,72%	0,54%	0,59%	0,78%	0,74%
MB	1,21%	1,22%	0,98%	0,92%	0,68%	0,83%
TPB	1,09%	1,12%	1,29%	1,18%	0,82%	0,84%
STB	4,37%	2,00%	1,81%	1,53%	1,36%	0,84%
BIDV	1,46%	1,80%	1,66%	1,66%	0,93%	1,12%
CTG	1,15%	1,59%	1,15%	0,93%	1,27%	1,24%
AGB	2,05%	1,60%	1,56%	1,78%	1,87%	1,81%
VPB	2,87%	2,72%	2,69%	2,53%	2,01%	2,80%

*Source: Financial statements of banks*

The minimum ratio of bad debt to outstanding loans of banks is 0.34% and the maximum is 8.8%. NPLs compared to equity fluctuated in the range of 0.83% - 61.93%. Thus, the ratio of bad debt to equity of commercial banks is still too high, especially for banks this ratio is 61.93%, bad debt accounts for more than half of equity.

## Criteria for profitability of commercial banks

**Table 3: ROA of some Vietnamese commercial banks 2017 - 2022**

Unit: %

Bank	2017	2018	2019	2020	2021	2022
VPB	2,59%	2,73%	2,92%	2,75%	8,99%	4,48%
TCB	2,80%	3,36%	3,12%	3,29%	4,05%	3,66%
MB	1,92%	2,40%	2,47%	2,21%	2,73%	3,21%
ACB	1,01%	2,08%	2,08%	2,27%	2,35%	3,01%
TPB	1,05%	1,73%	2,57%	2,37%	2,42%	2,52%
VCB	1,21%	1,71%	1,98%	1,77%	1,94%	2,28%
AGB	0,88%	0,62%	1,01%	0,86%	0,89%	1,24%
CTG	0,82%	0,57%	0,96%	1,29%	1,19%	1,23%
BIDV	0,75%	0,73%	0,76%	0,57%	0,78%	1,18%
STB	0,43%	0,54%	0,71%	0,65%	0,87%	1,06%

Source: Source: Bank's annual report

**Table 4: ROE of some Vietnamese commercial banks 2017 - 2022**

Unit: %

Bank	2017	2018	2019	2020	2021	2022
ACB	17,7%	35%	31%	30%	29%	34%
MB	20,1%	24%	27%	23%	28%	31%
VCB	22,4%	32%	32%	26%	27%	31%
VPB	27,5%	27%	25%	23%	63%	28%
AGB	18,9%	14%	22%	19%	20%	28%
TPB	19,5%	26%	33%	29%	28%	27%
BIDV	18,9%	19%	17%	11%	16%	25%
TCB	32,5%	27%	20%	21%	26%	24%
CTG	13,8%	10%	16%	21%	20%	21%
STB	6,6%	9%	12%	11%	14%	16%

Source: Source: Bank's annual report

The banks in the table all have relatively stable ROA and ROE over the past period, with slight fluctuations from year to year.

TCB remains the bank with the highest ROA and ROE among the banks listed in the table, showing that its business is efficient and profitable.

VCB and CTG have stable ROA and ROE, however, quite lower than TCB.

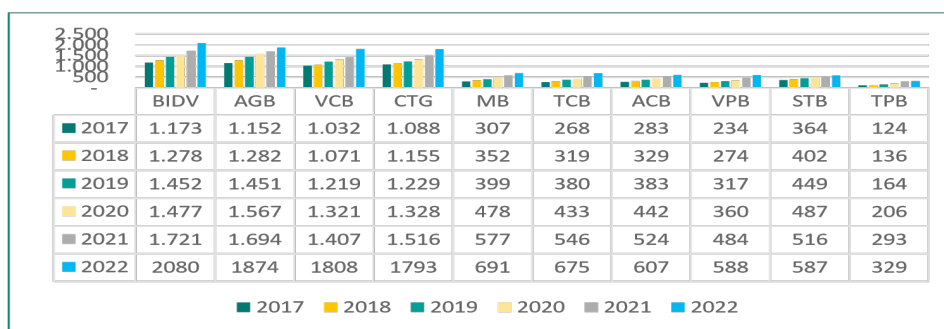
BIDV has the lowest ROA and ROE among the banks listed in the table, however, it still maintains stability in its business.

## Total asset growth rate

All banks have positive asset growth rates and all maintain growth during the period 2017 - 2022, however, the growth rates are different.

**Figure 2: Scale of total assets of some Vietnamese commercial banks 2017 - 2022**

Unit: trillion dong



Source: Source: Bank's annual report

Regarding the total assets of BIDV and Agribank, they have been continuously at the top position since 2017 until now. Average growth rate in the period 2017-2022, BIDV and Agribank average growth of 12.1%/year

The increase in scale is also part of BIDV’s strategy, and the scale of total assets continues to be one of the criteria for ranking commercial banks of prestigious international organizations.

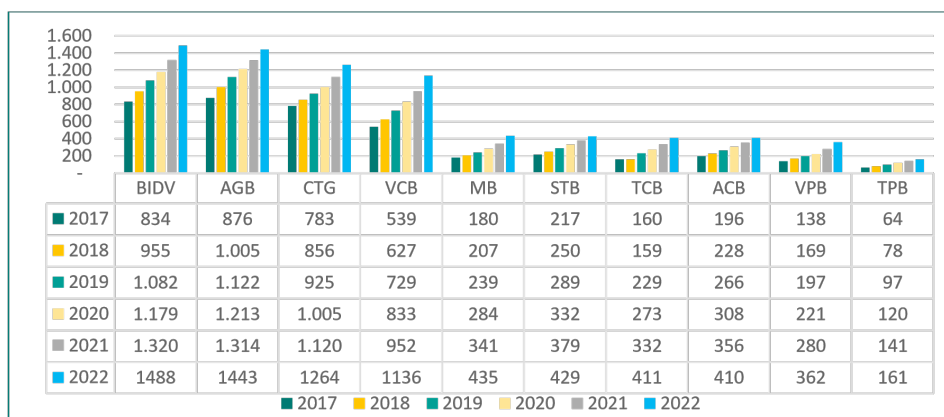
(although the proportion for Total Assets is not high), therefore, the increase in total assets also reflects the enhanced competitiveness of the bank.

Loan balance growth rate

Most banks have a positive loan balance growth rate in the period 2017 - 2022, however, the growth rate is different.

**Figure 3: Scale of outstanding loans of some Vietnamese commercial banks 2017 - 2022**

Unit: trillion dong



Source: Source: Bank's annual report

TCB and VCB are the two banks with the fastest growth rate of outstanding loans, with growth rates of 18.5% and 11.5% respectively in 2021. The growth rate of outstanding loans of VCB, TCB and CTG has been slow. in 2020 compared to 2019, meanwhile, the growth rate of BIDV’s outstanding loans increased in 2020. In 2019, TCB was the bank with the fastest loan growth rate, with a growth rate of 20.7 %, then VCB with a growth rate of 12.7%.

## Net income growth rate

**Table 4: NIM of some Vietnamese commercial banks 2017 - 2022**

Unit: %

Bank	2017	2018	2019	2020	2021	2022
VPB	4,45%	3,85%	4,69%	4,88%	5,09%	5,39%
TCB	3,74%	4,01%	4,30%	4,80%	5,68%	5,20%
MB	4,03%	4,63%	4,11%	4,00%	4,33%	4,79%
ACB	3,38%	3,50%	3,50%	3,62%	3,99%	4,23%
TPB	2,92%	3,65%	4,07%	4,46%	4,32%	3,98%
AGB	5,95%	3,41%	3,17%	2,93%	2,90%	3,38%
VCB	2,44%	2,74%	3,07%	2,89%	3,13%	3,36%
STB	1,72%	2,25%	2,38%	2,64%	2,53%	3,23%
CTG	2,72%	2,02%	2,83%	2,81%	2,98%	2,95%
BIDV	2,79%	2,78%	2,60%	2,39%	2,87%	2,90%

Source: Source: Bank's annual report

The growth rate of net income of Vietnamese commercial banks in the period 2017 - 2022 mostly shows significant growth, with some banks such as VCB, TCB, VPB and TPB achieving impressive growth rates. However, some other banks such as BIDV and MB have struggled in 2020 and failed to achieve growth that year. In general, the growth rate of net income of Vietnamese commercial banks fluctuates from year to year, depending on many different factors such as economy, banking policy, competition as well as the quality of management of each bank.

Liquidity reserve ratio of Vietnamese commercial banks in recent years has been low, ranging from 3% to 4%. However, this is the level of liquidity reserve regulated by the State Bank of Vietnam to ensure the liquidity level of banks. This level can affect a bank's ability to lend and receive deposits from customers. If the level of liquidity reserves is too low, the bank may find it difficult to meet the cash needs of its customers or in the event of market risk.

The LDR ratio of Vietnamese commercial banks has increased from 87.43% in 2018 to 89.63% in 2020, showing that banks are using more outstanding loans to lend and invest than the amount of deposits that they have. However, the LDR ratio of banks is still at a safe level and is not too high, showing that banks still have a balance between the use of outstanding loans and customer deposits. Using outstanding loans to lend and invest is an important part of a bank's operations, but it also carries a higher level of risk, so banks need an effective risk management policy to ensure stable financial status.

### Branch density

CTG and BIDV have the largest network of overseas branches and transaction offices and agents among banks, with 1,156 and 1,046 branches and transaction offices respectively in 2017. Joint-stock commercial banks have a lower number of branches and transaction offices than state-owned commercial banks. The two banks with the lowest number of branches include Eximbank 209 branches and VPB 217 branches.



### **System of ATMs, POS**

By the end of 2016, the whole country had over 263,400 POS EDCs installed, increasing by 17.8% compared to the end of 2015 and the ATM system had over 17,470. In 2017, the ATM system was 17,558 and there were 268,813 card-accepting devices, an increase of 2% compared to 2016. The expansion of ATM and POS systems creates favorable and fast conditions in payment transactions, contributing to the development of the banking system. develop the trend of non-cash payment in the economy.

#### **Growth of new payment services**

In 2018, the growth rate of new payment services of commercial banks also reached about 20-25%. Banks have focused on developing payment services via mobile phones and Internet Banking, while promoting support for small and medium enterprises to use electronic payment services.

In 2019, the growth rate of new payment services has increased significantly, reaching about 20-25%. Commercial banks have expanded payment systems via QR code, international debit cards, and fast payment services such as “Fast Payment” and “Instant Payment”.

In 2020, commercial banks will focus on developing electronic payment services such as Internet Banking, Mobile Banking, and payment via e-wallets. However, due to the impact of the COVID-19 pandemic, the growth rate of these services is not high, only about 10-15%.

In general, Vietnamese commercial banks are gradually switching to electronic payment services to save costs and improve customer experience. However, the growth rate of these services is still quite slow and needs to be accelerated in the future.

### **2.3. Assessment of sustainable development status of Vietnamese commercial banks 2017 - 2022**

#### **2.3.1. These achievements**

- Firstly, the legal framework on the safety of banking operations has been gradually improved.
- Secondly, the financial capacity of the banking system is stable, initially healthy in operation.
- Thirdly, reduce cross-ownership of the banking system
- Fourthly, comply with environmental regulations
- Fifthly, perform well on social issues

#### **2.3.2. Limitations**

- Many commercial banks have not met Basel II and Basel III standards.
- Limited investment capital for sustainable development
- Increased potential bad debt in commercial banks
- Challenges from successful application of the 4.0 technology revolution
- Lack of sustainable financial products
- Customers' interests have not been fully guaranteed

- The income of commercial banks is heavily dependent on credit activities.

### **2.3.3. Reason**

- The completed legal framework to promote the sustainable development of the commercial banking system has not been completed.

- There is a shortage of human resources to meet the requirements of sustainable development.

- The environmental and social risk management system of commercial banks has not been completed.

- Lack of training courses to improve staff capacity and lack of environmental information.

- Lack of coordination and support of stakeholders

- International standards on sustainability have not been widely applied in Vietnamese commercial banks

- The effectiveness of enforcement of environmental and social policies is not high

### **2.4: Solutions for sustainable development of Vietnamese commercial banks until 2030**

**Improving governance quality:** Improving governance quality is a core factor to ensure the sustainable operation of Vietnamese commercial banks. This includes strengthening risk management, ensuring compliance with State regulations on financial risk management, ensuring compliance with customer protection and financial regulations. bank.

Commercial banks need to have strict and correct policies, processes and procedures to minimize risks in their operations. At the same time, there should be effective risk control mechanisms, such as periodic risk assessment, strict credit management, and building simulation scenarios to assess the impact of potential risks on banking operations.

**Diversifying products and services:** Diversifying products and services is one of the important ways to increase sales and increase the bank's competitiveness. This can be done by developing new products and services that meet customer needs and meet their diverse financial needs.

New products and services need to be designed to suit the needs of customers and help increase the bank's income. Products and services need to be carefully considered to ensure their competitiveness and feasibility. New products and services also need to be effectively promoted and reached to customers.

**Promoting online business:** Promoting online business is very important in the 4.0 technology era. Vietnamese commercial banks need to invest in technology to create advanced products and services that attract more customers. Banks need to strengthen online business activities such as opening online accounts, online payments, online transfers and providing e-banking services to attract modern and convenient customers.

**Technological innovation:** Banks need to invest in new technology to improve performance and increase competitiveness. The use of technologies such as artificial intelligence, blockchain and other new technologies will help banks improve business processes and increase efficiency.

To ensure the confidentiality and security of information for customers, banks need to increase investment in security systems and train staff on information security. Policies to protect customer information should be strictly implemented to avoid risks of information security.

**Strengthen customer relationship:** Customer relationship is one of the important factors to ensure the success of a bank. Commercial banks need to focus on improving customer relationships by responding to customer needs quickly and efficiently. Banks need to invest in customer service staff and train them in communication and problem-solving skills. Banks also need to improve their complaint handling mechanism and respond to customers quickly and professionally.

**Strengthening international cooperation:** International cooperation is one of the important ways to enhance the competitive strength of Vietnamese commercial banks. Banks need to look for opportunities to cooperate with foreign partners to enhance competitiveness and expand markets. International cooperation also helps commercial banks to increase their knowledge and experience in management and business. At the same time, international cooperation also helps commercial banks improve their reputation and strengthen brand strength globally.

**Training and developing human resources:** Employees are the most important factor to ensure the sustainable operation of the bank. Banks need to invest in staff training and development to improve staff quality and increase competitiveness.

**Strengthen risk management:** Banks need to assess and manage risks strictly to avoid risks.

### 3. CONCLUSION

In the current context of digital transformation and integration, sustainable development of Vietnam's commercial banking system is extremely important to meet the needs of the market and customers, and at the same time improve the competitiveness of the banking industry in the region and around the world. Banks face many challenges, competitive pressures, changing customer needs, business risks and information security that require determination, innovation and creativity of managers. banking value. If the solutions are implemented effectively, Vietnamese commercial banks will have a vision of sustainable development and make a positive contribution to the country's economic and social development.

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# PROMOTING THE IMPLEMENTATION OF GREEN ACCOUNTING IN VIETNAMESE ENTERPRISES

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*Abstract: Accelerating restructuring and promoting fast and sustainable growth of production are posing many challenges for Vietnamese enterprises in terms of environmental issues. Green accounting is seen as a useful tool in providing information about the environment, as a basis for enterprises' environmental protection obligations, as well as the extent to which environmental standards or regulations are met. This paper aims to evaluate the importance of green accounting in economic development and the actual application of green accounting in Vietnamese enterprises. Research results show that the application of green accounting in Vietnam is currently facing many difficulties. The reason is that there is no specific document prescribed by the State and training on green accounting in Vietnam is still limited. From that situation, the paper also makes some recommendations to improve green accounting in Vietnamese enterprises.*

*Keywords: green accounting, green economy, sustainable development, Vietnamese enterprises.*

## 1. INTRODUCTION

Sustainable development and balancing the pillars of development including economy, society and environment are becoming the common trend and goal of most countries in the world. Governments around the world have set increasingly strict requirements on environmental protection, forcing enterprises to change their perception of environmental issues when conducting investment or production activities. These policies require enterprises to show responsibility for environmental protection such as limiting waste, cleaning up waste or paying compensation for damage when causing environmental incidents, etc.

In that context, green accounting is a tool to assist enterprises in fulfilling their obligations to the environment in the production and business process. In addition to producing products to satisfy market demand, enterprises must also create environmentally friendly products, ensuring the processing of other outputs in accordance with regulations.

For Vietnam, green accounting is a relatively new topic with some studies focusing on its connotation; however, there are few studies on green accounting associated with a specific enterprise to point out the conditions and barriers to apply and propose solutions for the State, enterprises and related parties. Therefore, this article further analyses the current status of green accounting practices in Vietnamese enterprises and makes some recommendations to promote the implementation of green accounting through systematising the basic theory of and the problems posed with the application of green accounting.

## 2. THE NECESSITY OF IMPLEMENTING GREEN ACCOUNTING IN BUSINESS OPERATIONS

### *i. Connotation of green accounting*

According to Sudhamathi & Kaliyamoorthy (2014), the three main objectives of green accounting include identification, collection, calculation and analysis of materials and energy-

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related materials, internal reporting and use of information on environmental costs, and provision of other cost-related information in the decision-making process for the purpose of making effective decisions and contributing to the protection of the environment.

The United Nations has required countries and organizations around the world to implement an environmental accounting system to record data related to business activities that have an impact on the environment. In 2014, the United Nations implemented the System of Environmental-Economic Accounting (SEEA), also known as Green Accounting.

Meanwhile, Sherine, Jacob and Jolly (2012) argue that the calculation of environmental income and costs is not easy because those costs are often hidden or difficult to recognize. In addition, income and expenses will be difficult to measure according to the metric aspects of finance and accounting because they are related to the future and other intangible factors.

Thus, green accounting can be defined as an accounting method that attempts to include environmental costs in the financial results of the business's operations. Green accounting can be understood as a modern and comprehensive accounting system composed of five main contents including i) environmental financial accounting, ii) environmental management accounting, iii) environmental finance, iv) environmental legislation, and v) ethics and relations with society in order to record, summarise and report to fully reflect an organization's environmental assets, liabilities, investments, income and expenses (Duong Thi Thanh Hien, 2016).

Green accounting in general and environmental accounting in particular is a part of green growth, aiming at the goal of "by people, for people", contributing to the stability and sustainability of environmental resources and the development of society. The purpose of green accounting is to help enterprises understand and manage traditional economic and environmental goals, thereby aiming for sustainable development.

### ***ii. Benefits of green accounting***

During the production process, unexpected risks may arise that affect the environment, causing enterprises to face many additional compensations which increase costs and affect contingent liabilities; thereby, affecting share prices and shareholders' interests. Therefore, it is necessary to have accounting information about environmental protection activities arising at the enterprise in order to help managers effectively manage the operations of the enterprise. Green accounting is an essential tool not only to help enterprises meet environmental protection requirements but also to improve business efficiency and enhance competitiveness in the current international integration context. In addition, green accounting not only brings many benefits to businesses but also contributes to environmental protection, helping the economy develop sustainably. The benefits of green accounting include:

#### *Firstly, saving costs for enterprises*

Experience in developed countries shows that if enterprises do not use environmental accounting, the fines for polluting the environment will not be considered reasonable costs, leading to a decrease in the enterprise's profit.

Besides, if enterprises accept to spend research costs on production combined with sustainable development, they can create greater value, especially intangible values such as



the trust of partners and customers. This means that the costs incurred when being fined for causing environmental pollution will be reduced, while enterprises also save other costs when offering environmentally friendly solutions.

*Secondly, contributing to cost management and increasing profits towards the sustainable development goal of the enterprise*

The application of green accounting, especially environmental accounting, contributes to providing accurate, transparent, complete and responsible information about enterprises' environmental profits, revenue and costs, thereby helping to improve the image of the enterprises in the eyes of regulators, shareholders, investors and business partners. In fact, the application of green accounting demonstrates enterprises' social responsibility and business ethics, thereby satisfying and strengthening the trust of stakeholders. If green accounting is well implemented, it will limit the input factors of raw materials, energy, and labor consumed in the process of creating pollution, increase the efficiency of resource use, and increase competitive advantage by reducing production costs.

The implementation of environmental accounting helps managers to make important decisions such as reducing production costs, increasing productivity, investing in machinery and equipment for better and cleaner production, and reducing the consumption of input factors such as raw materials, energy, and labor in the process of creating pollution, thereby increasing the efficiency of resource use and increasing competitive advantage by reducing production costs (Nguyen Thai Ha & Le Ngoc Mai, 2020). This helps enterprises have a competitive advantage in terms of selling prices and higher profits, especially minimizing legal problems (fines, remedial risk costs...).

*Thirdly, creating a solid step for enterprises in the process of economic integration.*

According to economic experts, businesses with good attitudes and behaviors towards the environment will have great advantages in the development process which can enhance their position in the domestic and global markets and help them integrate into the international market more easily.

The effective application of environmental accounting in enterprises will satisfy and strengthen the trust of stakeholders. State management agencies and environmental organizations are always interested in economic development associated with environmental protection. If doing well in environmental protection, enterprises can get incentives from these parties.

*Finally, overcoming the limitations of traditional accounting*

Environmental accounting, which is an important content of green accounting, clearly pays attention to the environmental impact caused by business activities. Meanwhile, traditional accounting still has limitations, not to mention the costs related to the environment.

For traditional accounting, it is difficult for managers to capture information about environmental costs when needed. In addition, the use of an overhead cost account for environmental costs often leads to confusion when these costs are allocated back into the cost of products at the production stages based on product volume or working hours. This allocation can lead to mistakes when some types of environmental costs are not allocated correctly (Huynh Thanh Thuy, 2017).

### 3. THE CURRENT APPLICATION OF GREEN ACCOUNTING IN VIETNAMESE ENTERPRISES

In the trend of greening the economy, Vietnam has had a new vision and thinking in the economic development roadmap to ensure fast, stable and environmentally friendly economic growth. The State has issued legal regulations to limit the overexploitation of natural resources for economic and social development as well as to minimize acts of environmental destruction and environmental pollution. Specifically, the National Assembly promulgated the Environmental Law for the first time in 1993 and the revised Law on Environmental Protection in 2005 and 2020. On November 15, 2010, the Law on Environmental Protection Tax was approved by the National Assembly at the 8th session of the 12th National Assembly. On that basis, on August 8, 2011, the Government issued Decree No. 67/2011/ND-CP regulating on environmental protection taxable objects, tax bases, tax declaration, tax calculation, tax payment and tax refund. On November 11, 2011, The Ministry of Finance issued Circular No. 152/2011/TT-BTC guiding the implementation of Decree No. 67/2011/ND-CP. The Ministry of Finance also issued Circular 159/2012/TT-BTC on September 28, 2012, amending and supplementing Circular No. 152/2011/TT-BTC, and Circular No. 156/2013/TT-BTC (dated November 6, 2013) guiding the implementation of a number of articles of the Law on Tax Administration, the Law amending and supplementing a number of articles of the Law on Tax Administration and Decree No. 83/2013/ND-CP dated July 22, 2013 of the Government.

Although management agencies have paid attention to environmental protection in economic development, the reality shows that the application of green accounting in Vietnam is currently facing a number of difficulties. Vietnam has not yet issued an accounting regime related to the organization of green accounting in enterprises. The current regime does not have documents guiding enterprises in dissecting and monitoring production and business costs, and accounting accounts to account for environmental costs as well as revenue or income in case enterprises have waste treatment systems and sell discharge rights to the environment to enterprises in the same industry.

These costs and income have not been shown in the income statement and not specifically explained in the notes to the financial statements, so the performance measurement of enterprises is incomplete and inaccurate. In addition, there are many environmental related costs that are generally reflected in the administrative expenses account, making it difficult for managers to detect the scale and nature of environmental costs in general and each item of environmental cost in particular.

Even on the accounting accounts, significant costs related to the environment have not been recorded, such as repair costs, compensation costs, troubleshooting costs, and cleaning up and handling costs in cases of destruction of ecological and living environment. This leads to a very alarming situation in Vietnam, that is, enterprises “comfortably” pollute the environment in the process of production - business because there is still no concrete basis to clearly define the responsibility of enterprises for the environment and the lives of people around.

In addition, training in green accounting in Vietnam is still limited, and a team of professional accountants in the field of environment has not yet been built. Meanwhile, the

Accounting Professional Association has not yet coordinated with environmental agencies and organizations to develop a separate process and method for green accounting. Vietnam has not yet built a unified national environmental data bank (water, minerals and forests resources; waste treatment technologies; sets of environmental standards in each industry and field) as the basis for the accounting process.

#### **4. SOLUTIONS FOR IMPLEMENTING GREEN ACCOUNTING IN VIETNAMESE ENTERPRISES**

Although green accounting has been popular in the world, it is still new to Vietnam. In order for green accounting to promote its role in business activities in the coming time, it is necessary to pay attention to the following solutions:

*Firstly*, enterprises have not been interested in organizing green accounting in Vietnam because there are no specific documents regulated by the State. Therefore, the State should soon issue regulations on the organization of environmental accounting, the system of accounting accounts as well as the accounting and reporting of incomes and expenses from environmental protection of enterprises. In case of necessity, mandatory sanctions can be applied to ensure the implementation of environmental accounting at enterprises; on that basis, the State can better control the environmental protection of enterprises.

*Secondly*, it is necessary to strengthen the support and propaganda for enterprises about green accounting, clarify the benefits to be gained from the management of environmental protection costs as well as evaluate the benefits of environmental protection

*Thirdly*, green accounting, environmental accounting should be included in training programs at universities, especially in Accounting and Auditing majors; thereby helping us to build a team of high-quality human resources, contributing to improving the efficiency of environmental protection, bringing sustainable development to Vietnamese enterprises.

*Finally*, enterprises need to actively change their awareness and social responsibility for environmental issues. Management should regularly pay attention to updating and implementing environmental accounting in enterprises, especially manufacturing enterprises. In addition, it is necessary to focus on investing financial and human resources in the accounting apparatus, including environmental accounting. In the initial stage, environmental accounting should be tested at a production line or a department before applying it to the whole enterprise. Furthermore, enterprises need to develop a long-term business strategy that takes into account the impacts of environmental standards and regulations of their products.

#### **5. CONCLUSION**

Green accounting, which is a part of the green economy, contributes to the stability of environmental and social resources for development. Applying green accounting is a long-term process that requires serious implementation, research and investment to create sustainable growth. In the context that Vietnam is accelerating the transformation of the growth model towards the development of a green economy, the application of green accounting and environmental accounting is very necessary. It plays an important role in sustainable development for enterprises in particular and the economy in general.

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# DIGITAL BUSINESS STRATEGY OF VIETNAMESE TELECOMMUNICATIONS ENTERPRISES

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**Abstract:** *The push of the Industrial Revolution 4.0 and the COVID-19 pandemic make the digital economy an irreversible process and a global trend. Decision No. 749/QĐ-TTg dated June 3, 2020, of the Prime Minister approving the “National Digital Transformation Program to 2025, with orientation to 2030” has made Vietnam one of the first countries in the world to issue a national program which is a favorable condition for businesses to exploit the opportunities brought by the technological revolution actively. With the goal of “Vietnam belongs to the group of 70 leading countries in e-Government (EGDI);”, “Digital economy accounts for 20% of GDP”; “The fiber optic broadband network infrastructure covers over 80% of households, 100% of communes” and “Universal 4G/5G mobile network services and smartphones” force Vietnamese telecommunications businesses to have adaptive digital economy strategies to seize this opportunity. With a qualitative research method, the authors conducted a survey of three Vietnamese telecommunications enterprises (Viettel, VNPT, and Mobifone) to clarify the impact of the internal and external environment on the business strategy number of telecommunications enterprises.*

**Keywords:** *digital economy strategy, telecommunications business*

## 1. INTRODUCTION

In the context of digital transformation and the impact of the COVID-19 pandemic, causing many businesses to go bankrupt and downsize their operations. The business environment is constantly changing and becoming more complex, and the competitive environment is expanding and fierce. Production and business enterprises in general, especially those in the telecommunications sector, face many challenges and difficulties. To survive and develop, businesses need to build appropriate orientations and development strategies based on research and analysis of their external and internal business environment to be able to take full advantage of their potential opportunities, minimize threats from the business environment, as well as promote the strengths, overcome and limit the weaknesses of the business. Therefore, building a development strategy for businesses becomes important and urgent because it determines the existence and success of the business sustainably. Seizing the opportunities from the Industrial Revolution 4.0 along with the urgent requirements of the Government, businesses, and the whole society, Vietnamese telecommunications businesses have also made great changes from suppliers of traditional telecommunications service providers to digital service providers, targeting new digital products and services. According to statistics from the Ministry of Information and Communications, the country currently has about 58,000 digital technology enterprises in operation, and in 2020 alone, there will be 13,000 new digital technology enterprises born. According to experts' forecasts, digital transformation and e-commerce will continue to thrive in 2021 and create new impetus

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for economic growth. At the same time, this is also an opportunity for Vietnamese enterprises to develop new business strategies.

## **2. RESEARCH OVERVIEW**

The strategy is to identify and harmonize four strategic components: Market opportunity, capacity and resources of the enterprise, personal aspirations and values of the administrator, and obligations towards social groups other than shareholders. Once built, implementation involves moving resources to fulfill the strategy and requires an appropriate organizational structure, incentive, control, and leadership system (Andrews et al.). Hess et al. (2016) argue that digital business strategies are changes that digital technology can bring in business models, leading to changes in products or organizational structures automatically in business processes. Thus, digital transformation in the business activities of enterprises is not simply a matter of digitizing statistical data, operational processes, or information about the organization, but more importantly, the application of technology to analyze digitized data to change how businesses create value. For Hinchcliffe (2017), an enterprise's digital business strategy consists of three issues: digitizing operational processes, operating models, and customer experiences. In the study by Swen Nadkarni and Reinhard Prug (2020), synthesized from previous studies, it shows that internal factors affecting the digital transformation ability of enterprises are divided into 3 groups: 33% focus on technology, 34% focus on organizational issues, and 33% focus on both technology and organizational issues. In organizational-focused studies, four factors are mentioned a lot and have a direct influence on the expected results of enterprises' digital transformation: (1) leadership, (2) business digital strategy, (3) employee competencies, and (4) corporate culture.

## **3. RESEARCH METHOD AND THEORETICAL BASIS**

### **3.1. Research Methodology**

An analytical cross-sectional descriptive study was conducted in Vietnam from January 2020 to December 2022. The study was carried out through two steps of preliminary research and formal research, specifically as follows:

Preliminary research uses qualitative research methods to explain and detect research problems and form a theoretical framework for research.

Formal research is carried out through the quantitative research method. Design survey questionnaires and use direct information collection techniques by interviewing businesses. After that, analysis and conclusions will be drawn, specifically as follows:

- Preliminary analysis of the characteristics of the sample by descriptive statistics method
- Evaluate and detect unreliable indicators during the research process
- Secondary data: Obtained from relevant documents and reports...
- Primary data: interviews with telecommunications businesses

Before collecting data using a pre-designed questionnaire, the author conducts an overview of the research problem through a preliminary analysis of documents of studies related to digital business strategies of enterprises in the telecommunications industry in the world and in Vietnam.



## 3.2 Theoretical basis

### 3.2.1 Concept and characteristics of digital business strategy

A digital business strategy helps businesses seize and take advantage of business opportunities and take proactive measures to deal with threats and threats in the business market (According to Fred R. David, 2006).

Alfred Chandler (1962), when referring to the nature of strategy, generalized: *Strategy is the process of determining the basic long-term goals of an organization, choosing ways or directions of action, and distributing resources needed to accomplish those goals.* Meanwhile, Kenneth R. Andrew (1971) said that A strategy “*strategy is what the company is or will do, is or will become, by the model of main objectives (Objectives). , purposes (Purposes) or destinations (Goals) and the main policies and plans (Plans) to achieve that goal*”.

According to Hoang Van Hai (2010), a development strategy is a series of decisions to shape the future of an enterprise and create qualitative changes within the enterprise. In this approach, the term development strategy is used in the three most common meanings:

- Set long-term goals for the business.
- Provide general action plans.
- Select an action plan, deploy and allocate resources to accomplish that goal.

Chaffey & White (2010) emphasized: “Digital businesses create much value because they apply information technology effectively, diversify value-added services and integrate many processes throughout the chain value”. Thus, a digital business strategy is the strategy of an organization conceived and executed by leveraging digital resources to create value and identifies four key elements, including scope, scale, speed, scope, and origin of value creation, to guide strategic thinking.

*First*, digital business strategy is general, covering all functional and process strategies in the business. Business strategy includes digitizing products and services, information about products and services, and expanding the scope beyond the enterprise and the supply chain into dynamic ecosystems, breaking down traditional industry barriers systems. When businesses and industries have strongly digitally transformed, closely dependent on information, communication, and connectivity, the digital business strategy will also be the enterprise’s business strategy.

*Second*, the scale thinking of digital business strategy emphasizes both digital and physical thinking of scale, developing the capacity within the organization to harness diverse data in large quantities effectively and leveraging cloud computing services to help businesses scale quickly. In addition, when implementing a digital business strategy, businesses should consider the role of network effects and business models across multiple platforms, which tend to rely more and more on cooperation and alliances through sharing digital assets between businesses in the ecosystem from different industries.

*Third*, the speed of the digital business strategy is faster than that of the media business strategy, which is an important factor in helping create a competitive advantage for businesses. The

speed of digital business strategy is reflected in the speed at which product launches, decision-making, supply chain coordination, and network formation and adaptation are determined.

*Fourth*, digital business strategy adds several aspects to help businesses create value through information chains and business models on multiple platforms, coordinate business models across networks, and control the industry's digital infrastructure.

### **3.2.2 Component of Digital Business Strategy**

#### ***Strategic objectives***

It is very important that the company knows its direction before campaigning. This direction is established by planning goals that help the company increase its ability to adapt to current and future environmental conditions. The concept of goals is relatively broad and can be broken down into two parts: long-term goals and short-term goals.

#### ***Long-term strategic business goals***

A long-term goal is a desired outcome over a relatively long period of time. Long-term goals are sometimes more specific than mission functions but not as specific as short-term goals. According to Peter F. Drucker, the long-term goals of the business are related to the following 7 areas: Profitability, Productivity, Competitive position, Job development, Employee relations, Technology leadership position, and Public responsibility.

#### ***Short-term strategic business goals***

Short-term goals are specific results that the business intends to achieve in a relatively shorter period than that of the long-term goal.

So, what is the correct goal? Who sets the goal? How is the relationship between the Company's objectives and stakeholders shown?

#### ***Strategic solution***

To achieve strategic goals, strategic solutions are required. They represent ways and avenues for achieving strategic goals. Strategic solutions express an enterprise's ability to allocate resources and prioritize actions. These solutions are often tied to the core competencies of the business as well as the constraints of the business environment. Choosing the right strategic solution has a decisive effect on the feasibility of the strategy. M. Porter offers three overall strategic solutions for use in a competitive environment: Cost minimization, Differentiation, and Centralization.

According to Fred. R. David, businesses can have 14 specific strategic solutions: Combined forward, Combined backward, Horizontally combined, Market penetration, Market development, product development, Diversify focused activities, Diversify block operations, Diversify operations horizontally, Venture, Collapse activity, Cut out, Liquidation, Synthetic.

### **3.2.3. Tools to build a digital business strategy**

To build a business strategy, businesses must carefully analyze the impact of internal and external factors on their business activities and identify strengths, weaknesses, opportunities, and threats that businesses face, thereby helping businesses form specific strategic business plans effectively,

in accordance with their business conditions promoting strengths, and overcoming weaknesses to build the best strategy. Tools for strategy formulation include the following matrices:

*The matrix of external factors (EFE)*

The EFE external factors assessment matrix allows for assessing the external environment's impact on the company. The EFE matrix is implemented in 5 steps:

Step 1: List the external factors that mainly affect the business.

Step 2: Rank the importance from 0.0 (not important) to 1.0 (very important); the sum of the classification levels assigned to these factors must be 1.0.

Step 3: Classify the factors for scores from 1 (least influential) to 4 (most influential).

Step 4: Multiply the importance levels of each factor by the corresponding classification score to determine the total importance score for the organization.

Step 5: Add up the important points of the factors to determine the total number of important points of the matrix for the business.

The total score of the highest matrix is 4 points; the lowest is 1 point. If the total score is  $> 2.5$ , it shows that the business responds well to the external environment; if the total score is  $< 2.5$ , it shows that the business responds poorly to the external environment.

**Table 1. EFE Matrix**

<b>Factors of the external business environment</b>	<b>Critical level</b>	<b>Classify</b>	<b>Important point</b>
(1)	(2)	(3)	(4)
List factors in the business environment outside the enterprise (International, national, industry)	Give it a score from 0 to 1; the higher it is, the more important the respective factors are.	1 = Businesses are less responsive 2 = Average response business 3 = Businesses respond above average 4 = Good business response	(4) = (2) x (3)
	Total = 1		Total = x

(Source: Fred R. David, 2003)

*Inner Factor Matrix (IFE)*

To assess the situation of internal factors of the enterprise, we use the matrix of internal factors to conduct analysis. The formation of an IEF matrix needs to be done through 5 steps as follows:

Step 1: Make a list of 10-20 factors, including basic strengths and weaknesses that affect the business and the goals that the business has set.

Step 2: Rank the importance from 0 (not important) to 1.0 (very important) for each factor. The importance of these factors depends on the extent to which they influence the success of the business in the industry. The sum of the importance of all factors should be equal to 1.0

Step 3: Determine the weight for each factor according to the score from 1 to 4, where 4 is very strong, 3 points is quite strong, 2 points is quite weak, 1 point is very weak

Step 4: Multiply the importance of each factor by its weight to determine the score of the factors.

Step 5: Add the scores of all factors to determine the total score of the matrix.

Evaluation: The total score of the matrix ranges from point 1 to point 4, regardless of the number of important factors in the matrix.

If the total score is less than 2.5 points, the company is weak on internal factors

If the total score is over 2.5 points, the company is strong on internal factors.

**Table 2. IFE Matrix**

<b>Factors of the internal business environment</b>	<b>Critical level</b>	<b>Classify</b>	<b>Important point</b>
(1)	(2)	(3)	(4)
List the factors of the business environment inside the enterprise	Give it a score from 0 to 1, the higher it is, the more important the respective factors are	1= The most important weakness 2= Weakness 3= Strength 4= The most important strength	(4) = (2) x (3)
	Total = 1		Total = y

(Source: Fred R. David, 2003)

According to Fred R. David (2003), forming and selecting a viable strategy for the company can summarize the decision-making process, including 3 stages:

**Stage 1:** Entry phase, as this stage summarizes the initial background information and formulates strategies. In this phase, three tools are used: the internal factor evaluation matrix, the competitive image matrix, and the external factor evaluation matrix.

**Stage 2:** The combination phase presents possible strategies that can be selected by aligning and combining the important internal and external factors in this phase the techniques used include: SWOT (Strength - Weakness - Opportunity - Threat). These matrices use input from stage 1 to combine internal strengths and weaknesses with external opportunities and threats. The combination of critical internal success factors with critical external success factors is key to formulating workable strategies.

**Stage 3:** In the decision stage, a single tool is used, which is the Quantitative Strategic Planning Matrix (QSPM). This matrix uses the information at the input stage to evaluate and rank strategic alternatives at the integration stage. The strategy with the highest total score is the preferred strategy.

Select a strategy suitable to the company's environmental conditions, foreign policy, viewpoints, and management methods:

In accordance with the enterprise's financial, material, and human capacity. Take full advantage of the industry and the advantages of the business.

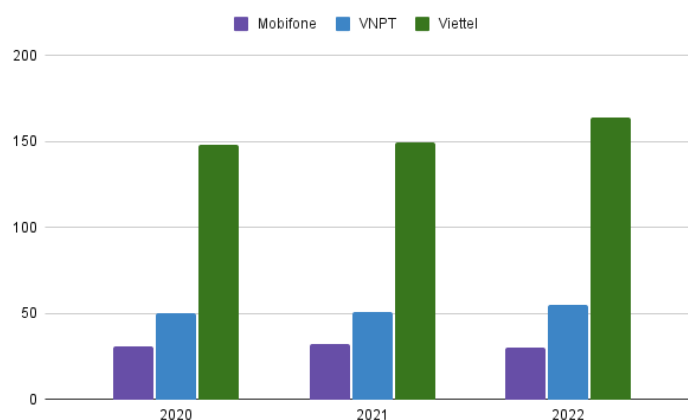
Consistent with long-term goals.

Determine the right time.

### 3.4 Research results

By the end of June 2022, the number of mobile broadband subscribers in Vietnam was estimated at 82%, up 9.3% compared to January 2022, up 20% over the same period last year. The growth rate of mobile broadband subscribers ranked 69th out of 144 countries, reaching 19% per year. The number of fixed broadband subscribers was estimated at 20.5 million subscribers, up 4.4% compared to January 2022, up 14% over the same period last year, ranking 60/144 countries. In the first half of 2022, businesses have covered 1,857/2,212 concave villages, prioritizing deploying coverage in remote areas and areas with special difficulties. 5G technology can create a series of new products for smart cities and develop the country's economy. Next is the accompanying connected objects in the world that allow IoT (Network of Internet-connected Devices) to develop significantly, such as self-driving cars and smart schools...

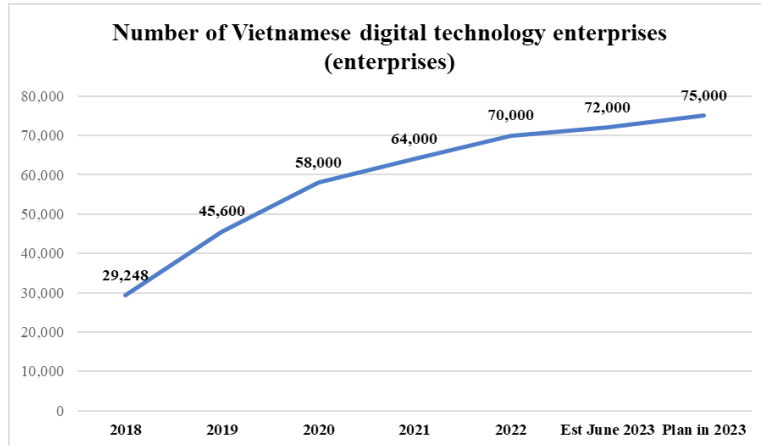
Transforming digital business strategies greatly affects the business results of leading telecommunications enterprises in Vietnam in the period of 2020-2022:



**Figure 1. Revenue of Mobifone, VNPT, and Viettel in the period of 2020-2022**

*(Source: compiled by the author)*

There are also impressive colors in the general picture of the telecommunications industry in the first 6 months of 2023. The percentage of households using optical fiber is estimated at 77.1%, up 5.7% over the same period in 2022 and reaching 91.8% of the plan in 2023, the rate of Internet users reaching 78.59%, exceeded the planned target in 2023 (the target in 2023 is 76%). The number of fixed broadband subscribers reached 22.14 million subscribers (corresponding to the rate of 22.26 subscribers/100 people), an increase of 8% over the same period last year and reaching 88.6% of the plan in 2023. The number of mobile broadband subscribers reached 86.2 million subscribers (corresponding to the rate of 86.67 subscribers/100 people), an increase of 5.67% over the same period in 2022 and reaching 95.2% of the year plan 2023. The number of smartphone subscribers is estimated at 101.12 million subscribers, up 8.73% over the same period in 2022.



**Figure 2. Growth of digital technology businesses in Vietnam**

*(Source: compiled by the author)*

The strong growth of digital businesses in Vietnam in 2018-2023 is an excellent opportunity for telecommunications businesses but also a challenge they must overcome when competition is increasingly fierce.

**Table 3. Evaluation matrix of external factors of Vietnamese telecommunications enterprises**

Numerical order	Main external factors	Critical level	Classify	Important point
	Politics and legal			
1	The security and political situation in the region and in the world has many uncertainties	0.04	1	0.04
2	Vietnam's economy, politics, and society are deeply integrated with the world and the region	0.06	2	0.12
3	The State's digital economy development policy for the telecommunications industry	0.08	3	0.24
	Economy			
4	Inflation in the next 5 years is below double digits and maintained at 5%-7%	0.01	3	0.03
5	The economic growth rate is still high at about 7%/year	0.06	2	0.12
6	Interest rates of the financial market tend to decrease in the coming years	0.04	4	0.16
7	Competitive pressure is getting fiercer among competitors in the industry	0.1	2	0.2
8	Product prices are getting lower and lower due to competitive pressure	0.08	2	0.16
	Sociocultural			
9	Customers are increasingly demanding the quality of digital services	0.06	3	0.18
10	Vietnam's human resource training and development policy has changed positively	0.04	3	0.12
11	Market demand for telecommunications products and services	0.08	4	0.32
	Technology			
12	Strong development in science, engineering, and technology in the country and in the world	0.05	2	0.1
	Total			1.79

*(Source: survey results)*



The matrix of external factors (EFE) with external factors reached 1.79 points. With this score, it can be seen that telecommunications businesses have low market responsiveness; the strategies that the organization proposes do not take advantage of opportunities or avoid threats from the outside.

**Table 4. Matrix of internal factors of Vietnamese telecommunications enterprises**

Numerical order	Factors of the internal business environment	Critical level	Classify	Important point
1	Enterprise governance model	0.05	3	0.15
2	Human Resource Management	0.05	3	0.15
3	Enterprise Financial Management	0.05	3	0.15
4	Economic administration and internal control	0.05	2	0.1
5	Company's financial capacity	0.08	3	0.24
6	Equipment capacity	0.05	3	0.15
7	Quality engineering management	0.05	3	0.15
8	The current strategy of the enterprise	0.09	3	0.27
9	Price competitiveness	0.03	2	0.06
10	Competitive marketing capacity	0.07	2	0.14
11	Technology application capacity	0.05	3	0.15
12	Corporate culture with a tradition of solidarity and unity within the enterprise	0.06	4	0.24
13	Management capacity of administrators and executives	0.08	3	0.24
14	Competence of professional and professional staff	0.08	3	0.24
15	Skill level of technical workers	0.02	2	0.04
16	Strength in the traditional market	0.08	4	0.32
17	Remuneration	0.05	2	0.1
18	Effective use of capital and assets	0.05	2	0.1
19	Investing in research and development of new industries and fields of production	0.09	3	0.27
<b>Total</b>		<b>1.0</b>		<b>3.26</b>

*(Source: survey results)*

From the internal environment analysis results, the author has established the evaluation matrix of the factors within the author's group to identify the strengths and weaknesses of telecommunications businesses. The results of building the IFE matrix identified the internal factors with a total important score of 3.26 points. This average score shows a relatively high ability to react to some important factors affecting telecommunications businesses in digital business strategies. Internal factors are considered very important in each business strategy and the business's goals; after viewing the internal factors, the strategic manager needs to make a matrix of these factors. This is to consider the ability to react and recognize strengths and weaknesses. Thereby helping businesses make the most of their strengths to exploit and prepare internal resources to confront weaknesses and find ways to improve these weaknesses.

#### **4. CONCLUSIONS AND RECOMMENDATIONS**

The telecommunications business enterprise's competitive advantages in the argument-shifting landscape stem from the roots of its unique capabilities – efficiency, quality, innovation,

or customer adaptability. It is protected from competitors to the extent that it can provide goods and services that competitors cannot. This ability also gives the aggregator power over the buyer since they cannot get the same product elsewhere. However, enterprises have disadvantages when negotiating with suppliers due to the small volume and frequency of purchases; production costs are often higher than the industry average due to the small scale of production; the disappearance of demand due to technological changes or changes in consumer preferences.

Based on analyzing the impact of factors affecting the digital economy strategy, telecommunications businesses need to accelerate revenue growth through business strategies, digital marketing strategies, and systems. Reasonable product distribution system and user experience through the application. At the same time, invest in scientific and technical research and modern technology in business activities because the specificity of telecommunications service business is the use of modern and ever-changing technology, the life cycle of products and services. Service is often short due to new technology and equipment being constantly born to replace old technology. Therefore, investment in technology and equipment innovation is one of the important solutions to improve the efficiency of the digital business strategy of Vietnamese telecommunications enterprises. In addition, it is necessary to focus on investing in developing new services, especially data and information content services. Appreciate investment in creating services with synchronous information solutions.

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# SOME POLICIES FOR DEVELOPMENT OF AGRICULTURE ENTERPRISES VIETNAM NOW

Master. Hoang Thi Hong Hanh<sup>1</sup>

**Abstract:** *In order to develop Vietnam's agricultural industry in the direction of large-scale commodity production, the problem is that the State must have reasonable policies to promote agricultural enterprises to constantly develop and form a value chain of agricultural products. agricultural export. In the article, by using the most general methodologies and specific research methods such as: analysis, statistics, systematization, interpretation, induction, use of secondary data... the author systematized many policies to develop agricultural enterprises at the same time; study more fully and more appropriately how to formulate and organize the implementation of policies on agricultural enterprise development in Vietnam. Based on the research results, this article outlines the theory of agricultural enterprise development policy; assess the current situation of policy implementation for the entire 10-year period and propose many solutions to perfect the policy of developing agricultural enterprises appropriately in the new context.*

**Keywords:** *Policy, agricultural enterprises, Vietnam.*

## 1. INTRODUCTION

Vietnam is a country with many advantages in agriculture. However, currently the development of the agricultural sector is not commensurate with the existing potential, the subjects of agricultural production are still mainly households, so the development of the agricultural sector lacks breakthroughs. To develop our country's agricultural industry towards large-scale commodity production, applying science and technology, improving efficiency, competitiveness and developing Vietnamese agricultural product brands, one of the important solutions is to develop our country's agricultural sector. It is important to form agricultural enterprises. Agricultural enterprises are determined to be the "pillar" and the driving force in promoting the development of the agricultural production value chain. This also raises the issue that the State must have reasonable policies to promote agricultural enterprises to continuously develop and form agricultural production value chains. In the recent period, the State has issued many business development policies to create more favorable conditions for agricultural enterprises to develop; But there is no really strong policy with enough force to promote the development of the agricultural enterprise sector. Therefore, it is necessary to adjust and supplement to perfect agricultural enterprise development policies.

There are many policies for developing agricultural enterprises, but in the article the author focuses on researching some of the main agricultural enterprise development policies that are currently receiving a lot of attention such as: labor policies and human resource training. ; policies on access to preferential credit capital; policies to support the application of science

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and technology; policies to support trade promotion and market expansion from a theoretical perspective.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

David K. Hitchcock (2018) in the study “Agribusiness and Competitive” points out that, to improve competitiveness in the agricultural value chain, the State needs to have supportive policies. agricultural value chains, need to focus on the following contents: Assessing markets and agricultural business opportunities, developing appropriate methods to prioritize agricultural industries and value chains; create conditions to promote long-term links between smallholder farmers and supply companies, exporters or agricultural product processing companies; providing microfinance products to enable smallholder farmers to participate in agribusiness projects; Design and implement initiatives to enhance the business capacity of smallholder farmers and small businesses to participate in the value chain for high-value products, including branded products and approved by organizations. reputable certification.

Nguyen Thi My and colleagues (2017) in the study “Synthesize, analyze the current situation and propose policy directions for developing enterprises and agricultural enterprises until 2017” said that in the period 2010 - 2016 with many Strong fluctuations in both domestic and export markets, the world economic crisis directly affects export businesses and is also a period when many natural disasters and unusual weather phenomena have occurred. These are common difficulties for the entire agricultural production industry, including agricultural enterprises. In addition to businesses that have gone bankrupt, stopped operating, had to be reorganized or converted, transferred, many new businesses have also been born or reorganized to suit new conditions, and many businesses have and are keeping pace with market requirements for clean, safe agricultural products, and especially many enterprises have been producing in stable agricultural value chains, such as rice industry enterprises, rice enterprises. Pangasius and shrimp industry, a number of vegetable industry enterprises and a number of enterprises that are associated with the production and consumption of specialty agricultural products. These may also be the main reasons why the number of agricultural enterprises continues to strengthen and increase by an average of 6.1% per year, with the strongest increase being agricultural enterprises. (average 9.12%/year).

Nguyen Do Anh Tuan et al (2016) in the study “Promoting the role of enterprises in the process of agricultural restructuring and new rural construction”, said that compared with the rapid development of enterprises in In the whole country in general, the number of enterprises operating in the agricultural, forestry and fishery industry is very small, accounting for less than 1% of the total number of over 400,000 enterprises surveyed (in fact, the enterprises are still operating) and tend to decreasing trend in recent times. This is a policy issue of concern when Vietnam has a lot of potential for agricultural development with many leading export products in the world. Policy issues that need to be resolved are about land, credit and capital. infrastructure, along with administrative procedures.

Nguyen Dinh Chinh et al (2013) said that to promote enterprise development, it is necessary to increase support from the central and local budgets to establish enterprise development support funds, consolidate and improve capacity of provincial credit guarantee funds; The

State supports businesses with funding for site clearance and infrastructure construction in concentrated industrial zones/clusters; Investment support policies need to have focus and emphasis, avoiding spreading; Issue policies to encourage public-private partnerships to create financial resources for investment in infrastructure works serving agricultural production; Eliminate outstanding debts for forestry enterprises that cannot recover capital; Support through tax policy adjustments.

Nguyen Thi Duong Nga (2017) in her study “Developing agricultural enterprises in Vietnam” recommends that in order to promote the development of agricultural enterprises, it is necessary to adjust, amend, and promulgate priority policies, encourage, Attract investment to develop modern agriculture along with other types of farms, farms, and cooperatives that have large production capacity but have not yet developed into businesses with insurance policies, tax and fee reductions, etc. using high technologies such as mechanization, automation, and computerization. Build a mechanism capable of protecting the interests of farmers, businesses, scientists... when participating in cooperation and linking production and business along the value chain. Develop a set of criteria and product standards for the production of safe and clean agricultural products. Issue sanctions that are strong enough to deter and prevent violations of laws and regulations in agricultural production and business, agricultural production supply chain management, and agricultural product markets to protect the interests of farmers, producers and consumers.

From the results of the overview of domestic and foreign research projects, it can be seen that previous studies have accomplished quite a lot of content and solved many problems both academically and practically. However, there are still gaps that need to be further researched, specifically: Research more fully and appropriately on how to develop and organize the implementation of agricultural enterprise development policies in Vietnam. Systematize many agricultural enterprise development policies (4 policies) at the same time and evaluate the results of policy implementation for the entire 10-year period, from 2012 - 2021. Propose many solutions to improve the policy develop appropriate agricultural enterprises in the new context, period 2022 - 2030.

### **3. RESEARCH METHODOLOGY**

The article is based on the most general methodological basis of materialist dialectics and historical materialism. The article uses specific research methods such as: analysis, statistics, systematization, interpretation, induction, use of secondary data, etc.

### **4. RESEARCH RESULTS**

#### **4.1. Some theoretical issues on the policy of agricultural enterprise development**

According to the Government (2018), the agricultural sector is understood in a broad sense, including agriculture, forestry and aquaculture. Accordingly, an agricultural enterprise is understood as follows: An agricultural enterprise is an organization with its own name, property, transaction office, and registered establishment in accordance with law for the purpose of production, doing business and providing services in the fields of agriculture, forestry and aquaculture.



From the concept of agricultural enterprises, it can be understood: Agricultural enterprise development policy is understood as the totality of views, goals, contents and action methods of the State, affecting the activities of agricultural enterprises. agricultural enterprises to achieve the set goals.

\* *Characteristics of agricultural enterprise development policies:* Because the characteristics of agricultural enterprises are very diverse, the content of agricultural enterprise development policies is also diverse. When a policy is issued and implemented, it will have an impact on the development of the business. However, the degree of impact of a type of policy on businesses is quite different depending on the type of production and business of the business. With the characteristics of agricultural enterprises being heavily dependent on nature, crops, and livestock, and the business scale being often small, most business development policies often require accompanying resources. Therefore, the organization and implementation of policies often depends on the State budget allocated in each period and each stage. When the State implements the policy of developing agricultural enterprises, the beneficiaries are not only agricultural enterprises, but also producer households, collectors, small traders and freelance workers in agriculture. village.

\* *The role of agricultural enterprise development policy:* From the perspective of national management and governance, the state uses enterprise development policy as a tool to orient the goals for agricultural enterprises to participate in. Participating in socio-economic activities, policies reflect the state's attitude and behavior towards businesses, helping them mobilize to achieve the future values that the state desires. The policy will create a fair and mutually beneficial competitive environment among agricultural enterprises of other economic sectors. Through State policies, the State creates necessary support for businesses to develop such as transportation infrastructure, irrigation, processing facilities and provision of public services such as technical transfer and trade promotion. , brand building, product brand registration for agricultural businesses. Through policies, the state creates an appropriate environment, with necessary conditions to form a favorable environment for businesses to operate such as: policies to develop the labor market, capital market, and market. science and technology, real estate market, infrastructure development... The Government has policies to address economic shortcomings, overcome market failures, and contribute to Adjust the inadequacies and negative aspects of society.

\* *Content of research on agricultural enterprise development policies:*

- Policy planning stage: Policy planning for agricultural enterprise development reflects the difficult problems of agricultural enterprises, reflects the interests of relevant parties including businesses, farmers, Traders, residential communities, policy implementers and other stakeholders will ensure the policy is more feasible. Therefore, when analyzing and evaluating agricultural enterprise development policies, it is necessary to consider the process of planning those policies specifically, associated with the context of their creation and promulgation.

- Policy implementation stage: Policy implementation organization is bringing the policies promulgated at the policy planning stage into life and promoting their effectiveness in life. When researching the organization and implementation of policies, we often research

the following issues: The organizational apparatus for policy implementation; resources to organize policy implementation; inspection and supervision of policy implementation; the level of benefits of enterprises to the policy of agricultural enterprise development.

*\* Criteria for evaluating policies and policies for agricultural enterprise development:*

- Relevancy of policies - Policies must be consistent with reality to both meet the urgent requirements of the formation and development of agricultural enterprises and not create or limit conflicting problems. with policy goals.

- Feasibility of agricultural enterprise development policy: is the ability to practically implement the wishes and goals of the policy. The policy of developing agricultural enterprises stems from the desire to increase the number of agricultural enterprises with a high proportion of effective agricultural enterprises and the structure of agricultural enterprises shifting towards increasing agricultural enterprises. agricultural service industry compared to the status quo. Policy goals that are realistic and appropriate policy measures that make the wishes and goals realized in reality are called highly feasible.

- Criteria for policy effectiveness is based on comparing the results achieved with the costs spent to implement the policy. Accordingly, the policy is effective when the cost to implement the policy is smaller than the result achieved by the policy on production and business of enterprises and other relevant subjects affected by the policy.

*\* Factors affecting agricultural enterprise development policies:*

- Factors affecting the policy planning stage: How to organize policy development; policy-making force; resources for policy development; resources for policy development.

- Factors affecting the organization and implementation of policies: The level of policy propaganda and dissemination; capacity of policy implementation staff; resources to organize the implementation of the State's policies; needs and perceptions of businesses.

#### **4.2. Current status of policies on development of agricultural enterprises in Vietnam**

According to the General Statistics Office (2021), the number of enterprises investing in agriculture is currently 49,600 enterprises, accounting for about 8% of the total number of enterprises in the country. In the period from 2011-2019, the total number of agricultural enterprises increased sharply, an average of 19.8%/year, of which enterprises in the field of agriculture and related services increased on average 33.8% /year; enterprises in the field of forestry and related services increased by an average of 15.4%/year; enterprises in the field of fisheries and related services increased by an average of 9.3% per year [11].

During the period 2012 - 2022, the National Assembly, the Government, and the Prime Minister have issued many policy documents related to agricultural enterprise development. Among them, there are about 10 decisive and comprehensive documents that create the policy framework for agricultural enterprise development such as the Law on Support for Small and Medium Enterprises (2017); Resolution 35/NQ-CP 2016 on business support and development up to 2020; Resolution 53/NQ-CP of 2019 on solutions to encourage and promote businesses to invest in agriculture effectively, safely and sustainably; Decree 57/2018/ND-

CP on mechanisms and policies to encourage enterprises to invest in agriculture and rural areas; Decree 98/2018/ND-CP on policies to encourage the development of cooperation and linking production with consumption of crop products, livestock, fisheries, forestry and salt industry. Along with that, there are many documents that partly contain regulations on policies to support the development of agricultural enterprises. These policy documents have formed many policies related to business development, including 7 main policies including: (1) land policy; (2) investment support policy; (3) policy on access to credit capital; (4) science and technology policy; (5) policies on labor and human resource training; (6) policies to support trade promotion and market expansion; (7) product processing support policy.

*\* The current policy of agricultural enterprise development has three major goals, which are:*

- The goal of improving business performance: Most current policies are aimed at creating favorable conditions for businesses to improve production and business efficiency; connect value chains and markets for sustainable development and gradually expand scale. By 2030, there will be 80,000 to 100,000 enterprises with effective investment and business activities in the agricultural sector, of which about 3,000 to 4,000 large-scale enterprises and 6,000 to 8,000 medium-sized enterprises [12] .

- Target on the number of enterprises: Promote the formation of new agricultural enterprises, thereby contributing to the country having at least 1 million operating enterprises by 2025, including large-scale enterprises. , strong resources.

- Indirect objectives: through the development of the business sector, promote the development of groups of agricultural households associated with enterprises; contributing to promoting growth and development of the agricultural sector in particular and the economy in general.

*\* Basic contents of a number of business development policies:*

- Policy on labor and human resource training: The content of the policy on labor support and human resource training is specified in the following main documents: Decree 39/2018/ND-CP on guidance Law on Supporting Small and Medium Enterprises; Resolution 35/NQ-CP 2016 on business support and development up to 2020; Resolution 53/NQ-CP of 2019 on solutions to encourage and promote businesses to invest in agriculture effectively, safely and sustainably; Decree 98/2018/ND-CP on policies to encourage the development of cooperation and linking production with consumption of crop, livestock, fisheries, forestry and salt products; Decree 57/2018/ND-CP on mechanisms and policies to encourage businesses to invest in agriculture and rural areas.

- Policy to support access to credit capital: The content of the policy to support access to credit capital is specified in a number of documents as follows: Decree 39/2018/ND-CP guiding the Law on Enterprise Support small and medium; Resolution 35/NQ-CP 2016 on business support and development up to 2020; Decree 116/2018/ND-CP dated September 7, 2018 on credit policy for rural agricultural development; Decree 57/2018/ND-CP on mechanisms and policies to encourage businesses to invest in agriculture and rural areas.

- Science and technology policy: The content of science and technology policy is specified in the following key documents: Law on Support for Small and Medium Enterprises 2017;

Decree 39/2018/ND-CP on guiding the Law on Support for Small and Medium Enterprises; Resolution 35/NQ-CP 2016 on business support and development up to 2020; Resolution 53/NQ-CP of 2019 on solutions to encourage and promote businesses to invest in agriculture effectively, safely and sustainably; Decree 57/2018/ND-CP on mechanisms and policies to encourage enterprises to invest in agriculture and rural areas; Decree 116/2018/ND-CP dated September 7, 2018 on credit policy for rural agricultural development.

- Policy to support trade promotion and market development: The content of the policy to support trade promotion and market development is specified in the following documents: Decision 72/2010/QD-TTg ban promulgate the Regulations on building, managing and implementing the National Trade Promotion Program issued by the Prime Minister; Decision 12/2019/QD-TTg amending the Regulations on building, managing and implementing the National Trade Promotion Program attached to Decision 72/2010/QD-TTg issued by the Prime Minister; Decree No. 28/2018/ND-CP dated March 1, 2018 of the Government detailing the Law on Foreign Trade Management on a number of foreign trade development measures.

*\* Actual situation of implementing policies on agricultural enterprise development:*

- Organizational apparatus for policy implementation: it can be seen that the current agricultural enterprise development policy implementation organization is implemented by many ministries and branches. In which, there are a number of key units such as the Ministry of Planning and Investment, the Ministry of Agriculture and Rural Development, the Ministry of Finance, the Ministry of Natural Resources and Environment, the Ministry of Labor, Invalids and Social Affairs, and the State Bank of Vietnam. water.

- Resources for organizing policy implementation: The Government has prioritized allocating investment capital from the State budget, (including Government bonds and ODA capital), as well as mobilizing social capital sources for implementation. agricultural enterprise development policies. Currently, there are no official and complete statistics on budget expenditure for organizations implementing business development policies, only in the form of a number of specific policies. According to the Report of the Ministry of Planning and Investment (2020), total budget expenditure to implement policies to support businesses (such as land rent support; credit access support; research and application support) and science and technology transfer; support for human resource training and market access) according to Decree 57/2018/ND-CP dated April 17, 2018 of the Government on mechanisms and policies to encourage enterprises to invest Investment in agriculture and rural areas in 3 years from the date of entry into force of the Decree is 113.5 billion VND. This total amount has supported 31 projects of enterprises in 15 localities, an average of 3.7 billion VND per project. The result of such arrangement is quite low compared to actual demand and also compared with the set plan, only reaching about 37% of the set plan [7]. The reason is that the central budget allocated to the implementation of policies is not enough, the other part is that the reciprocal local budget cannot be arranged, so there is no source to support businesses according to the prescribed policies.

- Inspection and supervision of policy implementation: Survey results in the provinces show that: supervision and evaluation work has achieved the following results: Central and provincial levels have built a set of machine and system of indicators for monitoring and

evaluating policy implementation from central to provincial levels for a number of policies. However, the monitoring of policy implementation still reveals some of the following inadequacies: Although the monitoring and evaluation system has been established, it is not very synchronized and comprehensive from the central to local levels. The localities have not yet applied the synchronous monitoring and evaluation criteria system; There is no policy feedback mechanism from agricultural enterprises and if there is, the information feedback mechanism is not public and transparent; lack of funding and human resources to collect and update data on the results of implementing policies to support agricultural enterprise development in localities [9].

*\* Current status of beneficiaries of Vietnam's agricultural enterprise development policy:*

- Labor and human resource training policies: Policies to support improving the quality of human resources for agricultural enterprises include many different support policies. To evaluate support policies for businesses in labor development and human resource training, focus on two major policies: policies to support labor training at labor-employing businesses according to Decision No. 42/2012/QD-TTg and policies to support vocational training for rural agricultural workers according to Decision No. 1956/QD-TTg of the Prime Minister. The results show that only a few agricultural enterprises are supported with training under Decision No. 42/2012/QD-TTg and are supported with vocational training under Project 1956 and the industrial promotion program. This is a quite low rate, the proportion of enterprises accessing the policy only accounts for about 2.9% to 11.7% of the total number of agricultural enterprises surveyed [8].

- Credit access policy: According to data, 60% of surveyed businesses assessed that the current tax policy has incentives for the agricultural enterprise sector. However, only a small percentage of businesses benefit from financial and credit support policies, which, according to responses from surveyed business owners, are mainly businesses with state capital or Businesses have good "relationships" with authorities that manage and operate policies. Over 65% of businesses cannot access bank credit because the business's creditworthiness is not high or because the requirements for mortgage procedures are too strict [3].

- Science and technology policy: Through the actual survey of enterprises, the rate of enterprises receiving support policies to improve capacity and technical level is still very modest, only 3%. A number of surveyed businesses said they received support to buy machinery and equipment under the industrial promotion program; 1.0% of enterprises are supported to transfer technology from abroad and 9% of enterprises are supported in training science and technology staff for enterprises. There are many reasons leading to the number of enterprises accessing policies to support science and technology enterprises, some of which are the limited financial resources to implement the policy; Many businesses do not understand policy information; regulations on policy beneficiary conditions are too strict; Low level of support, administrative procedures to receive support are quite complicated; Many businesses cannot meet counterpart capital requirements [5].

- Policies to support trade promotion and market development: According to survey results, the number of agricultural enterprises benefiting from this policy is still very small. Out of 100



enterprises, only 6% are supported to participate in fairs and exhibitions to introduce products; 1% are supported to go abroad to find markets and 1.5% are supported to build product brands. The reason shared by businesses is that only a very small number of businesses benefit from policies to support market development and trade promotion: i) Financial sources for implementing policies in limited localities narrow, so it is only popular to a few businesses; ii) The enterprise has registered to participate but is not considered for support; iii) The condition to enjoy the policy is that the enterprise must have reciprocal capital for the enterprise [2].

*\* General assessment of the current status of agricultural enterprise development policies in Vietnam:*

- Results achieved: Clearly demonstrate the Party and State's interest in the agricultural enterprise sector and the agricultural sector. The policy framework for business development is increasingly being improved and is quite comprehensive. The organizational apparatus for policy implementation is relatively complete and operates relatively effectively. Provided a certain amount of State support for the development of agricultural enterprises. Part of the policy goal has been achieved.

- Limitations and shortcomings: The number of businesses that do not have access to the policy is still quite large, meaning the coverage of the policy is still narrow. The appropriate level of the policy is not high for the development needs of enterprises. The feasibility and effectiveness of some policies are not high. The problems of enterprises have not been completely solved.

- Causes of limitations and inadequacies: Causes of policy making: The stability of the policy system is not high; views on agriculture and agribusiness have not been really taken into account; the content and level of support identified in some policies are still quite low compared to the needs and characteristics of agricultural enterprises; too many conditions and procedures for benefits. Causes from the stage of policy implementation: Policy propaganda has not been focused; human resources for policy implementation are still lacking in quantity and weak in quality; budget for policy implementation is still limited, budget allocation is quite difficult; The coordination in organization and inspection and supervision of policy implementation is somewhat not tight.

#### **4.3. Solutions to improve the policy of developing agricultural enterprises in Vietnam in the coming period**

*Firstly, the group of solutions to complete the planning stage of agricultural enterprise development policy*

- Organization of policy development: First of all, planning and policy development. The policy to support business development is characterized by the need for synchronization, creating a "combination" from many sides. Therefore, in the coming period, each policy should not be issued, but should be developed into a scheme on formulating policies on development of agricultural enterprises in the period of 2023 - 2030. From the tasks assigned in the Scheme on developing development policies To develop agricultural enterprises in the period 2023 - 2030, ministries and branches organize the development of policy documents. When developing policy documents, a review of policy issues must be organized. In order for



policy formulation to be effective, it is necessary to strengthen the coordination of ministries, branches and localities; at the same time, the State must adjust the norms to increase financial resources for policy formulation organizations.

- The goal of improving enterprise quality: Currently, most agricultural enterprises are small-scale and have unsustainable development. Therefore, in the coming period, policies will support existing agricultural businesses to survive for a long time, grow stronger, and expand their scale. In the direction of intensive production and business investment, goods are more export-oriented. Striving to 2030, over 30% of enterprises have capital over 15 billion VND; 40% of businesses have capital of over 10 billion VND. Along with the first goal, agricultural enterprise development policies will focus more on promoting the formation of many agricultural enterprises, especially the transition from agricultural business households and large households to agricultural enterprises. operating in the form of enterprises, gradually promoting non-policy agricultural economic activities to official ones. Business development is not only focused on the growth of the business itself. In the coming period, it is necessary to adjust the target in the direction and policies to support businesses. By 2030, the agricultural enterprise sector will attract over 1,000,000 direct workers and about 700,000 affiliated workers; forming many domestic and international agricultural value chains.

*Second, select and adjust the content of some key policies in the coming period:*

- Policy on training and fostering human resources: It is necessary to develop strategies and programs to train and foster human resources in the agricultural enterprise sector. The training and retraining of human resources in this area must have a synchronous coordination to cover all subjects that need training and retraining and have specific programs for different industries, fields and value chains. ; at the same time, there is a timely assessment to supplement and adjust the plan reasonably based on the strengths of each industry and related organizations.

- Credit policy: Expand loan limits and reduce loan conditions and procedures to give businesses better access to capital. Based on the results of implementation and the content of Decree 55/2015/ND-CP of the Government on credit policy for agricultural and rural development, it is necessary to review and re-evaluate to increase loan levels and lower levels. shoulder interest rate; Cut loan conditions and procedures to allow agricultural businesses to access more capital in a more timely manner. Focusing on capital enterprises in the direction of value chain development.

- Policy to support science and technology application: For the policy to support science and technology application, it is necessary to adjust some of the following contents: Clarifying the lead agency; re-adjust the direction of support; Forms of support - Currently, support is being provided in many forms, including reciprocal support. Therefore, in the coming period, we should focus strongly on reciprocal support. Partially supported by the State and enterprises have to invest part of capital to improve the efficiency of investment capital. Focus on supporting in the form of commercializing output products. When businesses apply for support, they must demonstrate the ability to apply and commercialize the product. Improving the efficiency of scientific and technological research by encouraging public research units, after having new seed results, can cooperate with private companies to carry out the breeding

and commercialization process. chemical. Focus on training and developing highly qualified and skilled human resources in enterprises to improve their capacity to absorb scientific and technological advances, manage organizations and develop highly effective business models.

- Policies to support trade promotion and market expansion: In the field of expanding the domestic market and promoting domestic consumption of agricultural goods: It is necessary to strengthen domestic trade promotion activities and develop Continuously and regularly deploy supply and demand connection activities to connect manufacturers, agricultural businesses with the distribution system; Coordinate with relevant units in implementing policy mechanisms to promote the development of distribution systems and chain organization models linking production, processing, and consumption of manufactured goods. domestically produced. Continue to promote the implementation of policies to support the building of linked regions, especially links between businesses and farmer households, between businesses and businesses, and between businesses and domestic supermarkets. In the field of trade promotion: Strengthen the approval of trade promotion projects for commodity products and key agricultural products that are facing difficulties or have new market opportunities to other markets. main, core, key focus within the framework of the annual national trade promotion program.

*Third, the group of solutions to improve the organization and implementation of policies on agricultural enterprise development:*

Organizational apparatus for policy implementation; Human resources to organize policy implementation (about the number of human resources, skills and expertise of human resources - Improve capacity and skills to identify policy issues; Capacity to establish and issue policies and procedures). policy documents; Capacity to organize, implement, monitor and evaluate policies Financial resources for policy implementation organizations, the State need to adjust to increase the proportion of budget expenditure for the agricultural sector.

Besides, in order to organize the implementation of key policies, it is necessary to consolidate and innovate methods of inspection and supervision of policy implementation.

## **5. CONCLUSION**

Thus, in order to develop agricultural enterprises in the coming period, the State needs to promulgate policies to support enterprises. Currently, the development policy of agricultural enterprises in Vietnam is quite diverse with many types of policies, adjusted in many different aspects, of which there are 4 outstanding policies that are: Policy on labor and training create human resources; policies on access to credit capital; science and technology policy; policies to support trade promotion and market expansion. There is already a segment of agricultural enterprises that have access to enterprise development policies. The policy on agricultural enterprise development has partly had a good impact on the production and business of agricultural enterprises through removing difficulties in capital, infrastructure construction, purchase of machinery and equipment, and mining. create human resources, access science and expand markets. However, in the current policies, there are still some policies with low level of access and low level of impact on the agribusiness sector. In order to solve the inadequacies and limitations, the agricultural enterprise development policy in the coming period needs

to be adjusted, supplemented, and restructured according to the direction, investment and development policies, creating motivation. For agricultural enterprises to develop sustainably, priority should be given to concentrating resources to the maximum and strongly promoting./

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# DIGITALIZATION STRATEGY AND ROADMAP OF LPBANK

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**Abstract:** This article aims to analyze the strategy and digitalization method of Lien Viet Post Joint Stock Bank (LPBank). LPBank services need to undergo digital transformation. Through digitization, LPBank not only aims to improve business efficiency but also contributes to sustainable development. In particular, the article offers comprehensive solutions for digitization as well as risks that may be encountered when digitizing. By using qualitative research methods (discussion with experts) and quantitative research methods, the author has identified (i) digitalization trends. (ii) 8 solutions to digitalize activities (3) risks in digitalization. The article is a document with practical application to the operations of LPBank.

**Keywords:** LPBank, digital, digitalization, strategy

## 1. INTRODUCTION

In a world rapidly shifting towards digitalization, where the financial landscape is being redefined by innovative technologies, LPBank stands at the forefront of Vietnam's banking sector. With a commitment to delivering cutting-edge banking solutions to its customers, the bank has unveiled its ambitious digitalization strategy and roadmap. In this article, that introduced into LPBank's comprehensive digitalization strategy, a well-thought-out blueprint that leverages technology to streamline operations, enhance customer experiences, and ensure financial inclusivity.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Specific studies or evaluations on digitization strategies of commercial banks in general and of LPBank are very limited. On the one hand, this is a new field. On the other hand, banks' strategies are always confidential.

## 3. METHODOLOGY AND PROPOSED MODEL

This article is used qualitative research methods (discussion with experts) and quantitative research methods. This research paper presents a research model for the digitalization strategy of LPBank's operations. It is a strategic framework and research plan designed to study and analyze the process and factors involved in the transformation and improvement of their operations by LPBank through the application of digital technologies. .

## 4. RESEARCH RESULTS

### **The indispensable trend of digital technology in banking**

The indispensable trend of digital technology application in banking includes the following key aspects:

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a) Application of Artificial Intelligence (AI): AI is being deployed through chatbots and robots to assist customers. Many banks currently use AI to provide 24/7 customer support, aid in risk management and lending decisions, enhance security, and prevent fraud.

b) Blockchain Technology: Blockchain is utilized for secure and quick money transfers and customer identification. It allows for rapid verification of identities of customers.

c) Big Data Analytics: Data generated from various transactions such as credit card swipes, ATM withdrawals, and online transactions are collected and analyzed to understand customer behavior and spending habits. That providing valuable insights for business operations on banking.

d) Robotic Process Automation (RPA): RPA is used as a virtual assistant to efficiently handle repetitive tasks, such as processing customer inquiries and issues automatically, accurately, and swiftly.

e) Voice Interface via Chatbots: Personalized voice interfaces offer dialogue-based interactions, simple account inquiries, and financial advice.

g) Application Programming Interfaces (APIs): APIs provide access to customer data, enabling seamless integration with various applications.

h) Network Security: Ensuring cybersecurity to prevent cybercrimes and mitigate security vulnerabilities.

To develop into a digital bank, LPBank needs to allocate annual capital for this mission. The allocation of funds should be determined based on the proportion of investments required. To secure this capital, the bank can reduce unnecessary expenses. Investments in digital technology should be clearly defined, justified, and aligned with potential future revenue expectations. The application of modern technology in banking operations sets the foundation for the transition into a digital bank.

In addition to upgrading the Core banking system, investing in necessary equipment and technology over time is also crucial. LPBank should focus not only on upgrading its Core banking system but also on the implementation of digital banking services.

### **The Beginning of Vi Viet Wallet**

In 2016, LPBank introduced the Vi Viet Wallet, which can be considered as the initial step towards digital banking. At that time, Vi Viet Wallet encompassed all the features of mobile banking, offering support to people in rural and remote areas without the need to visit a physical bank branch. After 3 years, Vi Viet Wallet integrated various products and services into a single development platform, evolving into the LienViet24h digital banking application. LienViet24h allowed customers to conduct transactions and manage their accounts/cards anytime and anywhere without need have to visit a bank branch and physical procedures.

### **LienViet24h offered several advantages**

a) Integration of eKYC technology for online verification and identification, allowing customers to open accounts anytime and anywhere.

b) Omni-Channel interaction tools to meet customer needs and enhance marketing efficiency for the bank.



c) Customizable application interface with suggested frequently used services, user-friendly and easy to navigate for all customer segments.

d) Robust security with multiple layers of protection, instilling trust in users when performing transactions.

Although digital transformation is an inevitable trend in the banking industry, some customers still hesitate to fully embrace and trust online services. Completely eliminating human presence is challenging to be accepted. Therefore, transactions need to combine both online and offline elements. LPBank is determined to continue expanding its transaction network in parallel with digitizing various operations.

### **The Context of Digital Banking Development**

When LPBank transitioned to digital banking, it encountered several challenges. Firstly, there were legal issues concerning non-cash payments and the legality of digital documents and digital currency. Secondly, alongside the legal aspects were the habits and psychological preference of using cash by the general public. The banking industry needs not only legal frameworks but also the responsibility to change people's perceptions and habits.

Regarding legal matters, the Government has approved the Comprehensive Financial Strategy for the Nation until 2025, with a vision to 2030. Some specific targets of the strategy include having at least 80% of adults with transaction accounts at banks or other authorized organizations and at least 50% of total communes have a point, that providing financial services. The credit outstanding for agricultural and rural development should reach 25% of the total credit outstanding for the economy.

Regarding habits and psychology, especially in rural areas, the banks, government authorities, and organizations need to gradually improve the level of education and knowledge in using digital services. For each service, the banks need to provide guidance, advice, and direct support to customers. LPBank continues to implement its retail strategy persistently. This involves investing in and enhancing the quality of human resources, technology, and developing suitable products.

### **Limitations of Digital Banking**

The development of information technology has led to the digitization of documents and images, giving rise to the concept of digital banking in the financial sector. This is a new trend for all financial institutions, including those in Vietnam. Since the number of digital banks in Vietnam is still relatively small, there is an opportunity for Vietnamese banks like LPBank to capitalize on this. the opportunities for LPBank to implement digital banking are:

Firstly, LPBank relies mainly on electronic platforms and data to conduct its business. Information technology is the primary driver behind the trend of digital banking, which offers numerous benefits for both banks and customers. Compared to traditional banking, digital banking saves time, costs, and effort for consumers. LPBank has taken initial steps by offering electronic wallet and mobile services for customers to pay bills and shop online conveniently. However, the bank needs to continue shifting its service structure to generate more income from the convenience and benefits it provides to customers.



Secondly, banks in Vietnam are fiercely competitive in the market. Yet, the market share of digital banking remains modest in terms of the number of services and their value when compared to other banks.

Thirdly, LPBank needs to overcome the barriers associated with becoming a digital bank. Apart from the challenges in current legal frameworks, there are many internal regulations that are not compatible with these changes. Additionally, the bank's complacency also presents issues that need to be addressed. LPBank must tackle challenges for both the bank itself and its customers. Digital banking services are still novel for both banks and customers, and the requirements for popularization and customer training pose significant challenges for LPBank.

Digital transformation is an inevitable trend for all businesses, especially banks, particularly during the COVID-19 pandemic. With strong investments in technology following a comprehensive digital banking development strategy, LPBank has applied synchronized digitization to its system, particularly in launching customer-centric combo offers with exceptional advantages.

### **Combo Digital Products**

Cash transactions have revealed limitations in transitioning to digital transactions. People are opting for digital payment methods to settle their bills for electricity, water, and phone services. Apart from the convenience and cost savings, non-cash payments also help reduce direct contact, mitigating the risk of disease transmission.

To meet these demands, LPBank has introduced the Super Incentive Product Combo. When customers use LienViet24h digital banking, payment cards, and accounts, they will enjoy completely waived fees for online money transfers, as well as waived or reduced fees for counter services, along with various other benefits such as free cash withdrawals from ATMs both within and outside the bank's network and complimentary issuance of debit cards. Moreover, customers can open attractive digital accounts with fee waivers or reductions of up to 25 million dong, and those who participate in purchasing life insurance will receive gifts equivalent to 20% of the first-year insurance premium.

### **Digital Transformation Direction and Strategy**

In terms of the general direction, the Politburo issued Resolution 52-NQ/TW on September 27, 2019, regarding "Some major policies and proactive participation in the Fourth Industrial Revolution." To implement this resolution, the Government issued Resolution 50/NQ-CP on April 17, 2020, outlining the action plan for the implementation of Resolution 52. The banking sector is at the forefront of proactively participating in the Fourth Industrial Revolution. To develop "Digital Banking," LPBank needs to establish a sustainable strategy within the overall development direction. In the current context, LPBank is incrementally enhancing its management and operational capabilities. Transitioning from physical transactions to digital transactions entails significant changes, from investing in technology and personnel to transforming customer habits. This includes transitioning from branch network, physical procedures; building a development roadmap for Digital Banking, also known as "Branchless Banking".

LPBank has devised a 10-year digital transformation plan, from 2018 to 2028, encompassing all banking activities. This plan includes digitizing processes related to management, operations, product and service design, sales deployment, risk management, and more. Digital transformation goes beyond simply digitizing traditional banking services; it involves an entire change in how banks and financial institutions interact and serve customers. This entails adopting new applications, technologies, and business models to revolutionize the way banking services are delivered.

### **From the Smart Banking Branch**

At a Smart Banking branch, all customers can utilize 100% digitized procedures. From AI-powered customer recognition through camera systems, automated queue management, to services that require no paper-based documentation, the branch offers contactless smart payment methods.

The Smart Banking branch has revolutionized customer habits and behaviors, creating a convenient and modern transaction space. Not only does it cater to the diverse needs of customers across various economic segments, but it also saves a considerable amount of time, maximizing customer satisfaction. Transactions at the Smart Banking branch are both secure and convenient, with LPBank maintaining and upgrading technical infrastructure, enhancing security measures, and adding features and utilities for customers.

### **Towards Banking Digitalization**

In the next 3 to 5 years, LPBank will continue the step-by-step digitalization of business operations. The key requirement in this transformation process is upgrading LienViet24h to provide a 3-in-1 service: Digital Banking, card services, and Viet Wallet. Digitizing business operations will enable customers to easily access financial services, conduct banking transactions anytime, anywhere, and for anyone.

Banking Digitalization - with a smartphone, customers can simply perform easy tasks like quick registration and account identification, enabling them to swiftly conduct online transactions. All operations, such as money transfers, bill payments, and online savings, can be easily executed through the LienViet24h app, available anytime and anywhere. With QR code-based payment and money transfer solutions, LPBank encourages cashless transactions, actively waiving or reducing fees for online transfers and other services, lowering loan interest rates, and restructuring loan terms. Additionally, the bank promotes contactless payments via QR codes to minimize direct contact with physical cash.

### **Digitization of Services at LPBank**

Digitization of services at LPBank refers to the services provided by the bank to maximize customer transaction efficiency. Some specific digitized services at LPBank include: (i) Online banking and mobile applications to enable customers to manage their accounts, conduct transactions, and make payments through web browsers or mobile apps. Customers can check balances, transfer funds, pay bills, and perform various transactions anytime, anywhere. LPBank also offers online customer service through direct exchanges, email, or phone, allowing customers to seek assistance from LPBank staff. Additionally, LPBank provides electronic financial services

such as online account opening, online lending, online investment, and portfolio management. (ii) Electronic payments that support online payments using online payment gateways, e-wallets, or mobile apps, making online shopping and service payments more convenient. LPBank allows customers to transfer funds quickly and securely between accounts within the same bank or between different banks. (iii) ATMs and POS machines that enable customers to withdraw cash, check balances, and perform various transactions without visiting a bank branch. POS machines allow customers to make credit or debit card payments at retail outlets. (iv) Providing financial management services for both individuals and businesses. For personal financial management, LPBank offers tools to track, manage, and analyze financial situations, including expense categorization, savings goal tracking, and investment. In terms of business financial services, digital solutions encompass account management, lending, and payments in the business sector. These services aim to create a convenient, fast, and secure experience for customers while optimizing the bank's operational processes.

### **Solutions for Digitizing Banking Services at LPBank**

Digitizing banking operations at LPBank involves transforming the bank's processes and services from traditional forms, using physical applications, into digital formats. This transition enhances customer service efficiency, increases productivity, and reduces costs. Some solutions for digitizing operations at LPBank include:

#### **a) Developing mobile applications and user-friendly interfaces.**

LPBank builds mobile applications with interfaces that allow customers to easily conduct transactions, check accounts, and manage personal finances from anywhere. Today, with current technology, developing mobile applications and user-friendly interfaces is more accessible with various solutions. This involves (i) understanding the objectives and user profiles, such as providing online financial services, account management, etc., and focusing on user segmentation (individual customers or businesses). This helps customers create the best experience for their specific user base. (ii) Designing a beautiful, intuitive, and user-friendly interface that is consistent and harmonious. At the same time, the interface ensures that the application provides a smooth user experience, is easy to use, and addresses users' practical issues. (iii) Selecting suitable technologies and platforms, such as identifying platforms (iOS, Android) and development technologies (React Native, Flutter, Swift, Kotlin, etc.) that align with the customer's capabilities and goals. Integrating useful and secure features. (iv) Account management allows users to view account information, recent transactions, balances, etc. Transfer and payment should be done securely and conveniently to ensure safe and efficient money transfers and payments.

#### **b) Securing Digital Applications**

Ensuring the security of digital applications is crucial to protect sensitive user information. To achieve this, LPBank conducts thorough testing and quality assurance before releasing applications to ensure stability and performance. Additionally, the bank continuously gathers user feedback and makes improvements after deployment. Security technologies must comply with regulations, privacy rights, and legal requirements related to financial transactions and personal information. The bank must train its staff and provide user support to ensure that

employees understand the application and can assist customers. LPBank offers dedicated user support through online consultations or phone assistance. Furthermore, marketing efforts are essential to ensure that users are aware of the bank's application through appropriate marketing campaigns. Ensuring that transactions are secure by using two-factor authentication, OTP codes, fingerprints, facial recognition, etc. Implement data protection measures to safeguard customer data and personal information.

#### c) 24/7 Online Banking

This service allows access to accounts, conducting transactions, and checking financial information anytime, anywhere. To enable 24/7 service, some crucial solutions include: (i) Stable technology infrastructure, where servers, networks, and systems are built on high-performance infrastructure that can be easily scaled. Using cloud services and virtualization technology to optimize resources. Implement system monitoring tools to track performance, troubleshoot issues, and forecast future resource needs. (ii) Continuous online services ensure that customers can access and conduct transactions 24/7 without interruptions during browsing, updates, or system maintenance. (iii) Additionally, 24/7 services must be secure and protect information by using strong security measures such as data encryption, two-factor authentication, application security checks, etc. Monitor and respond promptly to suspicious activities or cyberattacks. (iv) The bank also performs continuous analysis and improvement by monitoring customer activities on the online platform to collect and analyze data. Use this data to enhance the customer experience and optimize the system. (v) Implement risk and incident management by developing risk prevention and response plans. This includes regular data backups, establishing system recovery plans, and contingency solutions.

#### d) Providing Digital Signatures

Enhanced security methods like digital signatures and two-factor authentication are implemented to protect personal information and customer accounts. When deploying digital signature solutions, the bank must provide digital certificates that include private keys and public keys. The private key is securely kept by the user and should not be disclosed. Before issuing digital certificates, the bank needs to perform a rigorous user authentication process to ensure authenticity and security. This may involve identity verification and personal information validation. Additionally, the bank deploys an interface for customers to create and use digital signatures. This interface can be a part of a mobile application, website, or dedicated software for creating digital signatures. Finally, LPBank ensures the secure storage and protection of digital signatures. Customers should be guided on how to protect their private keys and not disclose them to others.

e) Robots and Artificial Intelligence Chatbots and artificial intelligence (AI) will provide real-time assistance and basic financial advice to customers. Utilizing robots and AI in banking operations can offer many benefits, from streamlining internal processes to providing a better customer experience. (i) Automated customer service to assist customers through direct chat on the website or mobile app. Chatbots can answer frequently asked questions, provide account and transaction information, and assist in opening new accounts. (ii) Analyze data and predict customer financial behavior. This can help the bank better understand customer

needs and provide suitable products and services. (iii) Develop policies and risk management from customer business and financial data. This helps the bank determine credit policies, risk assessments, and asset management. (iv) Manage internal processes by using robots to automate internal processes such as document processing, account verification, transaction confirmation, saving time and minimizing errors.

g) **Data Analysis and Personalization** Using data to better understand customers and provide personalized services, from suggesting suitable products to personal financial management. **Data collection.** The bank will collect data from various sources, including financial information, transaction history, personal information, social media activity, and many other data sources. This data may include both structured data (e.g., transaction amounts) and unstructured data (e.g., social media posts). They are stored and processed in the bank's database system. Then, data processing procedures are applied to clean, transform, and categorize data for analysis purposes.

h) **Connecting with Other Financial Systems like Social Media** This allows customers to track their financial status from various sources and manage their accounts more comprehensively. Connecting commercial banking services with other financial systems like social media can provide many benefits to both the bank and customers. Some solutions to implement include: (i) Using application programming interfaces (APIs) to create links between the bank's system and other financial platforms like social media. APIs allow secure and standardized data exchange between different systems. **Single Sign-On (SSO).** (ii) Providing the ability to log in with a single account for both the banking system and other services like social media. This helps users save time and avoid managing multiple accounts and passwords.

i) **Digital Training** Ensure bank employees are trained in using digital tools and understand new processes to better assist customers. These solutions play a crucial role in transforming traditional banking operations into a digital model, improving the customer experience, and enhancing commercial bank performance. Digital training solutions for bank employees are essential in the digital transformation process. (i) **Identify training needs.** First, the bank needs to clearly identify training needs for employees. This includes assessing their current knowledge, the essential skills required to work in a digital environment, and specific topics that need to be supplemented. (ii) **Create digital training content,** including instructional materials, videos, online lectures, and knowledge assessments. The content should focus on the fundamental aspects of digitalization, from using digital tools to understanding network security and data management. (iii) **Provide online courses and self-learning online platforms** for employees. This allows employees to choose their study time and customize the learning process according to their needs. (iv) **Use digital learning tools** such as mobile apps, online learning platforms, and knowledge databases for employees to access and learn anytime they need. Training through a Learning Management System (LMS) involves using an LMS to track each employee's learning progress, provide feedback, and generate performance reports. Practical application by combining theoretical learning with practical experience in the working environment. This helps employees apply the knowledge they have learned to their daily work. **Training through videos and online seminars:** Use instructional videos and online seminars to deliver new knowledge and address employee questions. Connect with experts and the



community by connecting employees with industry experts and allowing them to participate in online communities to exchange experiences and learn. (v) Measure and evaluate after training and assess employee performance in a digital environment. (vi) Continuously update and customize because digital training is an ongoing process. The bank needs to continuously update training content to reflect changes in the industry and customize training programs based on feedback from employees.

### **The Risks and Challenges of Digitizing LPBank's Services**

Digitizing the services of a commercial bank brings many benefits but also comes with certain risks and challenges. Below are some key risks that a commercial bank like LPBank needs to be aware of when implementing digital services.

#### **a) Security Risks and Intrusions**

The threat of intrusion and the exposure of personal information and bank accounts can lead to information theft, account fraud, and identity theft. Security and intrusion risks can include (i) Intrusion from hackers and cyberattacks. Highly skilled hackers may attempt to infiltrate the bank's systems to steal personal information, bank account details, and other sensitive data. They may use techniques such as Distributed Denial of Service (DDoS) attacks, server intrusions, or malware to infect the system. (ii) Customer data leaks and financial information can be compromised through system breaches or security vulnerabilities due to errors made by employees. (iii) Insider threats, whether intentional or unintentional, can create security holes by sharing unauthorized information or being careless with account management and access rights. Attackers may use insider intrusion techniques to deceive employees or customers into disclosing personal information or authentication details. (iv) Weak password management can lead to attackers guessing passwords or using tools to crack them. (v) Improper data management, such as unencrypted data or insecure storage of sensitive data, can increase the risk of intrusion.

Preventive measures include (i) Multi-layered security using multiple security layers like strong passwords, two-factor authentication, and PIN codes to prevent unauthorized access. (ii) Encrypting sensitive data and financial information to ensure that data cannot be read if stolen. Digitizing services requires compliance with regulations on personal data protection, privacy, and information security. Violations can lead to penalties and reputation damage. (iii) Regularly updating and securing systems to ensure that systems and software are updated regularly and appropriate security measures are applied. (iv) Training employees on information security and intrusion prevention techniques, including social engineering intrusion techniques. (vi) Continuous monitoring through system monitoring and surveillance to detect unusual activities and intrusions early. (vii) Regular data backups to ensure the ability to recover after intrusion incidents. (viii) Access rights management to ensure that only authorized individuals have access to sensitive information. (ix) Regular security checks and knowledge assessments to ensure that the system is well protected.

#### **b) Customer-Related Risks**

Customers may encounter difficulties in using new tools, especially those who are not familiar with technology. They may also face security and privacy issues. The bank needs



to provide clear and user-friendly guidance to customers on how to use new tools. This may include instructional videos, online support step-by-step guides, and direct interaction guidance from support staff. The bank also needs to implement strong security measures to protect customer's personal information. This includes using two-factor authentication, encrypting data, and providing advice on how to protect passwords and personal information.

To minimize these risks, commercial banks need to ensure the application of modern security measures, legal compliance, and provide training for employees and customers so they can use digital services safely and effectively. The digitization process may require changes in traditional working methods, which can be challenging for both employees and customers to adapt to and operate.

### c) Data Management Risks

For every commercial bank, data management is a significant challenge in the digitization process. Data must be stored, protected, and processed securely and in compliance with regulations. Data management in a bank is the process of managing and safeguarding critical information about accounts, transactions, customers, and other financial activities. Risks related to data management can have serious consequences for the bank and its customers. Important data can be lost due to technical errors, hardware failures, or other issues, affecting the bank's ability to recover and operate.

## 5. DISCUSSION AND CONCLUSION

### Discussion:

The digitalization strategy and roadmap of LPBank represent a comprehensive approach to transforming traditional banking operations into a digital-first model. Several key points and observations emerge from the discussion of this strategy:

**Customer-Centric Approach:** LPBank's strategy places a strong emphasis on improving the customer experience. By leveraging digital technologies, they aim to provide customers with more convenient and efficient banking services. This includes features like mobile banking, online account management, and personalized financial advice through AI-powered chatbots.

**Risk Management and Policy Development:** LPBank recognizes the significance of managing risks associated with digitalization. With the increased use of technology, the bank must also address potential security threats and data breaches. Furthermore, data privacy and compliance with regulatory standards are crucial aspects that need careful consideration in this digital transformation.

**Internal Process Optimization:** The strategy acknowledges the importance of automating internal processes using robotics and AI. This approach can significantly reduce processing time, minimize errors, and enhance overall operational efficiency within the bank. By streamlining internal procedures, the bank can allocate resources more effectively.

**Integration with External Financial Systems:** LPBank's strategy acknowledges the benefits of connecting with external financial systems, such as social media platforms. This integration can provide customers with a more comprehensive view of their financial situation and assets.

Utilizing APIs and Single Sign-On (SSO) authentication methods can facilitate secure data exchange between systems.

**CONCLUSION:**

In conclusion, LPBank's digitalization strategy and roadmap are forward-looking initiatives aimed at modernizing and enhancing its banking services. By adopting a customer-centric approach, leveraging data analytics, and embracing digital technologies, the bank intends to stay competitive in the rapidly evolving financial landscape.

The bank recognizes the importance of addressing security concerns and regulatory compliance as it progresses toward digitalization. Managing customer expectations and providing guidance on using new digital tools and services are vital components of their strategy.

Ultimately, LPBank's commitment to digitalization positions it to better serve its customers, optimize internal operations, and adapt to the changing demands of the modern banking industry. This strategy reflects a proactive approach to embracing the digital era and ensuring long-term sustainability and growth for the bank.

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# IMPACT OF FINTECH ON BANKING ACTIVITIES IN VIETNAM

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*Abstract: The development of the financial technology field is the result of the application of the industrial revolution 4.0, which is having a strong impact on all banking operations and operations. Fintech includes five areas: e-KYC; Blockchain; pay; Open APIs; and peer-to-peer lending. Fintech has a strong impact on the Finance - Banking ecosystem, in which, the traditional banking system is most affected, both in terms of operations and administration. The article focuses on assessing the impact of Fintech on banking activities*

*Keywords: fintech, banking*

## 1. INTRODUCTION

The industrial revolution 4.0 (industrie 4.0) in the era of internet of things (internet of things) and artificial intelligence (AI) has a speed of technological breakthroughs unprecedented in history. Its influence is vast across the globe and is disrupting the structure of almost every industry in every country. The development of the financial technology (Fintech) field is the result of the application of the industrial revolution 4.0, which is strongly affecting all banking operations and operations and end users. Some fintech transactions are fundamentally changing the banking industry. For the first time in history, on May 14, 2018, HSBC used blockchain technology in an international trade finance transaction with ING Bank of the Netherlands to support Agriculture and Food Company. Cargill products, reducing the transaction time to 24 hours, compared with the usual 10 days under the traditional method (Browne, 2018). In China, 900 million out of 1.4 billion people are now using QR codes for daily payments, including taxi drivers, while refusing to accept cash or credit cards (Banjo, 2018).

Fintech has had huge impacts, both positive and negative, on banking. This article has the following objectives: Firstly, to summarize the basics of fintech and the impact of fintech on banking operations - governance. Secondly, analyze and evaluate the current situation of fintech and the impact of fintech development on Vietnam's banking industry in terms of: the legal framework and activities to build an ecosystem for Fintech in Vietnam; the current status of fintech activities in Vietnam and its impacts. Third, propose three groups of recommendations to regulators, commercial banks, and fintechs, contributing to optimizing the positive impacts and minimizing the negative impacts of fintech on operations. Vietnamese banks in the near future.

## 2. THEORETICAL RESEARCH:

### 2.1. Fintech and its components

Currently, there are more than 200 different concepts about financial technology - Fintech, but the most generalized and unified concept is: Fintech is the application of innovative,

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creative and modern technologies for in the financial sector, in order to provide customers with transparent, efficient and convenient financial solutions/services at a lower cost than traditional financial services (Mackenzie, 2015, Partrick, 2017) . According to the World Economic Forum (WEF), Fintech only focuses on applying technology developed from small companies, new to the market, not to mention that large technology companies such as Apple develop Apple Pay, or large financial institutions develop their own high-tech application services (WEF, 2017). There are many ways to categorize the main areas of fintech activity. According to Dorfleitner et al. (2017), Fintech includes four broad areas: finance (including crowdfunding, credit and factoring), asset management (social trading, using robots). , personal financial management, banking and investment services), payments (non-traditional forms of payment, blockchain and Cryptocurrencies); and other fintechs (insurance, search and comparison engines, IT infrastructure platforms). According to the World Economic Forum WEF, the main areas of Fintech's activities include: (i) Payments; (ii) Capital mobilization; (iii) Loans; (iv) Investment and asset management; (v) Insurance; (vi) Blockchain and applications; (vii) Technologies to support Banking and Finance activities (Electronic customer identification (e-KYC), credit information/rating...) (WEF, 2017). According to DBS & EY (2016), fintech includes (i) financial data and analytics; (ii) financial software; (iii) digitized processes: (iv) the platform for payments. According to ADB (2017), Fintech includes five priority areas: (i) e-KYC electronic customer identification; (ii) Blockchain; (iii) payment (Payment); (iv) open source technology Open APIs; and (v) peer-to-peer lending.

Fintechs are ways in which technology-focused start-ups can develop new banking and financial products, or provide new ways to reach customers when offering financial products. bank. Fintech has become part of the financial industry, focusing on new applications, processes, products or business models with some or more complementary financial services, in the form of a direct supplier-to-vendor process. service providers and customers through the Internet.

Fintechs have a strong impact on the Finance - Banking ecosystem, including supply, demand, support system and legal framework. In particular, the traditional banking system is most affected, both in terms of operations and administration.

## **2.2. The impact of fintech on banking activities**

There are many studies on the impact of fintech on the banking and financial ecosystem. According to WEF (2017) and ADB (2017), fintech has the following impacts on banking operations:

- E-KYC (Electronic Identity Authentication) Electronic customer identification. This is the digitization of KYC, a RegTech policy (technology applied in regulation and law) applied globally in the financial sector. Financial institutions need to know and understand their customers and financial transactions in order to manage risk. Banks or housing finance companies must get to know their customers well by using a Customer Identification Program (CIP) that uses an independent and reliable source of text, data, or information to verify the customer's identity, temporary and permanent address, nature of the business entity, financial position and other similar information. Typically, the required documents for the KYC compliance process include identification, passport, and driver's license. In addition,

the continuous transaction tracking known as “Customer Due Diligence” (CDD) monitors irregular transactions, cash transactions and suspicious transactions (Menon, 2017).

Through electronic customer identification by traditional paperless forms such as: biometrics (eyes, faces, fingerprints) of customers, soft copies, e-KYC can solve the problems of customers. The traditional financial sector is as follows (ADB, 2017; WEF, 2017):

(i) Reducing the time and human cost of identifying customers when they come to the transaction, or when the customer moves to a new credit institution, the customer does not have to repeat the same type of information many times;

(ii) Reducing the cost and time of filling out forms and transaction documents through the electronicization of customer documents;

(iii) Reduce notarization costs, hire lawyers to evaluate the accuracy of original documents stored at banks when borrowing capital or performing transactions;

(iv) Helps reduce the risk of money laundering when the customer identification infrastructure is shared by credit institutions.

- Blockchain technology – Blockchain

Blockchain is a technology that allows the transmission of data securely based on an extremely complex cryptographic system, an accounting ledger in which cash is closely monitored. Blockchain possesses a very special feature that is the transmission of data does not require an intermediary to confirm the information. The Blockchain system has many independent nodes capable of validating information without requiring “signs of trust”. Information in the Blockchain cannot be changed and can only be added when there is a consensus of all nodes in the system.

This is a highly secure system against the possibility of data theft. Even if part of the Blockchain system collapses, computers and other nodes will continue to protect information and keep the network running (The Economist, 2015).

Blockchain can solve the following problems of the traditional financial sector (ADB, 2017; WEF, 2017)

(i) Reduce the time and cost of performing the operations and trade finance management stages, with a lot of complicated authentication and documentation requirements being done manually involving many different parties contracts, especially international trade finance contracts.

(ii) Centralize data management in the bank, thereby reducing the risks of human confusion due to data manipulation, manipulation and hacking.

(iii) Help to update data continuously, share data among global credit and financial institutions with low cost and uniformity in order to identify customers and fight money laundering.

(iv) Reducing transaction costs through intermediaries and lengthy paperwork processes, increasing the level of trust between transaction parties.

- Digital Payment (Digital Payment)

A cashless payment transaction processed through digital channels. The digitization of financial services involves a disruptive change in payments through online shopping and payment processes at POS, an evolutionary step that changes the way traditional payments are made. system, from cash to credit/debit cards using mobile apps, digital wallets (Janowitz, A & L. Biagi, 2018).

Payment has the following impacts on banking performance (ADB, 2017; WEF, 2017):

(i) Help the bank collect more complete information with customers when opening new accounts, meet the increasing requirements on anti-money laundering and customer identification;

(ii) Reduce implementation costs and manual errors for payment transactions of installment loans, processed directly between customers and lending institutions.

(iii) Increase the level of access to basic banking services, including payment services, for customers in remote, rural and remote areas where there is no presence of transaction offices , Bank branch.

(iv) Reducing the cost of opening transaction points/branches of banking service providers in rural areas where transaction volume is low.

(v) Reducing risks, increasing access and meeting demand for money transfer services, for example, from foreign workers sending money to their families living in rural areas, or from parents in rural areas supporting them. Help your children study in the city.

(vi) Increasing the population's level of awareness and knowledge about using financial services through digital tools (internet, smart phones)

- Open application programming interface standards

API is an "interface" between software and software, a way for software (operating systems, applications, modules in enterprise systems, etc.) to communicate with each other and take advantage of its capabilities. together. Open APIs or public APIs, which are public open source code, provide developers with programmatic access to a proprietary software application or web service (Proffitt, 2013). Open APIs impact banking operations and operations as follows:

(i) A standard API that allows companies to transfer funds to a bank account through a direct debit function.

(ii) Streamline/reduce the number of interfaces and requirements impacting the bank's core banking platforms.

- Peer-to-Peer Lending, which is the direct connection of borrowers and lenders to each other through a direct platform. Borrowers and lenders register themselves on that platform. For borrowers, information needs to be provided including: credit score, purpose of using capital, size of loan to be borrowed, annual income level, some other personal information. Before allowing parties to engage in any lending or borrowing, the platform operator will have to appraise both parties (Briggman, S., 2015; The Economist, 2017).



P2P is a way to compete directly with banks' traditional lending activities, due to the following outstanding strengths:

(i) Fast loan processing time, easy way to borrow and lend (online), fixed interest rate.

(ii) Adding more credit access channels for small and medium-sized enterprises, in the condition that these enterprises often find it difficult to meet the requirements for collateral, as well as documents and proofs.

(iii) Allow businesses to use invoices, delivery notes, and goods receipts to borrow on the direct market.

(iv) Small and medium-sized businesses can use online "business software" products to help with order management, invoicing, accounting and cash management.

(v) Enhance the application and development of credit scoring models and/or algorithms with small and medium enterprises, as well as individuals, taking advantage of new qualitative and quantitative information sources to collect and customer analysis.

Thus, Fintech has advantages brought by technology over banks, making it easier to create differentiated, customer-oriented products than traditional banks. Fintech creates both positive impacts as follows:

- Increase financial inclusion through increasing the size and number of transactions, reducing transaction costs, increasing customer access to banking services anytime, anywhere, and increasing automation.

- Reducing transaction costs, helping to upgrade and improve banking services, in line with the increasing and diverse needs of customers.

Regulatory technology to help improve the quality, compliance, and risk management of compliance, reporting, customer protection, money laundering and financial crime processes.

- Reduce risks to a certain level for the bank, making a difference in products and customer experience.

However, fintech also has negative impacts on banks such as (i) being a direct competitor of the bank in some areas such as payment, blockchain, lending; (ii) when the bank applies too much technology, face-to-face transactions decrease, the connection and customer loyalty to the bank is reduced; (iii) increased risks from technology crime in the banking sector.

Therefore, the trend instead of competition, to switch to cooperation between banks and fintech is gradually becoming popular. In order to survive and develop, fintech companies need to have access to capital, network size, customer information sources, as well as the support and legal advice of banks. , 2018).

### **3. ACTUAL SITUATION OF IMPACT OF FINTECH ON BANKING ACTIVITIES IN VIETNAM**

Vietnam is considered as one of the countries with the best potential for fintech development in the world. According to Vietnam Digital Landscape (2022), out of a total population of 96 million people, 67% are using the internet, 57% are using social networks on a regular basis, and 73% are using smartphones out of 146, 5 million subscribers nationwide. The level of

internet and social network usage grew impressively (28% with internet and 20% with social network compared to 2017). Vietnam is still in the golden population period, with an average age of 31 and 69.3% being between the ages of 15-60.

Startups in Vietnam over the years have made great strides in investment in general and in fintech in particular. According to Topica (2022), total investment transactions for Vietnamese startups have grown very strongly, from 137 million USD in 2019, up to 205 million USD in 2021, and 291 million USD in 2022, with the number transactions nearly doubled (92 transactions). In which, the fintech industry ranked third with 8 transactions and a total investment of 57 million USD. By the end of 2022, the transaction value of Vietnam’s Fintech market has reached \$4.4 billion.

Fintech companies and banks each have their own advantages and disadvantages, so the trend of complementary cooperation to provide quality financial banking services becomes extremely important. According to a quick study by the State Bank (2022), 72% of fintech companies are choosing to cooperate with banks, while 14% decide to choose to compete with banks, and the remaining 14% choose to develop complete products. all new.

**Table 1: The symbiotic relationship between banks and fintech**

Bank	Fintech
(-) Slow to change, develop and lack flexibility in technology application, leading to high transaction costs and not being able to meet the needs of customers	(+) Having advantages in terms of innovation and the ability to apply technology flexibly and effectively, helping to reduce transaction costs and improve customer experience.
(+) Having strengths in customer network, experienced human resources, well-invested information technology and payment infrastructure,	(-) Lack of experience in banking and finance, lack of customer base, internal compliance control system, weak risk management

*Source: Pham Tien Dung (2022)*

Because fintech activities in Vietnam are still in the early stages, the specific impacts are not really clear, but only focused on payment activities. Most of the fintech companies in Vietnam are mainly in the payment sector, as the legal framework for this activity is quite clear. There are 27 companies registered with the SBV to provide intermediary payment services. Mobile payments become mainstream with technologies such as QR codes/near field contact NFC/digitization of card information (tokenization)/e-wallets. The number of e-wallet services has now increased to 24. There are 12 banks that have deployed QR Code payment service with more than 5,000 payment acceptance points. The number of organizations deploying payment services via the Internet increased to 78, while 41 organizations deployed mobile payment services.

Thus, in 2022, the size and transaction value of payment methods via the internet and mobile phones has increased significantly, with the great contribution of fintech companies and their efforts. of commercial banks in the application of fintech.

In addition to payment activities, which have had some positive steps and impacts, other areas of fintech in Vietnam are still quite underdeveloped. Specifically, the application of e-KYC in banking operations and administration in Vietnam is only at the experimental level,

such as combining face-to-face customer identification with phone or camera identification. P2P lending, blockchain and Open APIs activities do not yet have an experimental regulatory framework. Application services such as customer appraisal and scoring or providing large customer data to banks are still sporadic in nature, and are decided by the banks themselves when working with Fintech. Some typical examples in the cooperation of fintech with banks over the past time in Vietnam are:

- Pilot programs (completed) on cooperation between banks and strong fintech companies to develop e-wallets (Vietcombank – MOMO, MB – Viettel, PGBank – Petrolimex), Lien Viet Post's Wallet products Bank.

- Vietinbank cooperates with Opportunity Network (ON) to provide a digital platform to connect businesses and customers of Vietinbank with more than 15,000 businesses in 113 countries that are members of ON.

- VIB cooperated with Weezi company to launch MyVIB Keyboard, an application for transferring money via social networks.

- Techcombank and Fastacahs introduced F@st Mobile, a fast money transfer method via Facebook and Google+.

However, fintech activities in Vietnam are still underdeveloped, the positive impacts are potential and small, while some negative effects have appeared. Some banks are still hesitant to open their doors to cooperation with fintech. Procedural processes, especially the bidding process, limit fintech participation due to financial reporting requirements. A few fintech companies in the blockchain and P2P lending space are creating some bad cases. Specifically, the company Modern Tech scammed more than 15,000 billion through selling iFan and Pincoin virtual currency to 32,000 investors in early 2018. Concerns about customer information security and customer protection increased as cases Tech crime is on the rise.

In the process of developing and managing fintech companies, some problems arise as follows:

Firstly, models change too quickly, making it difficult for the State Bank to meet the needs of state management as well as market orientation.

The coordination with relevant agencies of the State Bank is still slow, typically the Ministry of Public Security. This increases banking crime, which in turn affects the reputation of commercial banks.

Fintech companies themselves cannot compete directly with banks, but they can cooperate. This cooperation needs to be conducted carefully so that the bank can both retain market share and benefit consumers.

#### **4. POLICY RECOMMENDATIONS:**

In order to take advantage of the development potential of Vietnam's fintech, increase positive impacts and reduce negative impacts on banks, the participation of many stakeholders in the fintech ecosystem is required.

- For regulatory agencies:

- The State Bank of Vietnam needs to (i) Study and learn from the experiences of a number of countries in the region and the world to build and perfect the legal framework for a number of issues such as the banking model, agent banking, e-KYC, electronic money (e-money), customer protection and customer data management, risk management, prevention of money laundering in the context of applying the public revolution Industry 4.0; (ii) Developing a Regulatory Sandbox Framework for Fintech. Some countries such as Thailand, India, China, Korea have developed these forms of fintech. Vietnam can completely learn from those models.

- In addition, SBV needs to coordinate with relevant ministries and sectors to unify the application of fintech in banking governance activities such as the Ministry of Public Security and the Ministry of Justice on the issue of e-KYC acceptance and sharing. share national information data on customer identification, reduce high-tech crime; The Ministry of Planning and Investment on bidding to select fintech start-ups when implementing projects with banks whose main equity is held by the State; Ministry of Finance on the issue of electronic documents and taxes related to fintech; Ministry of Education on financial education nationwide; Ministry of Science and Technology on ensuring network security and applying new technologies in the field of finance and banking.

- For Vietnamese commercial banks: (i) select suitable cooperation methods with fintechs, take advantage of fintechs to develop more comprehensive banking operations and governance. Banks can choose to buy solutions from fintechs, enter into joint ventures or open their own fintech subsidiary. Personalize potential deals, optimize innovation and creativity of fintechs to complement their imperfections. Choosing the right fintech companies to not affect the position and trust of customers, always ensuring the safety of the bank and the whole system; (ii) In the short term, use fintechs to focus on the retail customer market, and gradually experiment with more difficult areas such as international trade finance; (iii) understand the strengths and weaknesses as well as the differences of fintechs and banks, especially cultural differences (fintechs are agile models, take risks, while banks are customer is a firm, prudent institutional model, putting safety first), from which there are solutions to reconcile differences to optimize the strengths of fintechs; (iv) learn lessons from good experiences and failures of banks around the world in working with fintechs, especially in ASEAN countries.

- For fintech companies: (i) Using appropriate technology, thereby expanding the network to increase the level of better access to potential customers in providing e-banking financial services; (ii) Ensuring high quality, safe service at a reasonable cost to satisfy needs and build trust with customers; (iii) understand the orientation, strategy, risk appetite, position and market share of the partner bank to develop products in line with the bank's mission and core values; (iv) Use more PR methods, especially through word of mouth or story telling campaigns to let customers know about banking and financial products. ; (iv) More thorough training of agents and careful selection of agents to avoid possible moral hazard and adverse selection; and (v) compete, but at the same time, cooperate with the Banking industry to capitalize on their potential customer base and market on a mutually beneficial basis.

## 5. DISCUSSION AND CONCLUSION

In the past time, along with the wave of the digital transformation revolution, financial technology has emerged, exploded across the globe and is expected to continue to grow strongly in the future. Not out of the global trend, Fintech Vietnam has also grown impressively in the past few years and has impacted many aspects of banking activities. In addition to the wide development prospects, the Vietnamese Fintech market faces many challenges. The article aims to give a general picture from which to make some recommendations for development in the coming time.

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# ORIENTATION TO IMPROVE THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM IN ENTERPRISES IN THE CONTEXT OF GLOBALIZATION

Nguyen Thu Ha<sup>1</sup>

**Abstract:** *In the context of globalization, Vietnamese businesses have many opportunities but also face many difficulties and challenges. In order to increase competitiveness and assert a foothold in the market, businesses need to pay attention to information systems, including management accounting information systems. The article presents some basic issues about management accounting information systems and proposes some orientations to improve management accounting information systems for enterprises in the context of globalization.*

**Keywords:** *management accounting information system, accounting, enterprise, globalization.*

## 1. INTRODUCTION

Management accounting information system is an indispensable management tool in enterprises. This information system helps managers quickly make accurate and timely decisions to achieve business goals in the enterprise. According to Nguyen Hoang Dung (2017), the management accounting information system is a collection of people, information and supporting tools forming a unified whole to receive, process, store and provide management accounting information for corporate governance in order to effectively use resources and increase the value of the enterprise. Management accounting information system is a part of management information system and is an effective tool to realize management objectives. Each management accounting information processing process is considered a subsystem, they interact with each other to achieve the common goal of the management accounting information system, including: (1) data acquisition system, (2) information processing system, (3) information supply system, (4) storage system and (5) information control system.

In the current globalization context, with the strong development in science, technology and information, the provision of accounting information needs to be done quickly, timely, accurately and reliably to serve management and decision-making. Therefore, the improvement of the management accounting information system to meet management requirements is a matter of concern.

## 2. COMPONENTS OF A MANAGEMENT ACCOUNTING INFORMATION SYSTEM

The three basic elements constituting a management accounting information system include people, supporting tools and management accounting data. People are the decisive factor. People with the initiative to perform the processing process to transform input data into useful information for management, control and decision-making. Therefore, factors related to people are very important, including the qualifications of international accountants,

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the organization of the management accounting apparatus and the coordination between departments in the enterprise.

Supporting tools in the management accounting information system include technical equipment such as computer systems, network equipment and automatic processing software. This is a very essential element for the management accounting information system in enterprises. In the context of globalization with the strong development of science and technology, to develop the management accounting information system, enterprises need to implement software solutions. The choice of software solution should be based on the scale, scope of operations, business characteristics, financial capabilities, qualifications of accountants... ERP system is an effective software solution today, it allows enterprises to integrate business activities from many modules into a unified system with a common database. In addition, ERP systems are geared towards planning even to those who provide resources to the enterprise (Shehab et al, 2004).

Management accounting data is also an indispensable component in the management accounting information system. This is considered as the raw material of the system to process into useful information to support managers in strategic planning, controlling strategy implementation and decision making. Management accounting data includes both financial and non-financial information. Financial information is information related to the capital cycle expressed in terms of physical, labor and monetary measures, such as information on purchases, information on prices, information on resources for production, information on consumption products, payments... Non-financial information helps users have a comprehensive view of the business's operations and business analysis. Non-financial information in enterprises mainly includes information about governance activities, natural conditions, social and community relations, people and knowledge (Nguyen Hoang Dung, 2017).

### **3. REQUIREMENTS FOR MANAGEMENT ACCOUNTING INFORMATION SYSTEMS OF ENTERPRISES IN THE CONTEXT OF GLOBALIZATION**

The objective of the management accounting information system is to provide information for managers in control and decision making to ensure management effectiveness. The context of globalization and the strong development of science and technology have created many opportunities and challenges for Vietnamese businesses. Accordingly, more and more foreign enterprises with potential capital, technology and good management skills are participating, creating an increasingly fierce competition in a level playing field. Vietnamese businesses want to stand firm and develop sustainably in the market, need to have the right strategic direction as well as optimal use of resources. To do that requires each business to build for themselves a flexible and effective accounting information system to analyze, process and provide important information in the process of business strategy planning and effective control of the operation process, to ensure the good implementation of the set goals. In particular, the management accounting information system needs to adapt to new changes, provide administrators with accurate, fast and effective information.

Currently, the application of the achievements of the Industrial Revolution 4.0 to the field of management accounting has become an inevitable trend. In that context, accounting

activities, especially management accounting information system in particular in Vietnam, need to be adjusted to match the development speed of the region and the world.

#### **4. ORIENTATION TO IMPROVE THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM IN ENTERPRISES**

In the current international integration economy, businesses are facing huge challenges that are how to stand firm and compete in the market. Therefore, it is very necessary to pay attention to the management accounting information system in enterprises. Management accounting information meets the needs of providing sufficient and quick information for managers to run the business, to control and evaluate the business in order to perform the management functions well. Currently, some enterprises have not paid much attention to the application of management accounting for business management. Therefore, in order to increase the ability to adapt to the new context, a number of orientations are proposed to improve the management accounting information system in the enterprise.

Firstly, it is necessary to raise awareness of business leaders. If the leadership is aware of the importance and role of the management accounting information system, the construction and completion of the new management accounting information system will be effective and quality. Because the information from the management accounting information system directly serves the business leaders themselves to make decisions on production and business plans, and business strategy planning. The implementation, organization and application of management accounting depends greatly on the attention of leaders. Managers will determine the information that needs to be used, how to use management accounting information effectively to make management decisions based on the information that has been filtered, analyzed and based on their own decisions. In addition, administrators need to determine the recipients and users of information, thereby decentralizing information processing for each department and individual.

Secondly, it is necessary to promote the application of science and technology to the organization of the management accounting information system. It is necessary to synchronously invest in computer systems and modern technological equipment for accountants to organize the collection, processing, supply, storage and control of information. This is the optimal solution to provide for the effective implementation of resource management, creating value for businesses, and enhancing competitiveness in the economic integration environment. In order to limit the risk of computer loss or information disclosure or destruction, the computer room and database should be closely protected, backup accounting data should be made with peripheral storage devices such as hard drives, hard disks, floppy disks, compressed disks, CDs, magnetic tapes, etc. At the same time, enterprises need to strengthen maintenance procedures, use technology techniques and corresponding software to prevent malicious acts.

Thirdly, enterprises need to build and maintain a scientific, appropriate and effective internal control system to ensure control of operations within the unit, prevent mistakes, and achieve the goals and requirements set by the unit. Internal control includes 5 elements: Control environment; Risk assessment process; Information and communication systems; Control activities; control monitoring. Accordingly, the activities taking place must always be controlled and strictly controlled to ensure the reliability of the control results for interested

objects, especially external ones. Currently, the view of the internal control system is covering both internal controls along with technical means, equipment and people. The more objective and effective the means of control equipment, the more reliable it is. Where, the more the control department uses modern technical means and equipment, the more limited human influence and influence is, the more reliable the control will be. Regarding people, the controller must be honest, transparent, competent and always ensure the development to meet control requirements in changing conditions.

Fourthly, enterprises should focus on training human resources in the direction of developing management capacity and professional capacity to grasp techniques and analyze data; applying the progress of science and technology to the cycle of accounting information systems. It is necessary to focus on training management accounting staff in expertise, professionalism and understanding of information technology to be able to apply information technology and apply the advancement of science and technology in the context of international integration in management accounting.

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# ANALYSIS OF FACTORS INFLUENCING THE DEVELOPMENT OF ELECTRONIC BANKING SERVICES AT LIENVIE POST JOINT STOCK COMMERCIAL BANK

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*Abstract: This article examines the factors influencing the development of electronic banking services at LienViet Post Joint Stock Commercial Bank (LPBank). The results reveal seven factors that significantly impact the development of electronic banking services at LPBank, ranked in order of importance from high to low: Service products, Staff service capabilities, Accessibility convenience, Technological system, Reachability, Marketing & customer care, and finally, Security. Based on these findings, the article proposes specific solutions for each influencing factor to enhance the development of electronic banking services at LPBank.*

*Keywords: electronic banking services, influencing factors, LPBank*

## 1. INTRODUCTION

The development of electronic banking services (EBS) is an inevitable and objective trend in the modern economy. EBS brings significant benefits to customers, banks, and the economy as a whole, thanks to its convenience, accessibility, speed, accuracy, and security. In the context of the Fourth Industrial Revolution and increasing international integration in the financial banking sector, banks are increasingly required to apply scientific and technological achievements and the utilities of the internet in their business operations to enhance operational efficiency and provide the best products and services to customers.

Both in theory and practice, there are numerous factors influencing the development of electronic banking services, including subjective and objective factors. Each factor can have a positive or negative impact on the development of electronic banking services. Therefore, it is the task of banks to analyze these influencing factors in order to identify ways to mitigate negative impacts and leverage positive factors to promote the development of electronic banking services in the current context.

Hence, it is necessary to conduct theoretical and practical research, analyze the current situation, and identify scientific and practical evidence regarding the factors influencing the development of electronic banking services at LienViet Post Joint Stock Commercial Bank.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

The development of electronic banking services has been a topic of interest for many authors both domestically and internationally, encompassing various forms of research such as theses, dissertations, scientific research projects, and scientific articles. These studies have been approached from different perspectives and angles.

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## **2.1. International Research Situation**

Regarding the topic of electronic banking services, there have been numerous works and research articles worldwide. Some notable research works include:

Jannatul Mawa Nupur, in September 2010 [13], in “e-Banking and Customers’ Satisfaction in Bangladesh,” systematized theoretical issues related to e-Banking services. The author deeply analyzed the factors influencing customer satisfaction when using e-Banking services in Bangladesh before the year 2010. The author highlighted the benefits of online banking services, such as speed, efficiency, and reliability.

Al-Hawari-Mohammed, Nicole Harley, and Tony Ward (2005) [10], in “Measuring banks’ Automated Service Quality: A Confirmatory Factor Analysis Approach,” comprehensively addressed the theoretical issues of automated banking services. From there, the authors proposed methods for measuring the automated service quality of commercial banks using a confirmatory factor analysis approach.

Bauer, H. H., Hammerschmidt, M., & Falk, T. (2005) [12], in “Measuring the Quality of e-Banking Portals,” measured the quality of electronic portal services offered by socio-economic organizations. The authors introduced measurement criteria for assessing the service quality of these electronic portals, primarily from the perspective of the managing organizations.

Barry Howcroft, Paul Hewer, and Robert Hamilton (2003) [26], in the study “Consumer Decision Making Styles and the Purchase of Financial Services,” synthesized comprehensive theoretical issues related to financial services. They focused on analyzing decision-making behaviors of financial service users. According to the authors, fundamental decisions regarding financial services usage depend on financial capability, understanding, and the advantages that these services offer to customers.

Jayawardhena, C., & Foley, P (2000) [29], in “Changes in the Banking Sector—the Case of Internet Banking in the UK,” compiled theoretical issues related to electronic banking services. They analyzed the status of Internet banking services in commercial banks in the UK before 2001, highlighting changes in electronic banking usage in the country.

In conclusion, there have been numerous international research works on electronic banking services, mostly analyzing their relationship with customer satisfaction. It is evident that the development of electronic banking services necessitates a focus on customer trust and satisfaction by financial institutions.

## **2.2. Domestic Research Situation**

Electronic banking services have become increasingly popular and serve as a foundation for current analysts’ research. Within the country, there have been numerous research works, journal articles, theses, and dissertations focusing on electronic banking services. Some noteworthy research works are as follows:

Nguyen Thi Hong Yen’s doctoral dissertation, titled “Development of Banking Services at the Bank for Investment and Development of Vietnam - BIDV,” from the Banking Academy in 2015 [9], systematized and clarified issues related to the development of commercial banking

services. The dissertation identified evaluation criteria and highlighted factors influencing the development of commercial banking services.

Pham Thu Huong (2012) [5], in her doctoral dissertation “Development of Electronic Banking Services in Vietnam in the Context of International Economic Integration,” provided a comprehensive overview of the general theoretical framework for electronic banking services and introduced a research model for service development.

Nguyen Thuy Trang (2018) [7], in her doctoral dissertation “Development of Electronic Banking Services at the Vietnam Bank for Agriculture and Rural Development (Agribank),” addressed theoretical issues concerning electronic banking service development. The dissertation conducted a survey of experiences in electronic banking service development from various commercial banks within and outside the country, drawing lessons for Agribank. It systematically analyzed the current state of electronic banking service development at Agribank from 2011 to 2017, proposed solutions, and recommendations for its future development.

Moreover, there are several related theses, such as Vu Thi Hong Anh (2016) [1], who wrote a Master’s thesis on “Development of ATM Card Services at Commercial Bank for Foreign Trade of Vietnam (Vietcombank)”; Chau Dinh Linh (2015) [6], in an article discussing “Bank Cards, ATMs, Service Fees: Paradoxes and Subsequent Races,” addressing the development of the bank card market in Vietnam from 2010 to the end of Q1 2015, highlighting paradoxes in the development of card services in Vietnamese commercial banks.

Nguyen Van Dung (2012) [4], in the article “Development of Electronic Banking Services in Ho Chi Minh City - Current Status and Vision until 2015,” provided an overview of the deployment of electronic banking services in commercial banks within Ho Chi Minh City up until mid-2015.

These research works reflect a thriving landscape of domestic studies on electronic banking services, encompassing various aspects and viewpoints, contributing to a comprehensive understanding of this field.

### **2.3. Research Gaps**

As can be observed, there have been numerous research works related to the topic of electronic banking services up to the present day, providing valuable theoretical references for authors to refine and continue their own research. However, the existing research works either remain in a generalized form, focusing on the historical development of electronic banking services or their development in various countries, or approach the research from the perspective of service quality. Some studies have employed customer surveys and quantitative economic models to assess the quality of electronic banking services. Yet, these evaluations have been either conducted in foreign commercial banks or in domestic commercial banks mainly before 2020. The research focus has primarily been on customer assessments, neglecting the evaluations from the perspective of the commercial banks themselves. There is also a gap in research regarding the development of electronic banking services at LPBank during the period from 2016 to 2023.

Given the current context of deep financial integration and the strong development of the



Fourth Industrial Revolution, which significantly impacts the development of banking services, the advancement of electronic banking services is a requirement for commercial banks.

**The research gaps that need further investigation are:**

Factors Impacting the Development of Electronic Banking Services: What are the factors influencing the development of electronic banking services under current conditions?

Evaluation Criteria and Models: What criteria and models can be employed to evaluate the development of electronic banking services effectively?

Solutions for LPBank: What solutions should LienVietPostBank study and implement to advance electronic banking services in the upcoming period?

These research questions will contribute to a more comprehensive understanding of the current landscape and pave the way for the strategic development of electronic banking services, particularly at LPBank, taking into account the challenges and opportunities presented by financial integration and technological advancements.

### **3. RESEARCH CONTENT**

#### **3.1 Concept and characteristics of electronic banking services in commercial banks**

##### **3.1.1 Definition**

According to FFIEC (Federal Financial Institutions Examination Council), electronic banking services refer to a type of traditional banking service that is provided directly to customers through interactive electronic communication channels. Therefore, electronic banking encompasses the entire system that allows individuals or businesses to access their accounts, conduct transactions, or gather information about financial products and services through both public and private networks, including the internet. To utilize electronic banking services, customers use electronic devices such as personal computers, PDAs (personal digital assistants), ATMs, electronic kiosks, and phones to access the system. This definition highlights that electronic banking services are essentially traditional banking services distributed through electronic means. However, the limitation of electronic banking services within the framework of traditional banking indicates that this definition is not comprehensive enough to encompass the emergence of new modern services that will evolve based on the distinctive nature of electronic transaction methods in the future.

In the regulations on risk management principles in electronic banking activities, issued in Decision No. 35/2006/QĐ-NNN by the State Bank of Vietnam, a definition of electronic banking activities is provided: “activities of banks conducted through electronic distribution channels.” This definition indicates that electronic banking services are banking services provided through electronic distribution channels.

In summary, electronic banking services are banking services provided through electronic means. Electronic means encompass the entire process and system of electronic transaction instruments such as personal computers, ATMs, PDAs, phones, as well as the management and processing systems of data and transactions within banks, and interbank communication and transaction processing systems.

### **3.1.2 Characteristics of electronic banking services**

**Automated Provision:** Unlike traditional banking services, the reception and response to customer requests for electronic banking services are carried out automatically through electronic means and systems. Currently, some activities of electronic banking are fully automated, such as providing account balances, cash withdrawals at ATMs, bill payments for electricity, telephone, tuition fees, opening bank accounts, etc. However, many more complex activities still require supervision and execution by bank staff. Nevertheless, from the customer's perspective, electronic banking services are entirely automated.

**Non-Tangible Nature:** Electronic banking services do not exist as physical objects. They are the result of a process rather than something tangible that can be seen, counted, stored, or tried before consumption. However, they are manifested through certain material factors, such as the service delivery medium, including the attitude and professional expertise of the transactional staff and the transaction processing time.

**Instability and Indeterminate Quality:** Electronic banking services have an individualistic nature in supply and consumption, depending on the service provider, the service consumer, and the timing of service delivery. To best satisfy customers in service delivery, banks must personalize their approach based on a thorough understanding of each individual customer's preferences.

**Inseparability:** The consumption of electronic banking services occurs simultaneously with the service supply process, with direct involvement from customers whenever they need it. Therefore, ensuring the provision of banking services at all times and valuing the customer factor in business operations are crucial. The outcomes of the services are influenced by both the bank and the customer.

### **3.2. Factors Influencing the Development of Electronic Banking Services at LPBank**

The factors influencing the development of electronic banking services presented in this study are based on the following primary references:

**Reliability:** studies by Nguyen Dinh Tho (2007), Nguyen Thi Hang Nga (2012), Parasuraman et al. (1988), Pikkarainen et al. (2004), Nguyen Thi Khanh (2020).

**Accessibility:** studies by Nguyen Dinh Tho (2007), Nguyen Thi Hang Nga (2012), Parasuraman et al. (1988), Nguyen Thi Khanh (2020).

**Staff:** studies by Nguyen Thi Hang Nga (2012), Gronroos (1984), Ihab Ali El-Qirem (2013), Luis V. Casaló et al. (2008), Nguyen Thi Khanh (2020).

**Information Security:** studies by Sohail and Shanmugham (2003), Pikkarainen et al. (2004).

**Service Products:** studies by Nguyen Thi Hang Nga (2012), Gronroos (1984), Pikkarainen et al. (2004), Muhammad Rizwan et al. (2014), Nguyen Thi Khanh (2020).

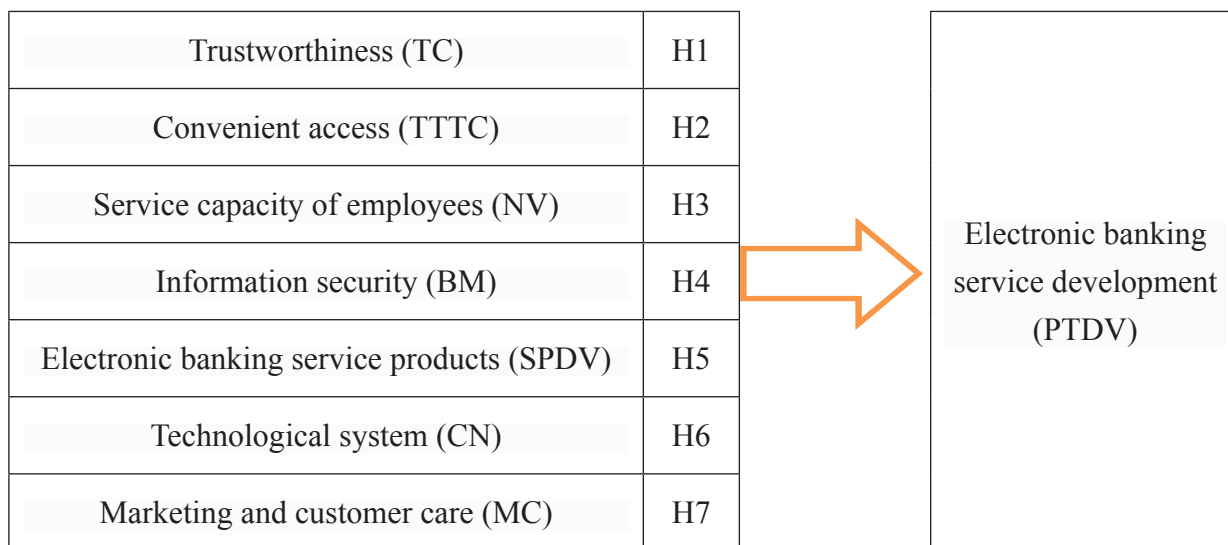
**Technological System:** studies by Nguyen Thi Hang Nga (2012), Gronroos (1984), Pikkarainen et al. (2004), Ihab Ali El-Qirem (2013), Luis V. Casaló et al. (2008), Nguyen Thi Khanh (2020).

Marketing and Customer Care: studies by Nguyen Thi Hang Nga (2012), Gronroos (1984), Ihab Ali El-Qirem (2013), Muhammad Rizwan et al. (2014), Nguyen Thi Khanh (2020).

**3.3. Research Model and Hypotheses**

The seven influencing factors are represented in the proposed research model as follows:

**Figure 1: Proposed Research Model**



*Source: Proposed by the author*

Based on the proposed model, the hypotheses for the research are as follows: Hypotheses H1, H2, H3, H4, H5, H6, and H7 are all positively related to the development of electronic banking services at LPBank.

**3.4. Research methods and data**

The research applies the methods of Exploratory Factor Analysis (EFA) and Multiple Linear Regression Analysis to determine the influential factors and their levels of impact on the development of electronic banking services at LPBank.

The data used in the study were collected through a survey of 425 customers who are currently using electronic banking services provided by LPBank in Hanoi, Ho Chi Minh City, and some provinces. The survey questionnaire proposes a measurement scale for the 7 influencing factors of electronic banking service development, consisting of 29 variables. The variables used in the model will be measured on a 5-point Likert scale with the following levels: (1) Strongly Disagree; (2) Disagree; (3) Neutral; (4) Agree; (5) Strongly Agree.

**4. RESEARCH RESULTS AND DISCUSSION**

**4.1. Research Results**

The statistical results from the survey questionnaires reveal the following:

**Table 1: Statistical Results of Customer Profiles.**

Criteria	Quantity (People)	Percentage (%)
Gender		
Male	196	46.1

Female	229	53.9
Total	425	100
Age		
Under 30 years old	160	37.6
From 30 to 50 years old	229	53.9
Above 50 years old	36	8.5
Total	425	100
Education Level		
Secondary or lower	71	16.7
Intermediate/ College	172	40.5
University/ Postgraduate	182	42.8
Total	425	100
Occupation		
Workers	67	15.8
Office staff	194	45.6
Self-employed business	63	14.8
Students and others	101	23.8
Total	425	100

Source: Compiled from survey results.

Continuing to assess the reliability of the measurement scale based on Cronbach's Alpha coefficient, the results show that all the measurement scales of both dependent and independent variables used in the model have Cronbach's Alpha coefficients exceeding the required threshold of 0.6, and the inter-item correlations of the observed variables have values greater than 0.3. Therefore, the measurement scales used are acceptable for the study. Out of the 29 observed variables used in the exploratory factor analysis, 28 variables were retained, while one variable (NV4) was removed due to its factor loading being less than 0.5.

The results of the exploratory factor analysis indicate a Kaiser-Meyer-Olkin (KMO) value of 0.890 ( $> 0.5$ ) and a significant Bartlett's test (Sig.  $< 0.05$ ). All seven extracted factors have eigenvalues greater than 1, and the total extracted variance of the 7 factors is 65.783% ( $> 50.0\%$ ). The factor loadings in the rotated factor matrix meet the condition of being greater than 0.5. These findings indicate that the exploratory factor analysis is appropriate, and the measurement scales or observed variables have convergent and discriminant validity, making them suitable for regression analysis.

The study proceeded with conducting multiple linear regression and testing for model assumptions, including multicollinearity, autocorrelation, heteroscedasticity, and normal distribution of residuals. All the tests meet the requirements, and the regression results of the model are presented in Table 1.

**Table 2. Coefficients of model fit.**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.830 <sup>a</sup>	.688	.683	.32762	2.015
a. Predictors: (Constant), MC, TTTC, BM, NV, TC, SPDV, CN					
b. Dependent Variable: PTDV					

**Table 3. Regression results.**

Model		Coefficients <sup>a</sup>						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.104	.127		.824	.411		
	TC	.092	.025	.118	3.670	.000	.726	1.378
	TTTC	.135	.023	.185	5.869	.000	.749	1.336
	NV	.252	.027	.308	9.509	.000	.710	1.408
	BM	.067	.028	.081	2.448	.015	.678	1.475
	SPDV	.260	.026	.324	9.812	.000	.684	1.461
	CN	.116	.027	.142	4.214	.000	.661	1.512
	MC	.081	.026	.099	3.143	.002	.760	1.315
a. Dependent Variable: PTDV								

Source: Extracted results from data processing using SPSS 26.

Table 1 shows that the adjusted R-squared coefficient of the model has a value of 0.683, indicating that the 7 independent variables in the model explain 68.3% of the variation in the dependent variable. The significance value (Sig.) of the F-test is less than 0.05, indicating that the regression model is statistically significant and appropriate for the research data. All six independent variables in the model have a linear relationship with the dependent variable, with Sig. values of the t-test for each variable being less than 0.05, and the Beta coefficients of the variables are all positive. This suggests that all factors have a positive influence on the independent variable. The regression model's results indicate that all 7 research hypotheses are accepted.

The results of the multiple linear regression analysis show that there are 7 components in the development of the service that have statistical significance and positively influence the development with a significance level of Sig. 0.00, thus the proposed hypotheses are accepted. The highest VIF coefficient is 1.512, which is less than 10, indicating that multicollinearity is not present. Based on the standardized coefficients of the multiple regression analysis results, the extent of influence of the components in the development of electronic banking services is demonstrated in the following expression:

#### **Regression equation.**

$$PTDV = 0.118*TC + 0.185*TTTC + 0.308*NV + 0.081*BM + 0.324*SPDV + 0.142*CN + 0.099*MC$$

From the current regression results shown in Table 2, the level of influence of seven factors on the development of electronic banking services at LPBank is statistically significant, in descending order, as follows: Electronic banking service products (standardized  $\beta = 0.324$ ), Staff service capabilities (standardized  $\beta = 0.308$ ), Accessibility convenience (standardized  $\beta = 0.185$ ), Technological system (standardized  $\beta = 0.142$ ), Trustworthiness (standardized  $\beta = 0.118$ ), Marketing and customer care (standardized  $\beta = 0.099$ ), Information security (standardized  $\beta = 0.081$ ).

## 4.2. Discussion of Research Findings

Based on the theoretical foundation of electronic banking, electronic banking services, electronic banking development, and the research conducted by Shorabi et al. (2013) and Grandon and Pearson (2004), seven factors and their corresponding observed variables were preliminarily constructed to measure the level of influence on the development of electronic banking services.

Factor analysis revealed the presence of seven factors with 28 observed variables. One variable, NV4, was excluded due to its factor loading coefficient being less than 0.5. Additionally, three variables were identified as measuring the development of electronic banking services.

“Reliability” had a factor loading coefficient (Beta) of 0.118, indicating that a one-unit change in reliability would result in a 0.118-unit increase in service development, assuming other variables remained constant. Customers believe that to develop electronic banking services, it is important to ensure reliability, trustworthiness, and attentiveness in addressing customer complaints, service requests, and inquiries.

“Convenient Access” was a factor with a Beta of 0.185, indicating that a one-unit change in convenient access would lead to a 0.185-unit increase in service development, assuming other variables remained constant. When evaluating convenient access, customers consider factors such as the bank’s network coverage, transaction locations’ convenience, easily accessible channels, and suitable working hours, as these aspects influence customer behavior.

“Employee Service Capability” was a significant factor with a Beta of 0.308, demonstrating its substantial impact on the development of LPBank’s electronic banking services. A one-unit change in employee service capability would result in a 0.308-unit increase in the development of electronic banking services, assuming other variables remained constant. This factor encompasses variables related to employee attitudes, professional expertise, appearance, and other human-related factors. Alongside professional knowledge, customers also expect employees to exhibit favorable attitudes and appropriate appearance.

“Information Security” was a factor with the lowest Beta coefficient among the seven factors, measuring 0.081. In the era of technological advancements, personal information and account details are vulnerable to cyber threats and theft. Therefore, customers have high expectations regarding information security, including account protection features and preventive measures against account information breaches, especially when using online electronic banking services.

“Product and Service Offerings” had the highest Beta coefficient of 0.324, indicating that it significantly influences the development of electronic banking services at LPBank. When customers utilize the bank’s electronic banking services, they expect diverse and abundant product offerings, competitive service fees, and easy accessibility. In the current competitive landscape, banks are racing to introduce new products and services with distinct advantages and utilities to attract and engage customers.

“Technology Infrastructure” had a standardized Beta coefficient of 0.142, indicating its positive impact on the development of electronic banking services. A one-unit change in



technology infrastructure would lead to a 0.142-unit increase in the development of electronic banking services, assuming other variables remained constant.

“Marketing and Customer Care” had a standardized Beta coefficient of 0.099, indicating its positive impact on the development of electronic banking services. A one-unit change in marketing and customer care would result in a 0.099-unit increase in the development of electronic banking services, assuming other variables remained constant.

## **5. CONCLUSION AND PROPOSED SOLUTIONS**

With the aim of synthesizing theoretical issues, analyzing the current situation, and providing specific solutions to aid the development of electronic banking services at LPBank in the coming years, the research has achieved the following results:

Firstly, it has synthesized and clarified theoretical issues related to the development of electronic banking services in commercial banks. It proposes a system of models to assess the development of electronic banking services and the influencing factors on the development of these services.

Secondly, the research also analyzes the factors affecting the development of electronic banking services at LPBank through customer surveys regarding the development factors of electronic banking services. It employs linear regression models to analyze the data, thereby identifying the most significant and less influential factors on the development of electronic banking services at LPBank.

Thirdly, the research has proposed solutions and recommendations that contribute to the development of electronic banking services at LPBank in the upcoming years.

Through the application of Exploratory Factor Analysis (EFA) and Multiple Linear Regression Analysis to the survey data of customers using electronic banking services at LPBank, the study has identified 7 factors in the model that have a positive influence on the development of electronic banking services. These factors are ranked in order of their impact from high to low: Electronic banking service products, Service capacity of employees, Accessibility convenience, Technology systems, Reliability, Marketing and customer care, and Information security. Based on these findings, the following proposals are put forward to help develop electronic banking services at LPBank:

### **5.1 Technological Solutions**

When implementing technological solutions, the bank needs to consider the following points:

Firstly, technology investment should take into account the synchronization of the operating system and infrastructure. Technological solutions will only be successful when both infrastructure and operating systems are synchronized.

Secondly, technology investment should consider the compatibility of technology on the electronic banking payment system.

Thirdly, technology investment should consider the technology exploitation capabilities of human resources. In Vietnam in general, and the technological exploitation capabilities of bank staff in particular.

Fourthly, technology investment should be implemented synchronously across the entire system.

### **5.2 Security and Privacy Solutions**

The bank needs to conduct thorough research on the products it provides, utilizing internal customer resources to test trial versions and simulate scenarios in a real environment. Pre-experiencing trial versions will help the bank gather more feedback on the advantages, disadvantages, and potential errors that may occur during usage, thus improving and perfecting the services before officially providing them to customers. Furthermore, setting up multiple hypothetical test scenarios will help the bank identify vulnerabilities, thereby adjusting registration and service usage regulations to eliminate potential loopholes that fraudsters often see as opportunities to exploit and misuse customer accounts.

Banks should establish a hotline to handle urgent cases and ensure smooth operations for customers to contact in a timely manner, as the current situation shows that banks are overloaded. Failure to receive timely assistance from the bank in urgent situations such as requesting card blocking, blocking electronic banking services, or stopping transactions can pose risks to customers.

### **5.3 Human Resources Solutions**

Human resources are a significant factor in the development of electronic banking services. LPBank's current human resources are considered good, reflecting strong financial capabilities, high-quality human resources, modern management technology, and sufficient infrastructure. However, in terms of technology, human resources, and infrastructure, supplementation and updates are required to meet new requirements arising from service deployment or the development of new services, in order to improve quality appropriately. Regarding financial capacity, which is a strength of LPBank, the bank should adhere to regulations on public disclosure and information transparency to provide customers with more opportunities to access such information, thereby increasing customer trust in the bank's capabilities.

To improve the quality of LPBank's human resources in the future, it is necessary to implement the following specific solutions:

Firstly, enhance training and development of human resources. Human resources are a crucial and determining factor in the business operations' effectiveness of any economic and social organization, especially in banking, which is a high-level business requiring high-quality human resources. To meet this requirement, training must be emphasized.

Secondly, urgently establish standard regulations on job titles and banking professional standards. Currently, most banks worldwide have applied standard regulations widely, but in Vietnam, many banks, including LPBank, have not paid much attention to building them. Therefore, LPBank needs to cooperate with foreign banks to urgently study and establish regulations on job titles and banking professional standards, serving as a basis for standardizing bank personnel at different training levels for suitable job positions.

Thirdly, standardize personnel recruitment procedures. Recruitment procedures need to be carried out openly, transparently, democratically, objectively, and fairly. Only in this way

can LPBank recruit high-quality human resources to work within its system, particularly in the field of electronic banking services.

Fourthly, innovate the mechanism of competition and reward. Building a mechanism of competition and rewards throughout the system based on productivity, quality, and the effectiveness of assigned tasks is crucial for building and evaluating task completion levels.

#### **5.4. Enhancing Convenience of Electronic Banking Service Products**

The convenience of electronic banking services can be divided into two categories: basic convenience and advanced convenience.

Basic convenience features provided by almost all Vietnamese banks that offer Internet Banking include interbank/intrabank transfers, e-wallet top-up, bill payments, account information inquiry, and account statement viewing. However, the percentage of banks offering advanced convenience features accounts for only about 20%-30%.

Advanced convenience features include managing savings accounts, paying bills to service providers, managing loan accounts, scheduled and future fund transfers, storing and managing beneficiary information, allowing customers to register for Internet Banking services online, repaying loans from deposit accounts, currency conversion, requesting and stopping payment of cheques, loan application, and opening letters of credit.

To increase these advanced convenience features, banks need to closely collaborate with payment acceptance organizations to accept online payment gateways via Internet Banking. Furthermore, banks need to closely coordinate with internet service providers, telecommunication companies, and software suppliers to deploy or innovate technologies with high security to ensure safe transactions in electronic banking services.

#### **5.5. Solutions to Improve Reliability of the Bank**

To enhance the reliability of the bank as well as the reliability of the electronic banking services provided by the bank, LPBank must enhance its reputation and trustworthiness. The bank should have a specialized department to effectively respond to customer complaints regarding electronic banking services accurately and promptly. Training and workshops should be provided to advisory staff and employees on banking operations, enabling them to address issues related to electronic banking services and other bank services. The bank must consider its trustworthiness as a guiding principle in providing services to customers. If the bank loses trust, regardless of the quality of the services, customers will refuse to use the services in the future.

#### **5.6 Solutions to Improve Accessibility Convenience for Electronic Banking Services**

In this solution, the bank needs to expand its network and cover its services in urban and rural areas to make it easier for customers to access the services. When establishing branches and service stations to meet customer needs, convenient and easily accessible locations with good transportation should be chosen. These locations should ensure safety for customers when using the services. Additionally, attention should be given to working hours and customer service to ensure the most convenient service, both at counters and through electronic devices, providing easy accessibility for users.

### 5.7. Promoting Marketing Activities for Electronic Banking Services

With the advantage of a nationwide network of branches and transaction points, LPBank has an advantage over other banks in deploying service products for its target customers. However, as electronic banking services are considered high-level products, and most of LPBank's target customers are farmers in rural areas, who may have certain limitations in terms of knowledge and access to new technologies, LPBank needs to implement appropriate measures to increase the understanding and familiarity of each electronic banking service provided by the bank to the market. Necessary measures include:

Firstly, developing a distribution network for the bank's electronic banking products.

Secondly, having a reasonable customer policy.

The impact of customer policy is relatively low in the development of electronic banking services at the bank. However, LPBank still needs to improve its customer policy to enhance customer satisfaction with the services and attract customers through attractive and highly competitive policies compared to joint-stock commercial banks and foreign banks. The weaknesses of LPBank's current customer policies lie in the limited diversity, richness, and benefits provided to customers.

Thirdly, developing and implementing marketing programs for LPBank's new services.

Fourthly, organizing training on marketing skills and introducing new services to bank staff, as well as developing marketing materials for new services.

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# FACTORS AFFECTING ENVIRONMENTAL ACCOUNTING AT VIETNAMESE FOOTWEAR MANUFACTURERS

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*Abstract: This study evaluates the factors influencing environmental accounting in leather shoe manufacturing companies in Vietnam. Primary data were collected from February 2023 to May 2023, with 283 valid observations for formal research. The analytical and data processing tools used include descriptive statistical methods, reliability testing of scales, exploratory factor analysis (EFA), and hypothesis testing using the least squares method. The study results indicate that company size, human resources, business strategy, institutional regulations, and industry characteristics positively impact environmental accounting in leather shoe manufacturing companies in Vietnam. However, the cost of implementing environmental accounting negatively impacts these companies' environmental accounting.*

*Keywords: Environmental accounting, footwear manufacturing, EFA*

## 1. INTRODUCTION

In recent years, environmental accounting has become a prominent topic in different regions of the world, as businesses, corporations, and economic organizations are looking for ways to optimize corporate value based on ensuring long-term sustainability. Although some studies suggest that adopting environmental practices can increase a company's costs and put pressure on a company's economic performance (Watson et al., 2004), the majority of other studies suggest that implementing environmentally friendly business practices can help strengthen a company's competitiveness by bringing efficiency in organizational methods; thus, reducing organizational costs and increasing profits (Albertini, 2013). In addition, adopting environmentally friendly processes can also enhance a company's reputation and provide competitive advantages and higher market share (Hart, 1995). Numerous studies have evaluated the importance of environmental accounting systems in improving company and management efficiency (Gul & Chia, 1994). The pressure of public interest is more tremendous due to globalization and the need to promote sustainable development that will benefit people and corporate organizations to operate efficiently, leading to enhanced accounting practices and the comparison of financial statements for investors, analysts, and regulators increased (Monterio, 2013).

Most businesses worldwide face serious environmental challenges (Perring et al., 2015). Under the continued deterioration of ecological conditions, businesses are limited by a number of overlapping restrictions and regulations that apply to organizations, which makes it necessary for businesses to implement eco-oriented strategies to ensure environmental performance and make environmental accounting difficult (Bromley, 2007). In addition, improving the

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ecological environment within organizations also motivates organizations (Dibrell et al., 2015). Therefore, ethical and social responsibility encourages corporations to adopt sustainable organizational practices, also known as green activities, against traditional business processes (Hussain, 1999) that have drastically changed the course of business operations, thereby affecting the change of accounting.

Globalization has recently become the main driver of change in environmental accounting at Vietnamese enterprises, including footwear manufacturers. The main focus on environmental accounting disclosure stems from the need of businesses for stakeholders to have a clear understanding of their environmental performance, as well as the need to enhance their value and corporate image, creating a basis for improving future earnings and operations due to environmentally impactful businesses (Udo, 2018). Shareholders in footwear manufacturing companies are increasingly concerned about environmental policies, impacts, and practices of business units. However, financial statements usually do not provide this information. Thus, research on factors affecting environmental accounting at Vietnamese footwear manufacturing enterprises is increasingly interested in improving the quality of environmental accounting reporting of Vietnamese footwear manufacturing enterprises. To accomplish the research objectives, this article is divided into 4 parts: the first part introduces the research problem and the role of research, the second part reviewing of previous studies to develop research hypotheses and research model, the third part presents the data collection methodology and research methodology, and the last part of the paper presents the results of empirical analysis. In the last part, the author concludes the research problem and proposes governance implications.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Organization theory (Dowling & Pfeffer, 1975)**

Organization theory (Dowling & Pfeffer, 1975) explains that organizations need to meet society's requirements to be considered valid and exist for long periods. These requirements include ensuring the environment, economic development, and ensuring the interests of the community and investors. According to this theory, organizations will strive to maintain and enhance their validity by providing complete and transparent information about their activities, meeting the requirements of society, and carrying out activities that benefit the community. However, the author also finds that meeting the requirements of society is not always easy and can cause a conflict with the interests of the organization. Hence, organizations need to find ways to resolve these contradictions wisely and effectively in order to maintain their validity in the eyes of society.

### **2.2. Human resource theory (Theodore, 1960)**

Human resource theory was first proposed by Theodore (1960) to show the value of human capacity, which came to the conclusion that human capital is like any other type of capital in that it can be invested and increased or enhanced through education, training, and of course the enhanced benefits leading to established quality and production levels.

Human capital can be defined as a set of the following: the knowledge, assets, skills, and experience that a person has added value to a company. It says that not all employees are equally

valuable; it is all about their knowledge, skills, and assets. The theory assumes that people always act rationally (Savannah, 2017). According to Becker (2010), human resource theory refers to the store of knowledge, ideas, and other personal attributes that enable an individual to work effectively in an organization. This theory is relevant to this study as it focuses on the knowledge, experience, and education of customs officers and other stakeholders.

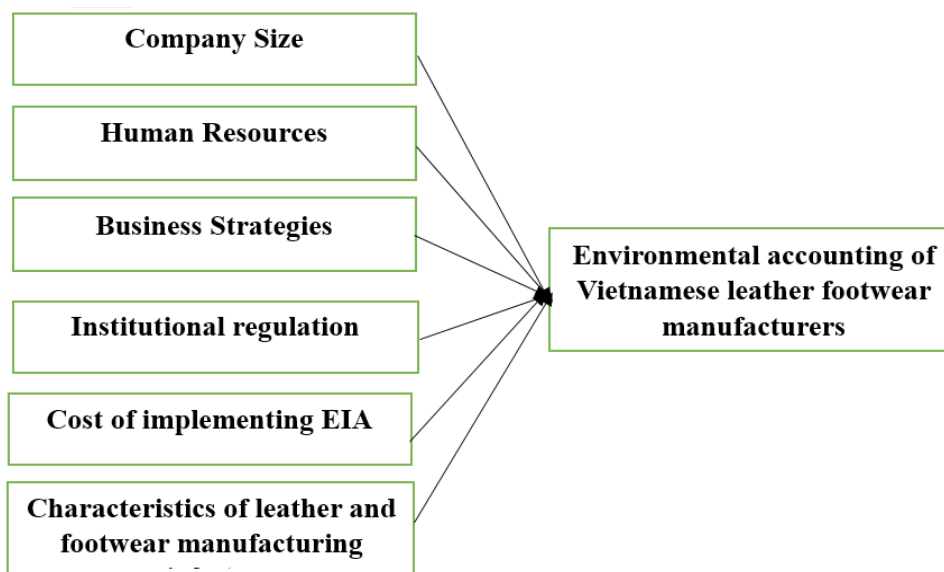
### 2.3. Stakeholder theory (Freeman, 2013)

Stakeholder theory is an organizational management theory that refers to ethical values in an organization's environment (Freeman, 2013). This theory has been proposed by Edward Freeman (2013), emphasizing the role of different types of people in an organization that can be called stakeholders. According to Freeman (2013), stakeholders need to have exceptional attention to the corporation in order for an organization to achieve its mission, of which shareholders are vital stakeholders. Stakeholder theory incorporates a resource-based perspective while integrating other factors, such as political and social factors. The theory outlines several types of stakeholders: customers, employees, government, and trade associations (Donaldson, 2014). Stakeholders have certain rights that they claim over an organization due to their different relationships with an organization. Legitimacy is globally expected and accepted behaviors, norms, and structures that an organization should follow to serve the interests of its stakeholders in the best possible way (Mitchel et al., 2010).

## 3. RESEARCH METHODOLOGY

### 3.1. Research model

Based on research by Zandi and Lee (2019), Nguyen and Pham (2018), [Nguyen & Le \(2022\)](#), and Tuan et al. (2020), this study proposes the following specific research model:



**Figure 1. Proposed Research Model**

*Source: Author's compilation*

## Research Hypotheses

**Company size:** Environmental accounting can vary in businesses of different sizes. The reason is that environmental accounting is often applied in large enterprises with abundant financial resources and strict management policies (Le, 2013). Large enterprises are always confident about their prospects, so they are often willing to pay for more voluntary disclosure to differentiate themselves from competitors and add value (Hasan & Hosain, 2015). In addition, the larger the business, the more it wants to maintain and enhance its image, trust, and reputation in the eyes of investors, and government agencies should spend more money on disclosure to meet stakeholder requirements (Wachira, 2014). Moreover, for large enterprises, the accounting system is relatively effective, the accounting information system meets the demand for quality and quantity information, so the disclosure of a lot of environmental accounting information will be less expensive than for small enterprises. Therefore, the study proposes the H1 hypothesis:

**H1:** The company's size positively influences environmental accounting in Vietnamese footwear manufacturing enterprises.

**Human Resources:** The competence of an environmental accountant is the level of understanding of the benefits, accounting of the employee, or the audit operation of the auditor or manager. Research by Hossain et al. (2019) in Bangladesh shows that employee training and capacity building is essential for achieving efficiency in environmental accounting. However, in many cases, environmental accounting human resources are unaware of the work, or limited capabilities, or have not paid attention to environmental accounting (Christine, 2003). As a result, the study proposes the H2 hypothesis:

**H2:** Human resources positively influence environmental accounting at Vietnamese footwear manufacturing enterprises.

**Business strategies:** Companies can develop and use various tools to analyze the influence of environmental factors on a company's business decisions (Pondeville et al., 2013; Nguyen & Pham, 2018). Important business decisions such as reducing production costs, increasing productivity, investing in machinery and equipment to produce better quality and cleaner products to lower product costs, decisions about products, and friendly image of businesses require businesses to determine and allocate environmental costs to accurately calculate cost of production and business efficiency. Thus, the study proposes the H3 hypothesis:

**H3:** Business strategies positively impact environmental accounting at Vietnamese footwear manufacturing enterprises.

**Institutional regulation:** Due to the increasingly important position of the manufacturing sector in society and the direct and indirect impacts of production activities on the environment, environmental regulations are becoming stricter for businesses (especially businesses operating in environmentally sensitive fields such as leather footwear manufacturing). In this case, the institutional theory is used to explain the influence of legal factors and vocational education on the process of applying environmental accounting at the enterprise. Although environmental accounting is an internal activity of enterprises, the development of a new field, such as environmental accounting, requires a significant contribution from efforts to guide and ensure

implementation by funding sources of competent authorities (Le, 2013; Nguyen & Pham, 2018). Hence, the study proposes the H4 hypothesis:

**H4:** Institutional regulations positively impact environmental accounting at Vietnamese footwear manufacturing enterprises.

**Cost of implementing environmental accounting:** Cost is essential in implementing any new system. This is a matter of great concern in businesses, especially small and medium enterprises. Although the benefits of applying environmental accounting are enormous, the cost of organizing an environmental accounting system is not small, so with limited resources, this is a critical issue for SMEs (Le, 2013; Nguyen & Pham, 2018). Therefore, the study proposes the H5 hypothesis:

**H5:** The cost of implementing environmental accounting has a negative impact on environmental accounting at Vietnamese footwear manufacturing enterprises.

**Characteristics of the footwear industry:** Business characteristics such as the complexity of the service delivery process of the enterprise (Pinsly, 2011), the type of business (Ghorbel, 2017) all have an impact on the organization of accounting work, the application of accounting policies and the implementation of environmental accounting. Within the narrow scope of thick leather production, enterprises also have the main trade or product manufacturing business segments. Therefore, organizing accounting for revenue, costs, and business management will also have specific differences affecting environmental accounting. Environmental accounting in enterprises is diverse, but the rate of application of environmental accounting in manufacturing enterprises is different (Le, 2013). Consequently, the study proposes the H6 hypothesis:

**H6:** Characteristics of the footwear manufacturing industry that affect environmental accounting at Vietnamese footwear manufacturing enterprises.

### 3.2. Research data

The study is based on primary data surveyed between February 2023 and May 2023. The author sent 400 online surveys via email (google form) to 400 environmental accountants and auditors from 200 footwear manufacturing companies in Vietnam. After removing 117 nonconforming survey samples, the study obtained 283 samples valid for formal study.

According to Hair et al. (2009), the sample size needs to be considered in relation to the number of estimation parameters. If using the Maximum Likelihood (ML) method, the minimum sample size should be between 100 and 150. In addition, according to Bolen (1989), there must be a minimum of five observations per estimated parameter (ratio 5:1). The study used 23 observational variables, so the minimum sample size required by this method is  $23 \times 5 = 115$ . This study has a sample size of 283, which guarantees reliability and high representativeness for the population.

### 3.3. Research methodology

The study uses analytical and processing tools suitable for primary data: Descriptive statistical methods, Scale reliability testing, Exploratory factor analysis (EFA), and Research hypothesis testing by model using the smallest squared method. Exploratory factor analysis (EFA) ensures that observational variables measuring the same underlying variable must load

in place of that variable, not load to another variable, and remove inappropriate measurement criteria to ensure that variables are not implicitly multi-additive. Specifically, assessing the reliability of each scale using the Cronbach alpha index with the requirement of  $\alpha > 0.6$  and the item-to-total correlational index  $> 0.3$  to ensure reliability.

#### 4. EXPERIMENTAL RESEARCH RESULTS

Statistics describing the study sample are described below:

**Table 1. Statistics describing the study sample**

Criteria	Amount	%	% cumulative
Gender			
South	124	43.82%	43.82%
Female	159	56.18%	100.00%
Total	283	100.00%	
Degree			
College	78	27.56%	27.56%
University	123	43.46%	71.02%
Postgraduate	82	28.98%	100.00%
Total	283	100.00%	
Age			
Under 30	102	36.04%	36.04%
30-39	126	44.52%	80.57%
40-49	39	13.78%	94.35%
Or 50	16	5.65%	100.00%
Total	283	100.00%	

*Source: author's calculations*

Of the 283 respondents, 124 were male, accounting for 43.82%, and 159 female, accounting for 56.18%. In addition, the majority of respondents had university degrees or higher, about 71% (of which 43.46% of respondents had university degrees and 28.98% of subjects had postgraduate degrees). In terms of age, there were 102 study subjects under 30 years old, accounting for nearly 36.04%; 126 people aged 30-39, accounting for 44.52%; 13.78% of respondents were aged 40-49, and 5.65% of subjects were aged after 50, corresponding to 16 people. Data describing the gender, age, and qualification characteristics of the respondents are detailed in Table 1.

Table 2 shows the reliability test results of scales corresponding to 7 factors in the model: company size, human resources, business strategy, institutional regulations, environmental accounting implementation costs, characteristics of the production industry, and environmental accounting of Vietnamese footwear manufacturing enterprises as follows:

**Table 2. Results of testing the reliability of the scales in the model**

Factor	Encode	Cronbach's Alpha if Item Deleted	Cronbach's Alpha

Company Size	QM1	.736	0.787
	QM2	.744	
	QM3	.751	
	QM4	.704	
Human resources	NNL1	.795	0.822
	NNL2	.772	
	NNL3	.741	
	NNL4	.794	
Business Strategies	CLKD1	.812	0.843
	CLKD2	.798	
	CLKD3	.799	
	CLKD4	.795	
Institutional regulation	QBTC1	.809	0.854
	QBTC2	.796	
	QBTC3	.886	
	QBTC4	.747	
Cost of implementing EIA	CPTK1	.868	0.866
	CPTK2	.852	
	CPTK3	.801	
	CPTK4	.787	
Characteristics of the production industry	DDN1	.789	0.825
	DDN2	.770	
	DDN3	.718	
Environmental Accounting of Vietnamese Leather and footwear manufacturing enterprises	KTMT1	.886	0.912
	KTMT2	.889	
	KTMT3	.909	
	KTMT4	.859	

Source: Calculation results from SPSS 25 software

The results of testing the scale by Cronbach's Alpha coefficient of factors greater than 0.7 show that the scale has a good level of measurement, and the total variable correlation coefficient is greater than 0.3. A whole range of scales continues to be included in EFA analysis.

**Table 3. Results of testing the reliability of the scales in the model**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.188	26.905	26.905	6.188	26.905	26.905
2	2.396	10.419	37.324	2.396	10.419	37.324
3	2.260	9.828	47.152	2.260	9.828	47.152
4	2.050	8.911	56.063	2.050	8.911	56.063
5	1.890	8.217	64.280	1.890	8.217	64.280
6	1.143	4.968	69.248	1.143	4.968	69.248
7	.790	3.433	72.681			
8	.689	2.997	75.678			
9	.648	2.818	78.496			
...	...	...	...			
...	...	...	...			
21	.239	1.041	98.966			



22	.125	.543	99.509			
23	.113	.491	100.000			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy: .808						
df: 253						
Sig: .000						

Source: Calculation results from SPSS 25 software

The results of the discovery factor analysis found that the conditions for EFA implementation were suitable, where the KMO coefficient = 0.808 (greater than 0.5); Sig. A number of Bartlett's tests = 0.00 (less than 0.05). Six factors were drawn at the Eigenvalue stop = 1.143 (greater than 1). The cumulative variance column in Table 2 shows that the extracted variance value is 69,248, showing that the six factors extracted explain the 69,248 changes in the observed variables mentioned above. The factors extracted from the EFA analysis are presented in the table below:

**Table 4. Rotated Component Matrix**

	Components					
	1	2	3	4	5	6
CPTK4	.897					
CPTK3	.891					
CPTK2	.752					
CPTK1	.725					
QDTC4		.921				
QDTC2		.862				
QDTC1		.815				
QDTC3		.644				
CLKD4			.810			
CLKD2			.795			
CLKD3			.794			
CLKD1			.775			
NNL3				.848		
NNL2				.803		
NNL1				.762		
NNL4				.718		
QM4					.805	
QM2					.756	
QM1					.751	
QM3					.747	
DDN3						.796
DDN1						.759
DDN2						.754

Source: Calculation results from SPSS 25 software

Table 4 shows that the observed variables all have a factor loading factor greater than 0.5. There are six factors extracted representing 23 observed variables (excluding 3 observed variables of the environmental accounting scale of Vietnamese footwear manufacturing enterprises) rearranged unchanged from the originally proposed research model.

**Table 5. Results of testing the reliability of the scales in the model**

Model	Standardized Coefficients	t	Itself.	Correlations			Collinearity Statistics	
	Beta			Zero-order	Partial	Part	Tolerance	BRIGHT
(Constant)		2.297	.022					
SQM	.216	4.740	.000	.411	.274	.199	.856	1.168
NNL	.229	4.920	.000	.451	.284	.207	.817	1.224
CPTK	-.114	-2.453	.015	-.392	-.146	-.103	.819	1.221
CLKD	.141	2.954	.003	.429	.175	.124	.775	1.290
QDTC	.152	3.357	.001	.387	.198	.141	.859	1.164
DDN	.265	4.964	.000	.584	.286	.209	.620	1.614
Durbin-Watson: 1.757								
Sig: 0.000								
Adjusted R Square: .501								

Source: Calculation results from SPSS 25 software

The results show that the adjusted  $R^2$  coefficient in the model is 0.501, meaning that the regression model built in accordance with the dataset is 50.01%. This also means that 50.01% of fluctuations in the Environmental Accounting of Vietnamese footwear manufacturing enterprises are explained by six independent variables in the model. Durbin-Watson is a statistic that examines the existence of self-correlation in the model's errors; the Durbin-Watson value in this table is 1.757, showing no significant self-correlation in the errors. Table 5 shows that the Sig coefficient of all six independent variables (QM, NNL, CPTK, CLKD, QDTC, DDN) is less than 5%, and the VIF coefficient is very low ( $<2$ ). This proves that linear multi-additive does not occur with independent variables. The regression model results show:

Company size (QM): This variable has a normalized coefficient of 0.216 and a value of  $p < 0.001$ , indicating that company size positively affects the dependent variable and is consistent with the H1 hypothesis.

Human resources (NNL): This variable has a normalized coefficient of 0.229 and a value of  $p < 0.001$ , indicating that human resources positively affect the dependent variable and is consistent with the H2 hypothesis.

Implementation cost (CPTK): This variable has a normalization factor of -0.114 and a value  $p = 0.015$ , indicating that the implementation cost harms the dependent variable and is consistent with the H5 hypothesis.

Business strategy (CLKD): This variable has a normalization factor of 0.141 and a value  $p = 0.003$ , indicating that the business strategy positively impacts the dependent variable and is consistent with the H3 hypothesis.

Institutional regulation (QDTC): This variable has a normalization coefficient of 0.152 and a value  $p = 0.001$ , indicating that institutional regulation positively affects the dependent variable and is consistent with the H4 hypothesis.

DDN industry characteristics: This variable has a normalization coefficient of 0.265 and a value of  $p < 0.001$ , indicating that the production industry characteristics positively impact the dependent variable and are consistent with the H6 hypothesis.

In summary, the variables QM, NNL, CLKD, QDTC, and DDN positively affect the dependent variable, while CPTK negatively affects the dependent variable.

## 5. CONCLUSIONS

This study aims to investigate and measure the impact of each factor on the environmental accounting of Vietnamese footwear manufacturing enterprises. Samples are collected according to a convenient sampling method. The results of this study show that the variables Company size (QM), Human Resources (NNL), Business strategies (CLKD), Institutional regulation (QDTC), and Characteristics of the footwear industry (DDN) have a positive effect on the dependent variable. In contrast, the cost of implementing environmental accounting (CPTK) harms the dependent variable. Theoretically, the study contributes: (1) developing a scale to measure factors affecting the implementation of environmental accounting of Vietnamese footwear manufacturing enterprises; (2) at the same time contributes to strengthening the theories: Organization Theory, Human Resources Theory, as well as Stakeholder Theory in assessing the impact of factors in practice; (3) as well as once again supporting the affirmation of the impact of previous studies on environmental accounting of Vietnamese leather and footwear manufacturing enterprises. Through the results of empirical research, the author proposes some suggestions such as:

1. Human resources: The company can train and develop skills for employees related to environmental accounting, including skills in waste management, environmental impact assessment, and environmental accounting reporting. This will give employees sufficient knowledge and skills to perform environmental accounting tasks effectively.

2. Company size: The larger the company, the more advantages it will have in implementing practical environmental accounting. Vietnamese footwear manufacturers can implement scale-up solutions by investing in infrastructure, expanding production, strengthening financial and human resource management, and investing in research and development. However, scaling up needs to be done sustainably to ensure no adverse environmental impact.

3. Institutional regulations: Enterprises must complete legal documents related to environment and environmental protection with the participation and cooperation of functional agencies, environmental protection organizations, and professional associations. To ensure consistency in environmental management, the government must coordinate with professional associations to issue environmental accounting standards, prescribing the necessary environmental information in reports to external stakeholders.

4. Implementation costs: Implementing environmental accounting of Vietnamese footwear manufacturing enterprises will increase the company's costs. In order to improve the efficiency of environmental accounting, Vietnamese footwear manufacturing companies need to implement cost-effective solutions by investing in green technology, energy-saving, and waste management programs, and implementing recycling and reuse programs. Implementing these solutions may require initial costs but will help save future operating and manufacturing costs and minimize environmental impact.

5. Current business strategies of companies are oriented towards producing and using green, clean, and environmental protection products. The company can invest in green

technology to minimize the impact of production on the environment. This includes using environmentally friendly materials and production processes, improving energy and resource efficiency, and minimizing waste.

6. Industry characteristics: The footwear industry has a tremendous environmental impact. Using chemicals and waste disposal causes environmental pollution and affects human health. Therefore, companies need to keep in mind the characteristics of this profession, such as environmental impact, waste management, energy management, risk management, and technological innovation. Compliance with environmental protection regulations and investment in new technologies will help the company increase the efficiency of environmental accounting and environmental protection.

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# SUSTAINABLE DEVELOPMENT OF PRIVATE ENTERPRISES: CURRENT STATUS AND SOLUTIONS IN VIETNAM

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**Abstract:** *In all economies, regardless of the level of economic development of the country, private economy always exists. The difference lies in the position and role of the private sector in the economy. In Vietnam, the private sector not only makes significant contributions to the country's GDP but also plays a crucial role in generating employment opportunities for a large number of workers. However, amidst the current process of international economic integration, the private sector in Vietnam has also revealed certain existing challenges. These include technological backwardness, disparities in the quality of the workforce, limitations in managerial capabilities, and a lack of sustainable long-term business strategies and development orientation. Notably, the resilience of enterprises has been eroded due to the outbreak and complex developments of COVID-19 over the past two years, and it is predicted to face even more difficulties in 2023 as the global economy continues to decline. This article analyzes the current situation and proposes solutions to promote the sustainable development of private enterprises in Vietnam, considering the existing advantages and challenges at present.*

**Keywords:** *Sustainable Development, Private Enterprises, Private Economy, Environment, Green Economy.*

## 1. INTRODUCTION

Private enterprises are a type of business organization with their own name, assets, and registered office, established under the provisions of the law for the purpose of conducting business activities. Business activities involve the continuous implementation of one or more stages of the investment process, from production to product consumption or service provision in the market, aiming to generate profits. However, compared to the criteria for identifying businesses in the above concept, private enterprises do not meet the criteria regarding assets.

The domestic private sector in Vietnam has not yet developed strongly and sustainably, and large private enterprises have not achieved the same scale as major private companies worldwide. Some very large private enterprises are still relatively few, and Vietnamese brands have a lower value compared to brands from many Southeast Asian countries. These enterprises tend to exhibit a high concentration of revenue, labor, and assets in a small group of companies. Small and medium-sized private enterprises face numerous obstacles in their development. As a result, the number of domestic private enterprises transitioning from small to medium-sized or from medium-sized to large is limited. According to experts, objective barriers hindering the scale growth of enterprises include: (1) The business environment remains unfavorable; (2) Difficulties in accessing land, capital, markets, customers, and disadvantages in taxation and customs; (3) Changes in business policies and laws leading to some enterprises failing to keep up and adapt; (4) Enterprises operating with short-term profit goals and lack of focus

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on sustainable production development and long-term growth. It is necessary to develop a sustainable development strategy for private enterprises in the near future given the limited state support resources.

In recent times, the country has witnessed approximately 120,000 to 130,000 business registrations annually, but the rate of business cessation and dissolution is as high as 60% compared to new business registrations. Hence, it is essential to focus on the sustainable development of existing enterprises rather than solely targeting new business registration figures.

## **2. AN OVERVIEW OF RESEARCH THEORETICAL FRAMEWORKS**

Sustainable development is a comprehensive form of development that integrates production processes with resource conservation and improvement of the living environment. Sustainable development aims to meet the needs of the present generation without compromising the ability to meet the needs of future generations. It is a globally concerned issue and a strategic direction for countries worldwide. In principle, sustainable development involves operating and closely combining three dimensions: economic, social, and environmental.

Criteria for assessing sustainable development:

(1) Economic aspect: It should be rapid and secure. Sustainable economic development aims to create general prosperity within the ecological limits, without infringing upon basic human rights. It should fulfill the following requirements:

- Achieving high GDP growth and per capita GDP.
- A higher proportion of industrial and service sectors in GDP compared to agriculture, for sustainable growth.
- Efficient and effective economic growth, not at any cost.

(2) Social aspect: It should ensure a harmonious society, with equality among social strata and genders, and moderate income disparity. The development should aim for social equity and favorable conditions for human development, and meet the following requirements:

- Stabilizing the population and improving rural living standards.
- Enhancing education levels and eradicating illiteracy.
- Minimizing negative environmental impacts during urbanization.
- Preserving cultural diversity of regions and ethnic groups.
- Ensuring gender equality and protecting gender needs and interests.
- Enhancing public participation in decision-making processes.

(3) Environmental aspect: Sustainable environmental development involves utilizing natural resources while ensuring the quality of the human living environment, including clean air, water, soil, geographic space, and landscapes. It should fulfill the following requirements:

- Efficient use of resources, especially non-renewable resources.
- Protecting biodiversity and the Earth's atmosphere.
- Developing without exceeding the Earth's ecological carrying capacity.
- Controlling and reducing greenhouse gas emissions.
- Strictly protecting sensitive ecosystems.

- Reducing waste and improving pollution conditions.

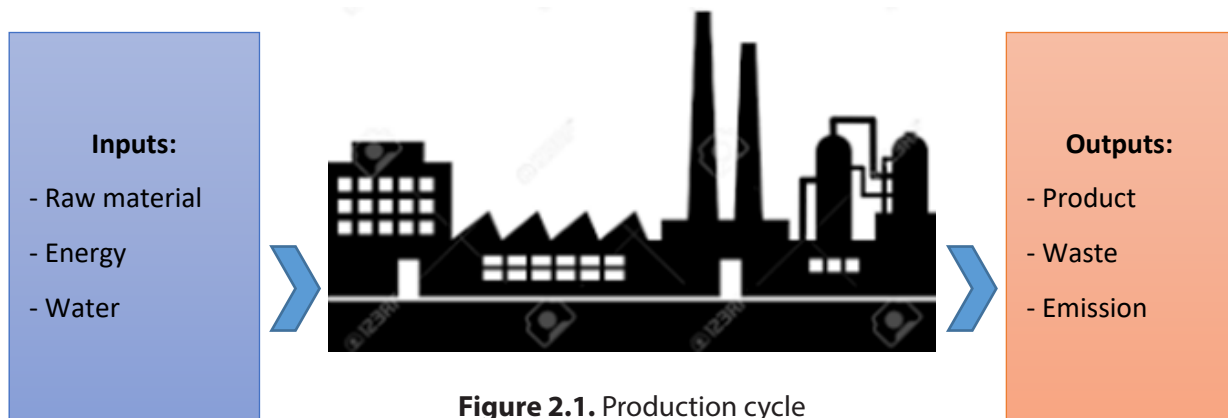
Balancing economic development with environmental protection and the equitable interests of stakeholders is a global concern. Businesses play a vital role in this matter, as they are the main driving force behind economic and social development while also being the primary agents affecting the environment and society.

### 2.1. Factors Influencing the Sustainable Development of Enterprises

The concept of sustainable development emerged in the 1970s when the world faced challenges such as rapid population growth and depletion of natural resources. However, it was not until 1987 that the World Commission on Environment and Development (WCED) of the United Nations defined the term “Sustainable Development” clearly in the report “Our Common Future.” According to the report, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The United Nations’ 2030 Agenda for Sustainable Development identifies that sustainable development is the harmonious integration of three fundamental aspects: Economic Development, Social Well-being, and Environmental Protection. These aspects are interconnected and essential for the happiness of individuals and the entire society. Every country, locality, business, and individual needs to have a positive awareness and take concrete actions towards sustainable development. In this regard, the role of businesses is considered crucial.

The following model illustrates the factors impacting the sustainable development of enterprises:



**Figure 2.1.** Production cycle

*Source: Krajnc & Glavic (2003)*

To achieve sustainable development, businesses need to conserve input resources (raw materials, energy) and minimize waste generation. This entails adopting practices in production, distribution, treatment, and recycling that aim to reduce resource consumption and minimize negative environmental impacts. From the initial design stage, businesses must consider all stages of the product life cycle and employ clean production technologies to minimize environmental impacts.

Fundamentally, there are three strategies for sustainable business development (Hart, 1997):

- **Pollution Prevention:** Businesses shift from pollution control to pollution prevention. Instead of dealing with waste after its creation, the focus is on minimizing or eliminating waste before it is generated. This strategy involves continuous improvement to reduce waste and energy consumption.
- **Product Lifecycle Management:** The emphasis is not only on reducing pollution during production but throughout the entire product lifecycle.

- **Clean Technology:** The focus is on developing and utilizing green technologies and environmentally friendly innovations.

By adopting these strategies, businesses can contribute to sustainable development and reduce their environmental footprint.

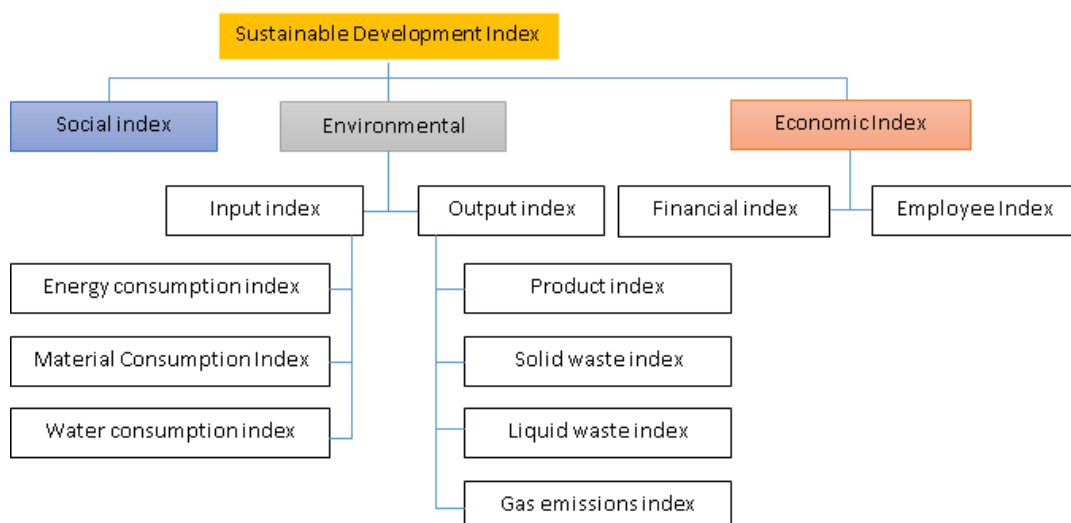
## 2.2. Measuring the Sustainable Development of Enterprises

To achieve rapid and sustainable development, it is crucial to have quantitative tools to measure the level of sustainable development of enterprises. This has been a concern for many organizations and businesses. Over time, various sets of criteria for the sustainable development of enterprises have been developed.

Veleva & Ellenbecker (2001) proposed a set of criteria to measure the sustainable development of enterprises, consisting of 22 indicators across 6 dimensions: Energy and fuel use; Environmental emissions; Economic efficiency; Contribution to community and society development; Employee rights and benefits; Products (designed and produced with environmental friendliness in mind). Depending on their level of development, enterprises can apply these criteria at five different levels:

- Level 1 - Demonstrating compliance with regulations;
- Level 2 - Demonstrating effective implementation of sustainable development programs;
- Level 3 - Assessing the impact of sustainable development programs on the economy, society, and the environment;
- Level 4 - Assessing the enterprise's impact on sustainable development along the supply chain and throughout the product life cycle;
- Level 5 - Demonstrating the enterprise's role in overall societal sustainable development.

Similarly, Krajnc & Glavic (2003) proposed a set of criteria grouped into categories related to the economy, society, and the environment, reflecting aspects such as resource consumption, products, environment, economy, quality, and social performance of enterprises.



**Figure 2.2. The Set of Sustainable Development Indicators for Enterprises**

Source: Krajnc & Glavic (2003)

In addition to the works of the aforementioned authors, international organizations have also issued sets of criteria to assess the sustainable development of enterprises.

In Vietnam in 2016, VCCI (Vietnam Chamber of Commerce and Industry) developed a set of Sustainable Development Indicators for Enterprises (CSI) with 3 criteria related to the economy, 9 criteria related to the environment, and 11 criteria related to society. Yearly, VCCI collects information, conducts assessments, and ranks sustainable enterprises based on these indicators.

Although these sets of criteria may differ in form and some aspects of content, they share common points. They all evaluate the performance of enterprises based on three dimensions: Economy, Society, and Environment. Besides quantitative indicators such as revenue, salaries, and working hours, many of the remaining criteria are qualitative in nature. Enterprises can apply some or all of these criteria to assess their level of sustainable development.

### 2.3. Proposing the Implementation of Sustainable Development Model in Enterprises

To implement sustainable development, enterprises need to view it as a strategic goal. Based on this, specific criteria and indicators for sustainable development should be identified, implemented, and evaluated. Veleva & Ellenbecker (2001) propose an eight-step model for implementing sustainable development, which includes:

- (i) Identify the long-term goals and vision of the enterprise for sustainable development.
- (ii) Identify suitable criteria for sustainable development that align with the reality and objectives of the enterprise.
- (iii) Select the criteria to be implemented within a specific timeframe.
- (iv) Establish specific targets and indicators.
- (v) Implement the criteria, including activities such as data collection, calculations, evaluation, and result analysis.
- (vi) Monitor and communicate the results with stakeholders.
- (vii) Take timely corrective actions and adjustments based on the implementation results.
- (viii) Review criteria, policies, and objectives and establish new ones for the next phase.

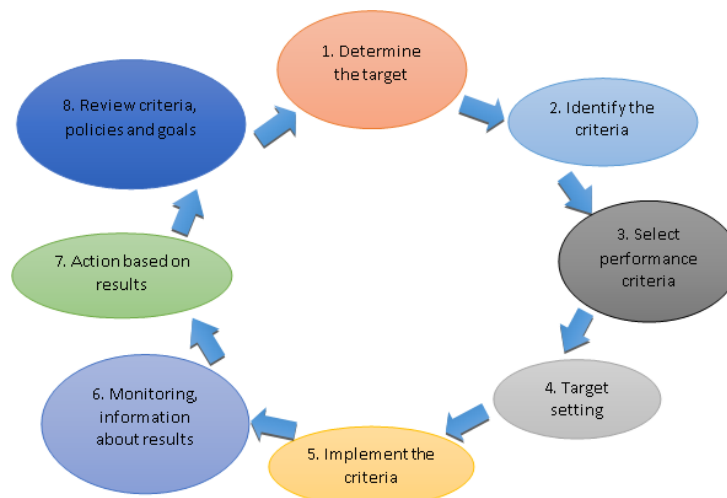


Figure 2.3. A Model for Implementing Sustainable Development in Enterprises

Source: Veleva & Ellenbecker (2001)

However, enterprises are not necessarily required to adopt all the criteria from the set of indicators at once; instead, they can start by selecting essential, feasible criteria that align closely with their actual operations. For instance, the criteria can range from those reflecting compliance with regulations to those embodying sustainable development within the factory or throughout the product lifecycle (Veleva & Ellenbecker, 2001). Enterprises can also begin by adopting the “Pollution Prevention” strategy. Once pollution prevention in the factory proves effective, they can then choose broader impact strategies such as “Product Life Cycle Management” and “Clean Technology Development” (Hart, 1997).

To achieve sustainable development, businesses must strive for a harmonious combination of the three objectives: economic, social, and environmental. This means pursuing production and business activities with the aim of maximizing profits while minimizing resource consumption and reducing emissions, all while sharing benefits with stakeholders such as the government, shareholders, employees, customers, and the community.

This development model empowers enterprises not only to thrive economically but also to conserve resources and protect the environment. By adhering to this approach, businesses can contribute significantly to sustainable development and leave a positive impact on both their surroundings and the global community.

### **3. THE CURRENT STATE OF SUSTAINABLE DEVELOPMENT IN PRIVATE ENTERPRISES IN VIETNAM**

#### **3.1. The Current State of Private Economic Development**

Private economic sectors have experienced robust growth in recent times, thanks to timely changes and adjustments in the Party and State’s policies and orientations. There have been notable highlights in this development:

The number of newly registered businesses has surged, particularly in recent years. From 2011 to 2020, over 1.035 million new businesses were registered, nearly double the number registered in the 20-year period from 1991 to 2010. Despite the impact of the Covid-19 pandemic, more than 400 thousand new businesses were still registered in the 3-year period of 2020-2021, averaging more than 133 thousand businesses per year. Additionally, the average registered capital of newly established businesses has also significantly increased, rising from 6.63 billion VND (in 2011) to 16.57 billion VND (in 2020).

The number of active private businesses has also seen substantial growth, increasing from over 312 thousand businesses in 2011 to over 660 thousand businesses in 2020. Similarly, the number of non-agricultural business households has significantly risen, from over 4.2 million households in 2011 to over 5.2 million households in 2020.

According to the 2022 White Book of Enterprises (Ministry of Planning and Investment, 2022), the average scale indicators of private businesses during the 2016-2020 period have shown strong growth compared to the 2011-2015 period. The number of active businesses increased by 160.7%; the workforce grew by 125.2%; the capital expanded by 235.5%; and the fixed assets and long-term investments rose by 254.0%, among other positive developments.

These remarkable achievements reflect the thriving state of private economic development, demonstrating the positive outcomes of the government’s supportive policies and effective

measures. The private sector's continuous expansion and increasing contributions to the national economy underscore its crucial role in driving sustainable growth and prosperity in the years to come.

Number of businesses in operation	160,7%
Labor	125,2%
Capital	235,5%
Equipping capital/labour	186,4%
Fixed assets and long-term investment	254,0%
Equipping fixed assets/labor	161,2%
Net Revenue	201,3%
Profit before tax	272,9%

**Table 3.1. Growth of private enterprise scale in the period 2016-2020 compared to the period 2011-2015**

*Source: Ministry of Planning and Investment (2022)*

The private economy has witnessed extensive development, spanning across various industries, sectors, and regions. Notably, large private enterprises have emerged as key players in the business landscape. Among the top 100 largest companies in Vietnam in 2022 (according to Vietnam Report), as many as 44 are private enterprises. The TOP 10 list features prominent names such as Hoa Phat Group, Vingroup, and Mobile World Investment Corporation. These enterprises have maintained their positions in the TOP 10 for several years. Additionally, private businesses are gradually dominating the list of companies with market capitalization exceeding one billion USD on the Vietnam stock market. As of June 30, 2021, Ho Chi Minh Stock Exchange (HoSE) recorded four private enterprises with a market capitalization of over 10 billion USD, including Vingroup, Vinhomes Corporation, and Hoa Phat Group.

Numerous large private corporations have undertaken in-depth investment strategies, expanding their markets to both regional and global territories. They have enhanced their competitive capabilities, product and service offerings, and gradually established their brands in the international market. Enterprises like Vingroup, Vietjet, Truong Hai, Masan, TH, Loc Troi, and others have even made it to the top 200 listed companies with annual revenues surpassing 1 billion USD in the Asian region.

The development of the private economy has also given rise to a cohort of talented entrepreneurs who can meet the requirements and demands of the market mechanism and international integration. As of December 26, 2022, Vietnam had six billionaires featured on Forbes' list of the world's billionaires (down by one compared to March 11, 2022).

The private economy has made significant contributions to the country's economic growth, maintaining a substantial and stable share (approximately 38-40%) from 2011 to the present. It has also played a crucial role in total social investment capital. During the period of 2011-2020, private investment capital increased from over 545 trillion VND (47.0% of total investment capital) to over 1,605 trillion VND (57.3% of total investment capital). Several large private enterprises have directly undertaken various large-scale and complex infrastructure projects,



contributing significantly to the country's development, particularly in transforming the social landscape and substantially improving infrastructure, such as Van Don Airport, Deo Ca Tunnel, Hai Van Tunnel, Hanoi - Hai Phong Expressway, Bach Dang Bridge, and more.

Moreover, the private economy has played a major role in generating employment and livelihood opportunities for the labor force. Approximately 60% of the workforce is employed in private enterprises, with an average annual growth rate of nearly 4%. If we include labor in business households, private enterprises and business households account for nearly 74% of the total employed labor force in various types of businesses.

The private economy has significantly contributed to promoting gender equality and empowering women by creating employment opportunities and income sources for female workers. Approximately 50% of female workers are employed in private enterprises. Many female-led businesses have expanded their operations regionally and internationally, with dozens of Vietnamese female entrepreneurs making it to prestigious lists such as "TOP 50 Powerful Asian Businesswomen," "Outstanding ASEAN Female Entrepreneurs," "Powerful Female Entrepreneur Awards," "50 Outstanding Business Leaders Transforming Industries and Regions," and more.

Furthermore, the private economy has made substantial contributions to social welfare activities, expanding the coverage of social security and encouraging participation in social, community, and environmental activities, reflecting the social responsibility of enterprises.

### **3.2. Shortcomings and limitations in the sustainable development of private enterprises**

Over the past decade, the private economy in Vietnam has experienced significant growth in both quantity and quality, becoming one of the most important driving forces in the market-oriented socialist economy. However, domestic private enterprises still face weaknesses and deficiencies, and their development is not yet sustainable, failing to fully tap into the potential of this sector due to the following existing shortcomings and limitations:

- The number of private enterprises has increased substantially, but they are mainly small and micro-sized. According to the Statistical Yearbook 2021, nearly 73% of private enterprises have a scale below 10 billion VND, and nearly 81% have fewer than 10 employees. The private economy lacks truly large and strong enterprises. The technological level and capability to participate in the value chain, both regionally and globally, remain limited, primarily focusing on stages with low value-added. As a result, the majority of export value belongs to foreign-invested enterprises (accounting for over 72% of total export turnover).

- The contribution of the private economy to economic growth has remained relatively unchanged over an extended period, mainly coming from informal businesses (individual business households contributing around 30% of GDP, while formal private enterprises contributing less than 10% of GDP). Meanwhile, during the same period of 2011-2020, the proportion of the FDI sector in GDP increased by nearly 5%, from 15.39% to 20% of GDP.

- The operational efficiency of the private economy is not high, and the social labor productivity is relatively low. On average in the 2016-2020 period, active private enterprises accounted for 96.7% of the total number of enterprises, but their labor productivity at constant

prices of this economic sector was the lowest, only 29.1% of the labor productivity of the FDI sector and 24.6% of the state-owned economic sector.

- The resilience of private economic entities is quite limited. A considerable number of businesses have ceased operations or been dissolved. During the 2011-2020 period, the average number of businesses that stopped operating or were dissolved annually accounted for about 73.5% of newly registered enterprises. Especially, the weak resilience of private enterprises has become more evident due to the impact of the Covid-19 pandemic in the 2020-2022 period.

- The fast growth of the private economy has not been matched with sufficient attention to the quality of growth. The management and development of sectors and fields lack close coordination with planning and overall development strategies, leading to a common phenomenon of spontaneous development by businesses and individuals, making environmental control challenging.

- The industrial structure of private enterprises is not yet reasonable. Over 80% of private enterprises are engaged in trade and services. Only slightly more than 10% of private enterprises operate in the industrial sector, and around 1% invest and work in agriculture.

- In agriculture, most private production is small-scale and lacks linkage and sustainability. The production is not closely connected to processing and value-added, with low levels of technology application, resulting in excessive utilization of resources (land, water, etc.) and chemicals such as fertilizers and pesticides, depleting resources, degrading soil quality, and causing environmental pollution. Consequently, greenhouse gas emissions have adverse effects on the environment and human health. The productivity is not high, the value-added is low, and the economic efficiency is modest. Additionally, the application of improved techniques in agriculture, such as green economic models, VietGap, and GlobalGap, is still limited.

- The labor productivity in agriculture is still low, and the quality of agricultural labor is restricted. Scientific and technological knowledge is insufficient, and the reuse of agricultural by-products is limited.

- A majority of small and medium-sized enterprises have outdated production technology and insufficient attention to adopting new technologies and advanced materials and energy sources.

- Enterprises are slow in modernizing their technical equipment, adopting new technologies, and improving labor productivity. The management capacity, operational experience, and dynamic features of business owners are low, and their market access capabilities are weak. Although they are gradually moving towards green industrial development, low-energy consumption, and minimal environmental pollution, many limitations still exist. Very few enterprises invest in research and technological innovation, resulting in low competitiveness of industrial products. Small and medium-sized enterprises still release a significant amount of untreated waste into the environment.

	2019	2020	2021	2022
Number of enterprises withdrawing from the market	89.282	101.719	119.828	143.723
- Suspend business	28.731	46.592	54.960	73.996
- Waiting for dissolution	43.711	37.663	48.127	51.118
- Complete dissolution procedures	16.840	17.464	16.741	18.609

Number of enterprises entering the market	177.560	179.037	159.955	208.368
- New establishment	138.138	134.941	116.839	148.533
- Re-entering the market	39.421	44.096	43.116	59.835
Exit/enter the market (%)	50,28	56,81	74,91	68,98
Withdraw/New establishment (%)	64,63	75,38	102,56	96,76

**Table 3.2. Status of private enterprises withdrawing from the market in the period of 2019-2012**

*Source: Ministry of Planning and Investment (2022)*

### **The existing issues stem from several fundamental reasons**

- Limited awareness among enterprises and the public about pollution and environmental protection. The excessive use of fertilizers, growth stimulants, antibiotics, banned substances, etc., in agricultural production is a concerning reality affecting food safety.

- There are still many limitations in disseminating and promoting green practices within the community; training programs for clean production are not given enough attention to local officials, businesses, and farmers; the implementation of green technical activities in production is scattered, lacking coordination.

- Insufficient linkages and commitment between actors throughout the agricultural production-to-consumption process, especially in the realm of green agriculture.

- Enterprises and individuals are slow in adopting cost-effective and efficient technologies; there is limited application of waste and by-product recycling in agriculture, industry, and services.

- The planning and conversion of crop and livestock structures towards organic and sustainable agriculture are slow and not decisive enough. State management of seeds, fertilizers, pesticides, and environment-friendly production in enterprises still lacks stringent control and has many deficiencies.

- The transition to a green economy with a focus on green growth and restructuring the economy based on renewable energy, low-carbon society, ecosystem restoration, poverty reduction, and environmental recovery is not given enough attention.

- The development of supporting industries and high-tech economic sectors that effectively utilize energy and resources, such as environmental industry, environmental services, recycling and reusing waste, energy production from waste, and renewable energy, is still lacking.

- The agricultural, industrial, commercial, and service sectors primarily consist of small-scale cottage industries and self-organized production.

- Climate change has severe consequences, including prolonged drought, rising sea levels, salinization, and excessive exploitation of groundwater resources. Agricultural, industrial, livestock, and aquaculture production waste being discharged into rivers and canals is causing environmental pollution and hindering sustainable development.

### **4. SOME IMPLICATIONS**

To develop private sector businesses effectively and sustainably, it is essential to ensure a close, balanced, and harmonious combination of economic efficiency with social responsibility, resource conservation, and environmental protection. Specific measures include:

- Strengthening communication efforts and raising awareness of the importance of green growth and sustainable economic development to promote energy and natural resource efficiency and encourage sustainable production and consumption practices.

- Implementing a widespread plan to apply sustainable business indexes that adhere to the principle of reducing administrative procedures and costs for enterprises.

- Encouraging private sector enterprises to adopt sustainable business models, embrace new technologies that are fuel-efficient, reduce greenhouse gas emissions, and are environmentally friendly. Supporting and assisting businesses in transitioning from outdated, polluting technologies to newer, more productive and efficient ones.

- Promoting green production, limiting the development of industries with significant waste generation and environmental pollution, and developing resource-efficient economic sectors. Fast-tracking the development of green sectors while enhancing sustainable infrastructure, innovation in production processes, and the widespread application of cleaner production practices. Efficiently implementing the “Clean Industrialization” strategy, promoting green industries, green agriculture, and actively preventing and controlling environmental pollution.

- Developing urban areas with a focus on green growth and sustainable development as a driving force for green and highly competitive economic growth, job creation, poverty reduction, improved living standards, and environmental enhancement.

- Encouraging the development of green agriculture, clean agriculture, and organic farming by integrating scientific and technological advancements in production and efficient resource use. Promoting linkages for green and sustainable agricultural development and participating in global agricultural value chains. Implementing forestation plans, expanding forested areas according to provincial plans, nurturing, protecting, and sustainably utilizing existing forest and land resources, and restoring protective forests.

- Developing renewable energy and promoting energy efficiency and resource-efficient industries, fostering the creation of green technologies.

- Accelerating the transition from traditional fuels to biofuels, natural gas, and electricity, improving and developing construction materials using energy-saving and green materials in housing and commercial sectors.

- Efficiently mobilizing and utilizing capital sources, investing in mid-term projects, key infrastructure projects, and policy implementation; creating favorable conditions for economic components to access credit and preferential credit for production and business development; socializing private capital investment in waste treatment, developing waste treatment plants with sufficient capacity to handle waste in the province, urban sewage, technical infrastructure of transport, logistics, etc.

- Improving the quality of tax and customs management, timely addressing business-related issues.

- Reviewing and evaluating the implementation of regulations on environmental protection standards and compliance within private sector enterprises and proposing amendments to enhance compliance with environmental laws while providing a favorable environment for enterprises. Enhancing the effectiveness of state management of environmental issues.

- Gradually improving the quality of human resources and developing high-quality human resources, enhancing managerial and administrative capacity for enterprises. Promoting training activities to cultivate soft skills among employees, enhancing their integration ability and effective collaboration.

- Enhancing support and training to elevate the social responsibility of private sector member enterprises within the community.

- Actively collaborating with state management agencies to recommend policies that encourage private sector enterprises to participate in the country's sustainable development goals; replicating effective, sustainable management and governance models to address sustainable development challenges.

- Actively disseminating and raising awareness, recognizing private sector enterprises that make significant contributions to environmental protection and social responsibility.

## 5. CONCLUSION

In the coming time, private enterprises in Vietnam will face numerous new challenges, intensified competition, and increasing pressures concerning labor productivity and digital transformation in the new context. The production and business situation of these enterprises are expected to continue facing difficulties and challenges from external factors, such as the risk of a Covid-19 resurgence, climate change issues with abnormal droughts and floods, the possibility of prolonged Russian-Ukrainian military conflict, high inflation, which could become a persistent problem in the medium term, as well as high prices of oil, natural resources, and raw materials, impacting the recovery capabilities of businesses and the overall economy.

Climate change is increasingly affecting the lives, economy, and society of all countries worldwide, and Vietnam is no exception. In response to these impacts, the requirements of partners and markets are moving towards sustainable production and consumption. Commitments made by Vietnam when participating in the United Nations Framework Convention on Climate Change (COP26) and priorities in international cooperation frameworks such as ASEAN and APEC on sustainable business, green production, carbon taxation, and carbon verification tools are posing significant challenges that require innovation from Vietnamese private enterprises to keep up with these emerging trends. Failure to adapt to these changes may lead to reduced competitiveness and missed opportunities for participating and advancing in the global value chains.

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# RESEARCH ABOUT THE TECHNICAL OF RECOGNITION OF LEASE ACCOUNTING ACCORDING TO INTERNATIONAL FINANCIAL REPORTING STANDARDS 16 - LEASES

Dr. Do Minh Thoa<sup>1</sup>

**Abstract:** *In the context of medium and long-term capital access in banks with difficulties, property leasing will be one of the important solutions to help businesses overcome barriers to accessing capital. Therefore, renting assets is a very popular economic activity among enterprises. The information on leases presented in the financial statements is reflected in its true nature, enhancing the transparency of information that has been facing difficulties in the reality of Vietnamese enterprises. This study introduces the accounting recognition techniques for leases in accordance with the International Financial Reporting Standards IFRS 16, from there, pointing out orientations to contribute to the development and completion of Vietnam's legal documents on asset leasing accounting in the coming time*

**Keywords:** *leasing assets, accountants, IFRS 16, VAS 06, IAS 17*

## 1. INTRODUCTION

According to statistics, the total annual financial leasing sales of the top 50 financial leasing countries in the world amounted to more than 1.3 trillion USD at the end of 2019. In the US, more than 30% of all equipment is equipped on lease, more than 80% of companies - from small start-ups to Fortune 500 enterprises - all lease part or all of their equipment. In Japan, the annual revenue of financial leasing is around 50 billion USD and more than 90% of enterprises use financial leasing to invest in machinery and equipment. Meanwhile, in Vietnam, financial leasing is still a small-scale market, with the total outstanding loan balance of the whole market by the end of December 2020 at only VND 29,500 billion (about USD 1.27 billion), accounting for only about 0.3% of the total outstanding loans of credit institutions. [According to [https://dttc.sggp.org.vn/\\_12](https://dttc.sggp.org.vn/_12)]

Vietnam's financial leasing market has undergone more than 20 years of establishment and development. But according to the State Bank of Vietnam, so far, there are only 8 financial leasing companies operating in the market. Despite its small size, the CAGR over the past 5 years has been relatively high at 20.4%. In which, a significant contributor to the overall growth of the market is BIDV-SuMi TRUST Financial Leasing Company Limited (BSL) with a CAGR of up to 110% in the past 3 years. This shows that, if there are reasonable policies to promote and promote, financial leasing will be an effective tool to mobilize medium and long-term resources, helping to reduce the burden of funding for the banking system. [According to [https://dttc.sggp.org.vn/\\_12](https://dttc.sggp.org.vn/_12)]

According to the forecast of the National Center for Socio-Economic Information and Forecast (NCIF), in the period 2021-2025, Vietnam's GDP growth rate will reach about 7%/

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year, the macro economy is basically stable, inflation is at 3.5-4.5%/year, creating a great demand for machinery and equipment (especially manufacturing, construction, processing and manufacturing industries...) and means of road transport for development investment. [According to [https://dttc.sggp.org.vn/\\_12](https://dttc.sggp.org.vn/_12)]

Leasing will be an important solution to help businesses overcome barriers to accessing capital, especially medium and long-term capital, in the context of the banking system's limited orientation to use medium and long-term loans. Therefore, it can be seen that leasing activities will be a development trend in the capital mobilization channel of enterprises, which is considered to have a lot of potential for development in Vietnam.

Presenting information related to asset lease transactions on the financial statements in an accurate, true, transparent manner is always required and imperative.

Towards perfecting the legal and accounting system of Vietnam in the direction of harmonizing with international accounting, in this article, The author clarifies from the study of International Financial Reporting Standards IFRS 16 on leases, in order to provide the techniques for accounting for leases under IFRS 16 – Leases With illustrative cases of practical application, it will help accelerate the application of the International Financial Reporting Standards system into practice in Vietnam in the context of international economic integration.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Currently, in the market economy, businesses have a very high need to mobilize capital to serve investment, expanding production scale, innovating technological lines to produce products to meet the increasing demands of the market. A financial solution for businesses in the condition that they want to expand their production and business is to rent assets. Information presented related to leased assets will be the basis for enterprises to make decisions in the effective use of business capital.

IFRS 16 International Financial Reporting Standard – Leases, provides scientific principles for lease accounting

History of issuance of International Financial Reporting Standards IFRS 16 – Leases:

- In April 2001, the International Accounting Standards Board (IASB) adopted IAS 17 - Leases, previously issued by the International Accounting Standards Committee (IASC) in December/December/1997. IAS 17 - Leases replacing IAS 17 - Accounting for leases was issued in September 1982.

- In April 2001, the IASB adopted SIC-15 Operating Leases - The first incentives issued by the Standing Interpretation Committee (SIC) of the IASC in December 1998.

- In December 2001, the IASB issued SIC-27 - Assessment of the Nature of Transactions Concerning the Legal Form of a Lease. The original SIC-27 was developed by SIC to provide guidance on many things, including determining whether an agreement regarding the legal form of a lease meets the definition of a lease. lease property under IAS 17 or not.

- In December 2003, the IASB issued the revised IAS 17 as part of the first program of their engineering projects.

- In December 2004, the IASB issued IFRIC 4 - Determining whether an arrangement includes a lease. The Speakers Committee has developed Guidelines for determining whether transactions do not have the legal form of a lease but transfer the right to use an asset in return for a payment or payments is a lease or includes such a transaction and should be accounted for in accordance with IAS 17.

- In January 2016, the IASB issued IFRS 16 - Leases. IFRS 16 replaces IAS 17, IFRIC 4, SIC-15 and SIC-27. IFRS 16 prescribes principles for the recognition, measurement, presentation and disclosure of leases.

Vietnamese Accounting Standard on Leases (VAS 06) was issued and announced by the BTC under Decision No. 165/2002/QD-BTC dated December 31, 2002 and Circular 105/2003/TT-BTC, Issued on November 6, 2003. Then, in Circular 161/2007/TT-BTC, guiding the re-implementation of 16 Accounting Standards issued on December 31, 2007, leasing was also reiterated by the Ministry of Finance. However, there is almost no change in content compared to Circular 105/2003/TT-BTC issued before. Since its issuance, VAS 06 has revealed many limitations in the application process and has not made any changes or adjustments to match reality. Therefore, the evaluation and re-discuss of VAS 06 is one of the issues that need to be done in the current period. Especially, during the period when the Ministry of Finance is collecting comments on the draft new accounting standards and VAS 16 is also in the process of drafting and collecting comments.

Renting properties in Vietnam in recent years has attracted the attention of researchers, but the number of publications is limited and only focuses on research. certain aspects of leasing. Some of the main contents of the research on leasing properties in Vietnam can be mentioned, including: *One, Improving corporate accountability for lease accounting* with the study of MSc. Hoang Ninh Chi and Ms. Nguyen Thi Thanh Tham (2019); presented the impacts of IFRS 16 on lease accounting and orientation to apply IFRS 16 in the coming time in Vietnam. *Two, is it possible to record the revenue in the Sale and sublease transactions* with the research of Phan Le Thanh Long, MBUS(Acc), CPA, CMA (Aust.) - Director of the Australian Institute of Certified Management Accountants in Vietnam Male (2017); the study presented how to account for sales and leaseback transactions that Vietjet Air has performed. *Third, International Financial Reporting Standards No. 16 - a new era of lease accounting*, with research by Tran Hong Kien, Deputy General Director, Auditing Services, Hanoi Office, PwC Vietnam (2018). *Four, IFRS 16 - Lease and its effects on financial statements* with research by Le Thi Thanh Hue (2020), published in Journal of Accounting and Auditing (ISSN 1859 – 1914) May 2020 issue; the author has presented the effects of IFRS 16 on the Balance Sheet and related balance sheet indicators such as Total Debt/Equity index; At the same time, the study also shows the effect of IFRS 16 on the income statement because enterprises need to recognize interest expenses for lease obligations (lease payment obligations) and the business also needs to calculate depreciation on the ‘right to use property’ (i.e. the property reflects the right to use the leased asset). Therefore, for a lease previously classified as an operating lease, the total cost at the beginning of the lease will be higher than in IAS 17.....

In general, the above studies have pointed out the reasons for the birth of IFRS 16 as well as the impacts of IFRS 16 on the information presented in the financial statements.

However, the above studies mainly stopped at general principles without specifically analyzing how to record sale and re-lease transactions to present information in the financial statements.

The author's research below will provide specific analysis, comparing how to record sale and re-lease transactions in accordance with current Vietnamese Accounting Standards and in accordance with IFRS 16; there are specific illustrative situations, helping readers to better understand the meaning and presentation of information according to IFRS 16 with the hope that these will be ideas to improve the Vietnamese accounting system according to the information international accounting rules

### **3. METHODOLOGY AND PROPOSED MODEL**

Research Methods: From the collected material, the author conducts qualitative research, through such methods: analyzing and synthesizing theory, experts, analyzing and summarizing experience, studying history ... On dialectical materialistic perspective: use translation to speculate the corollary, use comparisons to make intermediate judgments, thereby using induction to make conclusions, summarize to propose recommendations and solutions.

Secondary data collection

Summary reports of the Ministry of Finance, Annual Report of the State Bank of Vietnam and Social Affairs, books and magazines such as: Financial and Accounting Research Journal, Accounting Journal, Accounting - Auditing Journal, scientific research journal of auditing, domestic and foreign studies related to the topic. Websites such as the website of the Ministry of Finance ([www.mof.gov.vn](http://www.mof.gov.vn)), the International Accounting Standards Drafting Committee ([www.iasplus.com](http://www.iasplus.com)) and some other websites.... Legal documents related to accounting and welfare for employees such as Enterprise Law, Accounting Law, International Accounting Standards, Vietnam Auditing Standards, Decrees, Decisions, Circulars... of the Government and agencies relevant function.

### **4. RESEARCH RESULTS**

#### **4.1. Concept:**

IFRS 16 establishes principles for the recognition, measurement, preparation and presentation of lease transactions with the objective of ensuring that the lessor and the lessee provide the relevant information for a fair presentation of these transactions.

Lease: is a contract, or part of a contract, that transfers control of the right-of-use asset over a specified period of time in exchange for a payment.

*Exemptions from recognition as lease contracts:*

+ Lease term < 12 months (Short-term lease)

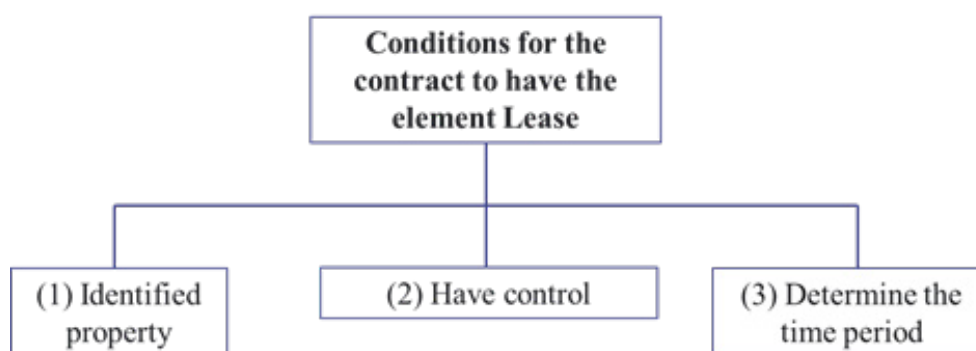
+ Underlying underlying assets when purchased new such as personal computers, phones, or small office furniture: In this case, the accountant only allocates and records the rental expense as a monthly expense.

## 4.2. Range of IFRS 16

IFRS 16 – Leases apply to all leases including sublease, except:

- Lease rights to exploit or use mineral resources, oil or natural gas and similar non-renewable resources;
- Lease of biological property (see IAS 41 – Agriculture);
- Service franchise agreements;
- The intellectual property license is awarded to the lessor (see IFRS 15 – Revenue from contracts with customers);
- Tenant’s rights under copyright contracts for items such as films, videos, plays, manuscripts, patents and copyrights to the extent of IAS 38 - Intangibles.

## 4.3. Determine the lease agreement (Identifying a lease)



*(1) Condition Property Determined:*

- + Must be specified in the contract
- + May be part of the property if there is a physical separation
- + The Supplier has no fundamental right to replace the property at any time during the performance of the contract

*(2) Control is determined when:*

- + To obtain essentially all economic benefits within the parameters of the contract
- + To direct the use of assets (unaffected by vendor protection rights)

*(3) Determine the amount of time:* including determining rental period or usage

*Example 1:* Is it a lease?

Delta Air Lines has recently made substantial cuts to its community transport service. It will now provide such services only in cases of great need, assessed on a case by case basis. It has entered into a two-year contract with Fleetcat co for the use of one of its minibuses for this purpose. The minibus must seat ten people, but Fleetcat Co can use any of its ten-seater minibuses when required. The minibuses are held on Fleetcat Co’s premises and are only made available to Delta Air Lines on request.

Answer: Delta Air Lines signs a contract to lease Fleetcar's minibuses, however this is not "lease" because specific assets cannot be identified as Fleercar may offer different minibuses to Delta Air Lines, as long as the correct quantity and status of minibuses are agreed upon in the contract.

*Example 2: Is it a lease?*

Viettel Co enters into a ten-year contract with a utilities company (TelenewCo) for the right to use three specified, physically distinct dark fibres within a larger fibre-optic cable connecting North Town to South Town. Viettel Co makes the decisions about the use of the fibres by connecting each end of the fibres to its electronic equipment (ie Viettel Co 'lights' the fibres and decides what data, and how much data, those fibres will transport). If the fibres are damaged, TelenewCo is responsible for the repairs and maintenance. TelenewCo owns extra fibres, but can substitute those for Viettel Co's fibres only for reasons of repairs, maintenance or malfunction (and is obliged to substitute the fibres in these cases).

Answer: This is "lease" because:

Identify specific assets (three dark fibres)

Viettel Co has the right to obtain economic benefits from the use of the property within 10 years of the lease

Viettel Co has the exclusive right to use such property and has the right to determine the manner and purpose of its use (Viettel Co makes decision about use of the fibres, decides what data, how much data, those fibres will transport)

*Example 3: Is it a lease?*

Fashion brand Jenny Packham Co signed a 5-year agreement with Trang Tien Plaza on January 1, 20X2 to use a retail point in the retail area of Trang Tien Plaza. Jenny Packham Co can make decisions about what is sold at the retail outlet in Trang Tien Plaza over the course of 5 years as well as control access to that retail point during the mall's opening hours. Jenny Packham Co agrees to pay Trang Tien Plaza a fixed amount annually plus a percentage of sales. Trang Tien Plaza provides maintenance services for that retail point

The agreement stipulates that Trang Tien Plaza can move Jenny Packham Co to another retailer of the same size and specifications at any time within 5 years, but in this case Jenny Packham Co's relocation costs and a fine

Is this agreement a lease??

Answer: This is "lease" because:

Jenny Packham Co reserves the right to substantially all economic benefits from the use of such retail point; This is not affected by the terms of the agreement that some rental payments are calculated as a percentage of sales.

Jenny Packham Co can choose what they sell from this point on and can access retail at any time when the mall is open, therefore, they orient the use of this retail point

Point of sale is a defining asset; Trang Tien Plaza has the right to move Jenny Packham Co, however this does not appear to be a substantive right because Trang Tien Plaza is not able to obtain economic benefits from exercising its rights, due to paying fees and penalties



The useful life is defined as 5 years

#### 4.4. How to record the “Lease agreement” of the Lessee

Note: IFRS 16 no longer distinguishes between finance and operating leases for lessees.

##### 4.4.1. Accounting at the beginning of the Lessee

At the commencement of a lease transaction, the lessee shall recognize the right to use the asset and the liabilities arising in connection with the lease transaction:

<b>Record the Right-of-use assets</b>	<b>Record the obligation to Lease liability</b>
Separate recognition in Non-current assets.	Separate recognition in current & non-current liabilities.
<b>INITIAL MEASUREMENT</b>	
<b>Dr Acc Right-of-use Asset (ROU)</b> <b>Cr Acc Lease liability</b> <b>Cr Acc Cash</b>	
Right-of-use assets is initially recognized at cost, including: + Initial recognition of lease liability + Rent payments made before or on the start date of the lease less rental discounts received (incentives received) + Initial direct costs incurred to lease the property + Expenses for dismantling and restoring the premises when the lease contract ends  Note: After initial recognition, right-of-use assets will normally be measured according to the cost model similar to IAS 16 – PPE., unless it is an asset that falls under the IAS 16 revaluation principle, or it is an investment property that is recognized under IAS 40.	The lease payment obligation should be recognized at the lease commencement date at the present value of unpaid future lease payments, including: + Fixed payment less rental incentives (Lease incentives) + Variable rental payments depending on market rental rates + Amounts expected to be paid to secure the residual value of the asset at an agreed threshold at the end of the lease (residual value guarantee). + The price of the option to call the asset itself if it is certain to be exercised  Note: Other variable rental payments, such as those incurred due to the utilization of the asset, are charged to an expense in the period in which they are incurred.
<b>Subsequent measurement</b>	
After initial recognition, the right to use the asset will be recognized as follows: + If at the end of the lease period, the lease transfers ownership of the asset to the lessee, or the lease cost includes the right to purchase the property and the lessee intends to make the acquisition: The right-of-use asset should be amortized over the asset’s estimated useful life. + If at the end of the lease period, the property does not transfer ownership to the lessee: The right-of-use asset should be amortized from the commencement date of the lease to the earlier date between: useful life & rental period.  Recorded Accounting Dr Acc Depreciation Expenses Cr Acc ROU - Accumulated Depreciation	After initial recognition, the rental obligation is measured at “Amortized costs”: + Record an increase when interest charges are incurred on the remaining balance  Recorded Accounting: Dr Acc Finance cost Cr Acc Lease liability  + Record a reduction when making the payment of rents:  Recorded Accounting: Dr Acc Lease liability Cr Acc Cash

#### 4.4.2. Accounting during the lease period of the Lessee

The lessee is obligated to make periodic rental payments to the lessor. A periodic rental payment by the lessee consists of 2 parts:

- Interest charges are recorded as an increase in finance costs during the lessee's period and appear in the P&L.

- The principal cost is recorded as a decrease in the debt balance on the lessee's B/S.

The value of interest expense & principal amount in each rental payment must be segregated for recognition. Normally, we will use the calculation method by making a table, from which will determine the annual financial cost and the balance of the lease debt at the end of each year..

Example:

Lion Co enters into a five-year lease of a building which has a remaining useful life of ten years. Lease payments are \$50,000 per annum.

Lion co incurs initial direct costs of \$20,000 and receives lease incentives of \$5,000. There is no transfer of the asset at the end of the lease and no purchase option.

The interest rate implicit in the lease is not immediately determinable but the lessee's incremental borrowing rate is 5%, with the value of \$1 having a cumulative present value in 4 years' time of \$3.546, the value of \$1 having a cumulative present value in 5 years' time of \$4,329.

At the commencement date Lion Co incurs the direct costs and receives the lease incentives.

Required: Allocate the lease liabilities at the end of first year if the annual payment is:

(1) Payable at the beginning of each year.

(2) Payable at the end of each year.

*Kế toán ghi nhận như sau:*

(1) Payment in advance

Measure Lease liabilities:

Since the initial recognized amount of Lease liabilities is the present value of future lease payments, so \$50,000 paid at the beginning of the first year will not be counted. So the value of Lease liabilities is:

$$\$50,000 \times 3.546 = \$177,300$$

Measure right-of-use asset:

Initial recognized value of lease liabilities: \$177,300

Payments made: \$50,000

Less: Commission received: (\$5,000)

Direct costs: \$20,000

=> The initial recognized value of the right-of-use asset is:

$$\$177,300 + \$50,000 - \$5,000 + \$20,000 = \$242,300$$

Initial entry:

Dr Acc Right-of-use asset	242,300
Cr Acc Lease liability	177,300
Cr Acc Cash	65,000 (50,000 + 20,000 - 5,000)

We have a table of Lease liabilities as follows:

Year	Opening balance (1/1/X)	Annual rental payment	Interest charge	Closing balance (31/12/X)
Year 1	177,300		8,865	186,165
Year 2	186,165	(50,000)	6,807	142,972
Year 3	142,972	(50,000)	4,648	97,620
Year 4	97,620	(50,000)	2,380	50,000
Year 5	50,000	(50,000)	-	-

(2) Payment in arrears:

Measure Lease liabilities:  $\$50,000 \times 4.329 = \$216,450$

Measure right-of-use asset:

Initial recognized value of lease liabilities: \$216,450

Less: Commission received: (\$5,000)

Direct costs: \$20,000

=> The initial recognized value of the right-of-use asset is:

$$\$216,450 - \$5,000 + \$20,000 = \$231,450$$

Allocate lease liabilities:

Year	Opening balance (1/1/X)	Annual rental payment	Interest charge	Closing balance (31/12/X)
Year 1	216,450	10,822	(50,000)	177,272
Year 2	177,272	8,863	(50,000)	136,135
Year 3	136,135	6,806	(50,000)	92,941
Year 4	92,941	4,649	(50,000)	47,590
Year 5	47,590	2,380	(50,000)	-

#### 4.5. Accounting for Sale and lease back transactions

##### 4.5.1. The nature of the sale and lease back transaction

###### a) What is sale and lease back?

This is an arrangement in which the company, after selling an asset, can lease the same

asset back from the buyer for a long period of time. With sale and re-lease, the details of the agreement, such as lease payments and lease term, made immediately after the sale of the property. In a sale and leaseback transaction, the seller of the property becomes the lessee and the buyer becomes the lessor.

A simple example is as follows: Grandviet Co owns a piece of land, then sells it to ABC Leasing under a sale and re-lease agreement. Accordingly, ABC Leasing will lease the same land to Grandviet Co for a long time.

A sale and leaseback transaction is when a legal entity (the seller and also the lessee) transfers an asset to another legal entity (the buyer and also the lessor) to collect a sum of money and sublease the same property from the buyer/lessor. Sale and leaseback transactions are a popular way for businesses to secure long-term financing from important real estate, plants, assets and equipment such as land and buildings.

### ***b Purpose of sale and lease back***

A company typically conducts a leaseback transaction for accounting and tax purposes.

Example: A company can transfer its assets to another company to hold but still be able to use it. In addition, switching to another company will allow that company to track asset value and profitability.

In times of distress or when a company needs money for a purpose, instead of borrowing or raising money from outside, a company can sell the asset. A property buyer is someone who is only interested in a long-term investment and will lease the property back to the company. This way, the company can receive cash inflows and still be able to use the assets.

### ***c) People who use the sale and leaseback method***

The most common users of sale and leaseback are builders or companies with high-priced fixed assets — like expensive property, land, or equipment. As a result, sublease is very popular in the construction and transportation industries, as well as the real estate and aviation sectors..

### ***d) Benefits of sale and re-lease for lessees***

#### ***(1) Increase the scalability of the business***

Companies use subleaseback when they need to use the money they have invested in an asset to optimize other purposes but they still need the same asset to run the business. Or if they do not have enough money to own that property, they can also use this method to use the asset, expand the business scale.

Normally, when a company needs to raise cash, they usually borrow (debt incurred) or issue shares. This creates a lot of risks about the ability of the business to repay its debts and the continuity of operations if the business is having difficulties or needs to use the money for other purposes. Therefore, the form of sale and re-lease is very attractive, it is as a method to raise more capital without too affecting the operation of the business.

#### ***(2) Improve balance sheet***

When using this form, the nature of the business is to borrow money from outside, so it will incur a liability and show it on the company's balance sheet. This debt is a long-term debt and will be paid on an annual basis. So a leaseback can really help improve a business's balance sheet:

Liabilities on the balance sheet will be reduced (by avoiding more debt since rental costs only need to be paid on an annual basis, compared to borrowing an amount equal to the value of the property)

Current assets will increase (in the form of cash and leases, in other words, the right of use asset).

Asset turnover of the business will improve as fixed assets decrease, but the ability to generate revenue of assets remains in the hands of the business.

### *(3) Tax reduction payable*

The business no longer pays tax on any changes to that asset, and;

Renting will incur rental costs, resulting in reduced profits and will reduce taxes.

One can avoid paying taxes on the sale of a property, either by reinvesting the proceeds in the business or by purchasing another asset.

### *(4) Minimize the risk of assets arising*

After the sale, the company no longer has to bear the additional risks of the assets that the owner of the asset would have to bear in the event of market volatility.

### *Situation on sale and lease back transactions at VietJetAir*

Basically, a sale and leaseback transaction is conducted in the following order:

Step 1: VietJet Airlines signs a contract to buy aircraft with manufacturers (Airbus or Boeing) and must pay an amount ranging from 1-5% of the contract value in advance.

Step 2: Vietjet agrees to sell and lease back these aircraft with leasing companies (such as GECAS) before the time of taking over the aircraft. Then, at the time of delivery, Vietjet will (1) receive the aircraft, (2) use the money from GECAS to pay Airbus and (3) transfer the aircraft ownership documents to GECAS. Lease contracts usually last from 6-12 years, with a fixed monthly rental fee (about 500,000 to 750,000 USD/month). This airline has to pay nearly 160 million USD for 40 leased aircraft in 2016

Step 3: After the lease term expires, the aircraft will be returned to the leasing company. In case the airline terminates the contract before the time limit, there will usually be a penalty.

Thus, Vietjet did not have to spend all of its money to buy an aircraft, just need to make a deposit, then use the money of the aircraft rental company to pay the aircraft manufacturer.

Because Vietjet orders aircraft from the manufacturer in large quantities, a discount can be up to 40-50%. As a result, they will usually have a profit from reselling to rental companies. Thus, the airline can both develop the fleet and have cash flow to finance other activities, instead of having to spend a large amount of money to buy aircraft in the usual way.

#### **4.5.2. Accounting recognition for a sale and leaseback that qualifies as a sale**

Sale and lease back is a transaction involving the sale of an asset and then sublease the same asset.

We need to determine whether the transaction constitutes a sale to be recognized under IFRS 15 by determining whether the performance obligation has been fulfilled or not. Performance

obligation is determined to be completed when the enterprise transfers control of goods and services to the customer, the performance obligation can be considered complete at one point in time or from time to time.

According to the old standard IAS 17, when the lessee is subletting under the form of an operating lease, only the related rental costs will be recognized. Under the new IFRS 16, when there is no longer a distinction between a finance lease and an operating lease, the lessee will incur a liability and amortize it year by year.

From the perspective of accounting standards, IAS 17 mentioned how to account for sale and leaseback transactions in great detail. However, that mention is only from the perspective of the seller - the lessee. Therefore, IFRS 16 was born to correct and supplement IAS 17.

Specifically, because IFRS 16 has eliminated the distinction between operating leases and finance leases when accounting for lessees, Therefore, the compulsory accounting method that the seller - the lessee must apply for the sale and sublease transaction will be clearer and more straightforward. In addition, in addition to IAS 17, IFRS 16 outlines the accounting requirements for buyers - lessors.

When a sale and sublease takes place, both the lessee and the lessor must first determine if the transfer qualifies for recognition as a sale. This determination will be based on requirements relating to performance obligations under IFRS 15 'Revenue from Contracts with Customers'. Reasons for determining whether the transaction is a sale or not, it is a different accounting for each case, as it involves the transfer of risks and rewards of the asset. Let's analyze it in more detail below:

### ***The transaction qualifies as a sale***

#### ***a) For the seller and the Lessee***

If the assignment qualifies as a sale and meets the terms of the market, the seller will be required to divide the carrying amount of the property at the time of sale as follows:

- Right-of-use asset arising from the sublease, and;
- The rights to the property that are retained for the buyer - the lessor at the end of the contract.

After the sale, the seller will recognize a portion of the profit or loss from the liquidation of the asset. The amount obtained is calculated by dividing the total profit or loss into:

- The proceeds that are not recognised because of the rights to use the property retained when the seller leases it back, and
- The proceeds are recognized as related to the right to use the property of the buyer at the end of the sublease.

After that, the sublease contract will be accounted for under the normal lessee accounting model, including Right-of-use asset as well as Lease liability.

#### ***b) For buyers and lessors***



The lessor will account for the transaction based on applicable standards (e.g. IAS 16 if the property is plant, machinery or equipment or IAS 40 if the asset is investment property). The lease is then accounted for as a finance lease or an operating lease depending on the nature of the transaction, applying the lessor's IFRS 16 accounting requirements.

**The accounting recognition technique for a sale and leaseback transaction that qualifies as a transfer is a sale as follows:**

The seller (sublessee) determines the value of the right to use the asset arising from the sublease transaction in proportion to the previous residual value of the asset.

The seller (the lessee) only recognizes the profit/loss from the sale of the property related to the right to use the property transferred to the buyer (lessor).

*Steps to calculate Profit Transferred to Buyer:*

Step 1: Calculate the total profit the seller received from the sale transaction:

$$\text{Total gain} = \text{Fair value} - \text{Carrying amount}$$

Step 2: Calculate the profit related to the right to use the retained property:

$$\text{Gain relating to right retained} = \text{Gain} \times (\text{discounted lease payments} / \text{Fair value})$$

Step 3: Calculate the profit related to the right to use the transferred property:

$$\text{Gain relating to right transferred} = \text{Total gain} - \text{Gain relating to right retained}$$

**Example 1:** Sale and lease back

On 1 April 20X2, A Co bought an injection moulding machine for \$600,000. The carrying amount of the machine as at 31 March 20X3 was \$500,000. On 1 April 20X3, A Co sold it to B Co for \$740,000, its fair value. A immediately leased the machine back for 5 years, the remainder of its useful life at \$160,000 per annum payable in arrears. The present value of the annual lease payments is \$700,000 and the transaction satisfies the IFRS 15 criteria to be recognised as a sale.

*Required:* What gain should A Co recognise for the year ended 31 Mar 20X4 as a result of the sale and leaseback?

The accounting records are as follows:

he total profit A earned from the sale of the machine is:

$$\$740,000 - \$500,000 = \$240,000$$

Profits related to the right to use the remaining property:

$$\$240,000 \times (700,000 / 740,000) = \$227,027$$

Profits related to the right to use the transferred property:

$$\$240,000 - \$227,927 = \$12,973$$

A Co is only allowed to recognize the profit related to the right to use the property transferred to the buyer: \$12,973 businesses stop production seasonally, the season can develop

a plan to stop production. Accountants shall calculate in advance and account in production and business expenses in the period the expenses will have to be spent during the period of cessation of production and business.

*Note: If the value of the transaction is not measured at fair value and/or the interest payments are not at market rates, the lessee must adjust the proceeds from the sale.*

Example A has a property worth \$10m. A resells the asset to B and leases the asset back at a price other than fair value. A will account the proceeds from this transaction as follows:

- Record a prepayment to reflect if the transaction value is lower than the market price. Example: B buys it back for \$9m. This according to IFRS will be considered as if A has already paid B an amount of \$1m in advance, so that the Lease liability is only calculated on the remaining \$9m (Usually it will be over \$10m); or

- Recognition of an additional financing provided by the lessor to the lessee if the transaction value is above market value. Example: B buys it back for \$12m. This according to IFRS will be considered as B subsidizing A by \$2m for A to use the capital to invest, so that the Lease liability will be calculated on \$12m total (Normally it will be over \$10m).

*Illustrative example:*

A Co sells a building to B Co for cash of \$1,800,000, which is its fair value at that date. The previous carrying value of the building is \$1,000,000. At the same time, A Co enters into a lease with B Co conveying back the right to use the building for 18 years. Annual payments are \$120,000 payable at the end of each year, which is at market rate. The transfer qualifies as a sale based on the guidance on satisfying a performance obligation in IFRS 15.

The rate implicit in the lease is 4.5%, which is readily determinable by A Co.

The accounting records are as follows:

(1) Accountant at A Co

- Present value of annual payments (18 payments \$120,000, discount 4.5%) is:  $\$120,000 \times [1 - (1+4,5\%)^{-18}] / 4,5\% = \$1,459,200$ .

A Co measures the right to use assets retained through subletting as a percentage of the building's previous carrying value. This value is calculated as:  $\$1,000,000$  (previous carrying amount)  $\times [\$1,459,200$  (present value of lease payments)  $/ \$1,800,000$  (fair value of the building)]. Right-of-use asset is calculated in this way as \$810,667.

- A Co recognizes a portion of the total profit from the sale of the asset, related to the right to use the property retained at B Co after the end of the sublease.

The total income from the sale of the building is:  $\$1,800,000 - \$1,000,000 = \$800,000$ . This number will be divided as follows:

+ The part related to the right to use the building retained by A Co, expressed in  $\$800,000 \times (\$1,459,200 / \$1,800,000) = \$648,533$

+ The part related to the rights to use B Co's property at the end of the sublease, calculated in:  $\$800,000 \times [(\$1,800,000 - \$1,459,200) / \$1,800,000] = \$151,467$

At the date of sale, A Co's accountants will record as follows:

Dr Acc Cash	\$1,800,000
Dr Acc Right-of-use Asset	\$810,667
Cr Acc Building	\$1,000,000
Cr Acc Gain on sale	\$151,467
Cr Acc Lease liability	\$1,459,200

(2) Accountant at B Co

At the date of sale, B Co's accountants will record as follows:

Dr Acc Building	\$1,800,000
Cr Acc Cash	\$1,800,000

B Co classifies the lease as an operating lease because the present value of the lease payments is equal to 81% of the building's fair value (1,459,200 / 1,800,000).

**Example 2: Sale and lease back**

On 1 January N, Vietjet Air signed a contract to sell and lease back assets with HDBank for 1 aircraft of Vietjet Air with the selling price of \$2,000,000. The plane's fair value at the time was \$1,800,000. The residual value of the aircraft on 1 January N is \$1,000,000. According to the contract, Vietjet Air will lease this aircraft back for 18 years – the remaining useful time of the machine. Rent is \$120,000/year to be paid at the end of the year. The default interest rate is 4.5%. Assume the qualifying transaction is a sale transaction under IFRS 15.

Comment:

On 1 January N: The fair value of the aircraft is \$1,800,000; The price Vietjet Air sells to HDBank is \$2,000,000; Thus, the difference of \$200,000 is essentially HDBank lending to Vietjet Air

The rent is \$120,000/year to be paid at the end of the year; The implied interest rate is 4.5%, then the Present Value of the lease payments is \$1,459,199, inclusive of:

+ Property rental: \$1.259.199

+ Loan debt: \$200.000

Determine retention rate = (Amount retained by the seller/ Fair value of property) x 100%  
 = (1.259.199/1.800.000) x 100% = 69,95%

The residual value of the plane On 1 January N is: 1.000.000; so:

+ Value of retained assets: 1.000.000 x 69,95% = 699.555

+ Value of property sold (transferred): 1.000.000 - 699.555 = 300.445

Profit from the transaction of Vietjet Air selling aircraft to HDBank: 1.800.000 - 1.000.000 = 800.000, which defines:

+ Retained earnings: 800.000 x 69,95% = 559.644

+ Profits transferred:  $800.000 - 559.644 = 240.356$

The buyer's accountant (lessor - HDBank) recorded the following:

Dr. Acc Aircraft: 1.800.000

Dr. Acc Loan receivables: 200.000

Cr. Acc Cash: 2.000.000

The seller's accountant (lessee - Vietjet Air) recorded the following:

Dr. Acc Cash: 2.000.000

Dr. Acc ROU assets: 699.555

Cr. Acc Aircraft: 1.000.000

Cr. Acc Lease debt: 1.259.199

Cr. Acc Debts: 200.000

Cr. Acc Gains from Sale and Lease back transactions: 240.356

**4.5.3. The technique of accounting for sales and leasebacks does not qualify as a sale (Transfer is not a sale).**

The seller continues to recognize the transferred assets in the financial statements, the income from the transfer of assets is treated as a financial liability (loans secured by assets), thus accounted for in accordance with IFRS 9.

Recalling the results from the example above, only if the ratio between the present value of the lease payments and the fair value of the assets is below 100% will it be recognized as an operating lease. If that number is 100%, the transaction will be recorded as a finance lease. And when it is a finance lease, this transaction will not be counted as a purchase and sale transaction, because the risks and rewards of the asset have not yet been transferred to the buyer.

If the assignment does not qualify as a sale, the parties will treat the transaction as a financial transaction. This means that:

- The lessee continues to record assets on the balance sheet because there are no sales transactions. The lessee will treat the proceeds from the sale and sublease as a financial liability under IFRS 9. This is because the arrangement is similar to a loan secured by an asset, aka a financial transaction.

- The lessor has not yet purchased any assets, therefore does not recognize the transferred assets in their balance sheet. Instead, the lessor records the amount paid to the lessee as a financial asset under IFRS 9. The reason is because for the lessor, this agreement is a transaction to finance the lessee's capital.

**CONCLUSION**

Vietnam's economy with the trend of high-speed development in the future, Vietnamese enterprises play an active role in that development. An effective financial solution that will be chosen by Vietnamese businesses in line with the world's trend is to rent property. After

more than 15 years of promulgation, International Accounting Standard IAS 17 – Leases issued by the International Accounting Standards Board IASB has revealed its limitations. In January 2016, the International Accounting Standards Board (“IASB”) issued International Financial Reporting Standard 16 – Leases (“IFRS 16”), and from here begins a new era of lease accounting. IFRS 16 has come into effect since January 1, 2019

In Vietnam, Vietnamese Accounting Standard VAS 06 – Leases was issued under Decision No. 165/2002/QĐ-BTC dated 31 December 2002 based on the spirit of IAS 17 – Leases. In order to help Vietnamese businesses integrate and develop with the world economy, the improvement of the legal system on accounting for leases in Vietnam is a problem. Being aware of the role of the lease transaction in the business, after a period of research and understanding the relevant legal documents, derived from the reality of the business, the author presented the views and contents of International Financial Reporting Standards IFRS 16 – Leases., the study of International Financial Reporting Standards IFRS 16 on leases, aims to present techniques for recognizing leases according to IFRS 16 – Leases with illustrated practical cases that will help accelerate the application of the International Financial Reporting Standards system into reality in Vietnam in the context of international economic integration.

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# INSURANCE MARKET TRENDS AND SOME RECOMMENDATIONS FOR VIETNAM INSURANCE BUSINESSES

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**Abstract:** *The objective of the study is to determine the trend of the world life insurance market in the period of 2023-2036, and at the same time make recommendations for the Vietnamese insurance market through recommendations to state agencies, Vietnam Insurance Association and Vietnamese life insurance enterprises. In order to identify life insurance market trends, statistical and analytical techniques were used to conduct this study. An analysis of the study was graphically represented by the life insurance business of different regions of the world in 2021, 2022 and forecasts for 2023 and 2024. On that basis, the author predicts three main trends affecting the global life insurance industry. Moreover, the article analyzes the current situation of Vietnam life insurance market through two indicators: the size of the main life insurance enterprises and the new insurance premium revenue. From there, it shows the development prospects of the life insurance industry in Vietnam, and some recommendations are made for Vietnamese regulators, professional associations and insurance enterprises.*

**Keywords:** *life insurance, insurance enterprises, insurance market, forecast, insurers*

## 1. INTRODUCTION

In recent years, the process of international economic integration has become more and more extensive seriously, Southeast Asia's countries as well as Asia's countries are increasingly gaining a position in the world economy, especially in life insurance fields. In addition, strong international economic integration has created new opportunities for developing countries to grow their economy by accessing to a broader market of production materials, product consumption and labor market, enhancing the ability to mobilize finance and other resources for the development of important economic sectors such as industry, agriculture and services. However, along with that development and the outbreak of the COVID-19 pandemic, the need to find products that can protect people's health and prevent uncertain risks has rapidly increased. This is considered an opportunity to develop the life insurance market, but there are also potential challenges. In this article, the author will analyze and assess the current situation of the world and domestic life insurance market in 2022, forecast about the life insurance market trend in 2023, 2024 and give some recommendations.

## 2. OVERVIEW OF THE LIFE INSURANCE MARKET

The life insurance market is the place where the buying and selling of life insurance products takes place in accordance with the laws of the State. Besides, we also have another very popular concept at the moment, which is bancassurance. Bancassurance is simply understood as the distribution of insurance through banking channels.

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When an insurer combines an exclusive life insurance distribution partnership with a bank, the bank will take advantage of its existing distribution system and customer base to distribute insurance products or carry out perform other services such as paying insurance premiums to partner companies. From there, the bank will get back the profit/other fees as agreed in the contract. Therefore, the bancassurance insurance market is a channel for buying and selling insurance products through banks.

### ***Definition of life insurance***

On the one hand, Life insurance is a contract between a life insurance company and the policy owner. A life insurance policy that guarantees the insurer will pay a sum of money to one or more policy beneficiaries upon the death of the insured, in exchange for premiums that the policyholder has made paid during their lifetime (Amy Fontinelle, 2023).

On the other hand, Life insurance is primarily a risk management tool intended to provide financial protection for dependents in the event of the death of the insured. If adequately insured, life insurance will help dependents such as spouses, children or parents maintain their current lifestyle and pursue their financial goals (Shivam Pradhan, 2022).

According to Clause 3, Article 3 on Insurance Business Law No. 08/2022/QH15, approved by the 15th National Assembly of the Socialist Republic of Vietnam at its 3rd session on June 16, 2022, Effective from January 1, 2023, has introduced the concept: Life insurance is a type of insurance in case the insured lives or dies.

From the above studies, according to author, *“Life insurance is a commitment between an insurance company and an insured in which the insurance company is responsible for paying the insurance amount (insurance amount) to the insured person when the participant has predetermined events and the insured is responsible for paying the premium in full and on time.”*

Therefore, the nature of the life insurance revenue in Vietnam insurance market is the amount the policyholder is obliged to pay to the insurance company to fulfill the commitment in the contract. The life insurance industry is also full of components like other industries:

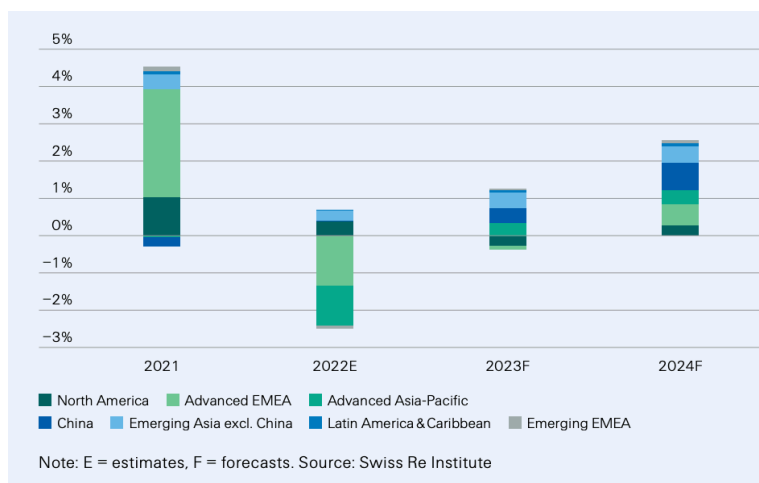
- Insurance products are service products with their own characteristics, making a difference compared to other industries.
- Customers are individuals/organizations who buy life insurance for the purpose of protecting their health, body and life. At the same time, they also have long-term savings and investment needs.
- Sellers are insurance companies that provide insurance products.
- Insurance agents/Insurance brokers are intermediaries in the traditional insurance distribution channel, directly bringing insurance products to customers. This can be considered as a powerful force and an important contributor in the life insurance industry.

Note: In the bancassurance insurance market, the bank is considered both a market and a large distribution agent, contributing a lot of revenue to the insurance company.

## **2. THE CURRENT SITUATION OF GLOBAL LIFE INSURANCE MARKET**

The Covid-19 pandemic has negatively impacted individuals, businesses, society and markets on a global scale. Accordingly, in 2022, although the pandemic has been controlled in

many areas, the world continues to witness damage caused by natural disasters in many places, with increasing scale and frequency. Along with the economic war's effects and the financial crisis has made the purchasing power of the world economy has reduced more seriously than ever. Generally, global insurance premiums has dropped by nearly 2% in real terms by 2022.



**Figure. 1: Annual life insurance premium growth by region**

*(Source: Swiss Re Institute)*

According to Swiss Re Institute's research (2022), advanced EMEA and advanced Asia-Pacific are the most affected areas by the decline in insurance revenue. In 2022 statistical report, the North American market will expand by 1.5%, the growth of emerging markets (including China) will remain positive at 0.9%, although in reality economy is below the 2017 historical average (4.4%). However, with the support of digital technology created from the 4.0 technology revolution, it helps to realize risk and support the public sector for life insurance to develop, especially in Asia (excluding China), will benefit both these markets and global premium growth in 2023–2024, with global premiums forecast to increase by 1.7%, slightly higher compared to the historical average (2018–2022: 1.5%). Emerging markets will lead with an annual increase of 4.3%.

Based on analysis of different premium growth dynamics in advanced and emerging markets, these markets have gradually opened up to retirement insurance - a service with high growth prospects. Investment-linked products are also on the rise. In addition, if in the past the distribution channel through agents played a dominant role, now, with the development of alternative distribution channels such as banking - insurance (bancassurance), this traditional distribution channel has lost its unique position in most insurance markets in Asia-Pacific or North America. The profitability of life insurers in these markets is expected to decline due to negative margins. However, the research suggests that this situation is gradually improving due to positive movements in interest rates, the easing of investment restrictions as well as the expansion of financial investment products in some area markets.

### 3. THREE TRENDS AFFECTED THE GLOBAL LIFE INSURANCE INDUSTRY

According to the Mexican Association of Insurance Institutions (AMIS), in 2022, insurance companies must not only face the complicated situation of the Covid-19 pandemic, but also

trade wars and economic-financial crises. They caused the life insurance scale to decrease by 2.8% in total. In the Insurance Market Outlook 2023 report conducted by Swiss Re Institute, experts have pointed out three main trends that will impact the global insurance industry, as followed:

*Firstly*, developing a technology ecosystem. Entering the era of technology, people's need to access information and exchange everywhere has increased. To meet this, insurers must implement a process that allows users to perform all procedures through digital platforms such as apps, websites, etc. Insurance contracts should also be simplified to more flexible and automatic number conversion. This is the main solution to help insurance companies maximize profits and business scale. It is also the fastest way to realize added value creation paths.

*Secondly*, focusing on increasing the customer experience. Up to 30% of consumers will abandon a trusted brand after a bad experience. As a result, insurers began to shift from a policy-centric business model to a customer-centric one. In particular, insurers should consider developing more specialized policies that focus on the real needs of their customers. To do this, they must understand the interests of the buyer and come up with creative alternatives. At the same time, life insurers must design more product packages to adapt to each customer.

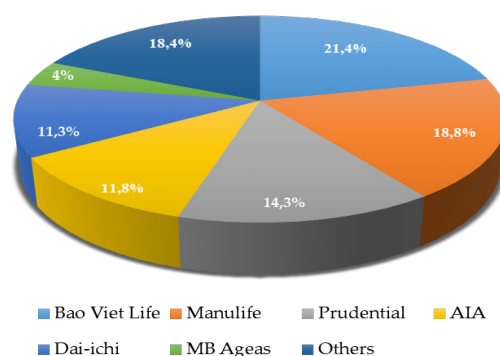
*Thirdly*, having a strategy to react quickly to risk. In essence, insurance is a product that protects people and businesses against risks. To fulfill this mission, insurers need to understand and prepare for what is to come or have a system in place that allows them to switch flexibly. These risks require insurers to be agile, stay ahead of the competition and better support their customers. In fact, insurance incidents are often more serious than those noted. The Covid-19 pandemic also left a great lesson for insurers, they must assess and consider types of risks to avoid losses when faced in the future.

In addition, the Covid-19 Pandemic makes people unpredictable medical service fees and funeral fees in the event of death. Most of this amount is beyond the financial capacity of the affected people, making it difficult for them to recover economically. Life insurance is the solution to this problem. The increasing demand for life insurance participation proves that the awareness of the importance of insurance for individuals and organizations is increasing.

#### **4. THE CURRENT SITUATION OF VIETNAM LIFE INSURANCE MARKET**

##### **4.1. The size of the life insurance market**

Here follows further instructions for authors. According to the most recent updated reports of the Insurance Supervision Administration (2022) and the author's analysis, despite the negative impact of the Covid-19 pandemic and the economic-financial crisis, the insurance market domestic growth remained stable. Total insurance premium revenue of the whole market for the year was VND 152,380 billion, up 16.2% over the same period in 2021, specifically as follows:



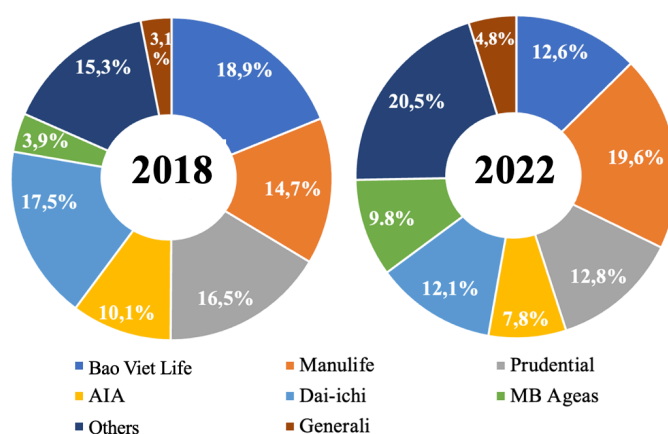
**Figure. 2: Market share of Vietnam leading life insurers in 2022**

(Source: Insurance Management and Supervision Department - Ministry of Finance)

In which, universal life insurance products accounted for 51.5%; mixed insurance products accounted for 16.7%; unit-linked insurance products accounted for 20.0%; by-products accounted for 10.3%. The remaining insurance products made up 1.58%, including life insurance products, term life insurance products, periodic payment insurance products, retirement insurance products, health insurance products and term life insurance products accounted for 0.2%, 0.6%, 0.05%, 0.2%, 0.53% and 0.0006% respectively. Accordingly, Bao Viet Life Corporation is the only Vietnam life insurance business with a record of VND 32,609 billion, leading the market with a market share of 21.4%, followed by other foreign life insurers such as Manulife with 18.8%, Prudential with 14.3% and AIA with 11.8%, etc.

**4.2. New insurance premium revenue**

After 5 years of Vietnam insurance market development, in terms of exploiting new contracts, Vietnam life insurance companies have faced strong competition from foreign insurers such as Manulife, Prudential, Dai-ichi, ... as followed:



**Figure. 3: Market share of Vietnam new insurance premiums after 5 years**

(Source: Insurance Management and Supervision Department - Ministry of Finance)

According to Baoviet Groups’ annual report (2022), Baoviet Life is the leading enterprise in the revenue of new mining fees (including complementary products) of more than VND 5,100 billion, accounting for 18.9% of the whole market in 2018. The second positions are Dai-

ichi and Manulife with 17.5% and 14.7% respectively. By 2022, the number of new mining contracts have reached nearly 3 million contracts (main products), an increase of 5.2% over the same period last year. Accordingly, total new insurance premium revenue for the whole market was estimated at 49,549 billion VND, up 18.5% over the same period last year. However, leading in terms of new insurance premium revenue is Manulife with VND 11,502 billion, Prudential with VND 6,741 billion, Bao Viet Life with VND 6,078 billion, Dai-ichi Life with VND 5,987 billion and AIA with VND 4,089 billion. The year 2022 marks a milestone for the strong development of Manulife Life Insurance with its rise to the second market share after Baoviet Life in terms of total premium revenue and the leading position in terms of new insurance premiums. The main reason is that Manulife focuses on developing product sales channels through the form of Bancassurance, so it has signed exclusive contracts to sell products with large commercial banking organizations such as SCB, Vietcombank and Viettinbank.

## **5. DEVELOPMENT PROSPECTS OF VIETNAM'S INSURANCE MARKET**

Vietnam's insurance market is considered to be potential with low penetration rates and average premiums, and the number of life insurance policyholders is only about 10 million, equivalent to about 10% of the population. According to Prime Minister (2023), Decision No. 07/QĐ-TTg approving the Strategy for development of Vietnam's insurance market to 2030, this ratio is expected to increase to 15% by 2025.

- ***Market penetration level of life insurance companies in Vietnam***

According to research and evaluation, Vietnam's insurance market still has a lot of room for development because penetration rate (premium revenue/GDP) and average premium (insurance spending per capita) are at low level. Vietnam Insurance penetration currently hovers between 2.3% and 2.8%, lower than in emerging markets and far away at 9.6% in developed markets. In Vietnam, per capita insurance spending currently hovers from 72 to 75 USD, low compared to 175 USD in emerging markets and far away from 4,664 USD in developed markets.

Besides, increasing in average income per person is one of the favorable conditions for the development of life insurance sector. In Vietnam's socio-economic development plan for the period of 2021 - 2025 and 2021 - 2030, the goal is to raise GDP per capita from 2,750 USD in 2020 to 4,700 - 5,000 USD in 2025 and 7,500 USD by 2030.

- ***Vietnam's population***

Vietnam's population is currently in the golden structure period with an increasing scale and the proportion of urban population is forecasted to grow from 37% at present to 45% in future. According to World Bank estimates, the proportion of the population belonging to the middle class in Vietnam will increase from 13% to 26% by 2026. Besides, the insurance industry is also supported by the restructuring of the medical examination system, medical treatment, social insurance regime and the ability to increase the rate of customer access through the banking system (Bancassurance)

- ***Vietnam legal framework for life insurance businesses***

In August 2021, the Ministry of Planning and Investment announced that the insurance industry is not limited to the rate of foreign ownership; this will pave the way for foreign investors to



participate in insurance companies, thereby, speeding up the process of divestment of State capital in the industry. Along with that, there are positive changes in the Law on Insurance Business, effective from January 1, 2023, promulgated in 2022 on insurance financial management, insurance contract regulations and database. The whole market promises to create favorable conditions for insurance businesses to develop. With such favorable conditions, the insurance industry will continue to maintain double-digit growth in the future as in the past period.

## **6. SOME RECOMMENDATIONS TO DEVELOP VIETNAM LIFE INSURANCE MARKET**

On the basis of assessing the development potential of Vietnam's insurance market in the coming time and catching up with the development trends of the world insurance market, the article makes some recommendations to the regulatory agencies. The State and Vietnam Insurance Association and insurance enterprises are as follows:

### **6.1. Improving the role of Vietnamese regulatory agencies**

*Firstly*, the State and functional agencies need to continue to develop and supplement and complete documents on the Insurance Business Law, Accounting Law as well as accounting insurance standards, policies and regimes in order to fully cover all aspects of the law, actual activities related to life insurance business objects in enterprises. In the trend of economic integration with the region and the world, Vietnam's system of laws and standards need to be built and reformed in a manner consistent with international common practices but at the same time must suitable to the characteristics and specific economic management mechanism of Vietnam.

*Secondly*, Law documents, standards, regimes, policies and guiding documents need to be promulgated in a synchronous and unified manner and ensure the implementation ability of enterprises. The promulgated accounting policies and regimes need to be public, clear and relatively stable so that enterprises can rest assured to apply, avoiding instability in policies that affect business psychology when implement accounting regimes and policies that the Government and functional agencies have just promulgated.

*Thirdly*, life insurance has appeared in developed countries for a long time, so the Government needs to create conditions and opportunities for information exchanges between domestic and foreign enterprises in the same industry to learn from each other like asking and acquiring experience in business management as well as business methods to prevent financial risks. In addition, It is vital to organize seminars between companies and groups in the insurance industry to discuss how to organize, manage and control revenue sources, and use accounting information for corporate governance. step by step improve the business efficiency of life insurers.

### **6.2. Improving the role of Insurance Association of Vietnam**

It is necessary to actively enhance the role of the Insurance Association of Vietnam (IAV). This is not only a place to share and exchange information, but also a prop for businesses, especially pure Vietnamese life insurance businesses to face strong competition from foreign life insurance companies; therefore, IAV plays the role of an organization to arrange interests between insurance companies in order to ensure the legitimate interests of both insurance businesses and customers. The Vietnam Insurance Association will participate in the drafting

of guidelines, advise on policies related to insurance policies for state management agencies, and represent the members who are life insurance enterprises to make recommendations. opinions, research and development of rules, terms and fee schedules of insurance operations. It is necessary to renovate the organization and mode of operation of IAV to suit the market economy so that IAV can truly represent the legitimate rights and interests of life insurers, and act as a bridge between scientific managers, life insurers and customers aim to find effective solutions to promote the development of the insurance industry.

### **6.3. Improving the role of Vietnam life insurance enterprises**

#### **6.3.1. First: Getting ready to convert international financial statements**

In order to make the feasible transition from VAS to IFRS, life insurers need to first redefine their existing resources and assess their readiness to switch to IFRS. From there, focus on the factors that need to be changed and supplemented, and at the same time avoid wasting unnecessary resources. In which, the factors that need to be considered and evaluated are: business, financial and accounting policies; business operations management processes; organizational structure; internal control system; database system, information technology infrastructure and management software...

In addition, Vietnam life insurance businesses need to determine the specific plan as well as the necessary budget to carry out the transformation process. In order for the transformation process not to disturb normal business operations, before implementing the business, it is necessary to disclose information about the time and detailed plan to shareholders and investors as well as notify the agency. state management. At the same time, it is also possible to establish a part-time department responsible for overseeing the transformation process, in which essential personnel of the business leadership and key departments such as required accounting and sales, legislation, information technology...etc.

#### **6.3.2. Second: Reorganizing the management apparatus and operational processes**

Reorganizing the corporate apparatus is a very necessary job, the focus is on arranging and adjusting the management apparatus appropriately and smoothly from the parent company to its subsidiaries and affiliated units. The organization of the enterprise apparatus needs to ensure a number of basic requirements as follows: Decentralization and clear assignment of tasks; for each assigned part of the operation, staff must be sure to understand the work content and clearly record it; The apparatus is compact, reasonable, efficient and suitable to the characteristics and conditions of the enterprise's production and business.

#### **6.3.3. Third: Training and developing human resources**

Life insurance enterprises need to develop a timely, methodical, continuous and long-term training and human resource development plan. The plan also needs to facilitate the development of potential resources inside the business, focusing on adding knowledge and skills to the sales and insurance consulting departments, helping customers better understand the different types of life insurance products and easier choose services.

Along with human resource training, enterprises can take advantage of knowledge, understanding, support and resources from auditing firms and professional associations.

Enterprises can use the services of independent consulting firms to help improve their expertise effectively with the lowest cost, but avoid completely handing over the implementation to partners without having to have a plan. plan in conjunction with the existing personnel of the enterprise to apply the plan and design guidelines for capacity development. This will help businesses develop the capacity of their staff as well as reduce their dependence until they can do it independently.

#### **6.3.4. Fourth: Strengthening the information technology system**

In order to make good use of information technology to complete business work, life insurance enterprises need to organize equipment, technical means and informatics knowledge to be able to use equipment proficiently. Due to the application of digital technology in business processes, most processes and jobs are done through digital platforms, it is necessary to build an information technology system to ensure not only the full and comprehensive connection among departments but also the connection between the parent company and its subsidiaries and affiliated enterprises.

International standards require reporting of a wide range of information in line with market changes such as fair value, recoverable value, net realizable value, present value, and value. Therefore, the enterprise's information technology system needs to build and connect the data infrastructure fully and synchronously to be able to price and apply the models. Financial data as required by IFRS, which focuses on: Financial data such as fair value, VND interest rate, foreign currency interest rate, market price and fair value, exchange rate...; and data.

#### **6.3.5. Fifth: Strengthening cooperation with foreign organizations**

Regularly maintaining cooperative relationships with traditional partners and constantly expanding cooperation relationships with domestic and foreign companies in the life insurance field in order to expand markets and learn more business experiences as well as in accounting and financial management of the company.

## **7. CONCLUSION**

This study provides a comprehensive view of the world and Vietnam life insurance market, whereby life insurance is an important topic in the focus of economic and social development. This study contributes to research in three ways. First, it contributes to expanding existing knowledge about "life insurance" and "life insurance market". Therefore, this study helps to cater to researchers and other interested parties who are looking for an overview of the life insurance concept or activities in the field. Furthermore, it provides the current situation as well as future trends that will affect the insurance market around the world. In fact, these trends have both positive and negative effects. Furthermore, Vietnam will not be out of this trend. The analysis of the current situation and development prospects of the life insurance industry in Vietnam needs the contributions of many stakeholders. Therefore, some recommendations for authorities, Vietnam insurance associations and life insurance businesses are essential. However, this study has the limitation that it is completely qualitative, not quantitative, this may be one of the topics that should be developed in future studies to contribute to orientation for the management and development of the Vietnamese life insurance market.

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## SUGGESTIONS TO VIETNAM'S GREEN AIRPORT DEVELOPMENT

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**Abstract:** *The aviation industry is a critical component of global economic development, but it also contributes significantly to environmental degradation, primarily through the emission of greenhouse gases (GHGs) and noise pollution. In response to the global call for sustainable development, this paper outlines strategic suggestions for the development of green airports in Vietnam, a rapidly developing country with a burgeoning aviation sector. The paper commences with the analysis of global best practices in green airport development. Based on this analysis, it proposes the approach for Vietnam's green airport development, which includes enhancement of energy efficiency, reduction of environmental pollution and improvement of operational efficiency. Overall, this paper provides a comprehensive and strategic framework for the development of green airports in Vietnam, contributing to the global effort to combat climate change while supporting the sustainable development of the aviation sector.*

**Keywords:** *Green airport, sustainability, initiatives, operation, environment.*

### 1. INTRODUCTION

Over the years, the rapid development of Vietnam's economy has promoted the development of Vietnam's air transport industry. As a critical transport system infrastructure, an airport is an essential node in the air transport network and a necessary infrastructure for regional and national economic development. Along with the introduction of large aircraft types and an increase in the number of airports, Vietnam will soon become a large and busy aviation hub in Southeast Asia in the future. This increases the need for more airport infrastructure and safer increased operations, along with a more significant environmental impact caused by airport construction and operation. Therefore, building a green and low-carbon airport, promoting technology development, and energy conservation and emission reduction have become the basic principles and goals for developing civil aviation airports in Vietnam. What types of airports are considered green airports? What measures will be applied to develop green airports.? This article examines the green initiatives some airports worldwide have been deploying for sustainability. From these, recognize and suggest appropriate methods of developing Vietnam's green airports.

### 2. LITERATURE REVIEW

A green airport is designed and operated with a focus on reducing environmental impact. The airport concept has received increasing attention in recent years due to the aviation industry's contribution to climate change and the need to reduce greenhouse gas emissions. Through a review of the research literature, it is possible to identify the main factors contributing to the development of green airports.

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One of the key factors contributing to developing a green airport is the implementation of sustainable practices. Sustainable practices include reducing energy consumption, minimizing waste, and using renewable energy sources. Studies have shown that implementing sustainable practices can significantly reduce an airport's carbon footprint (Moussiopoulos et al., 2014).

Another critical factor in the development of green airports is the use of green technologies. Green technologies, such as electric ground support, alternative fuels, and solar panels, reduce emissions and promote energy efficiency. Green technologies have reduced airports' environmental impact and operating costs (Scholz et al., 2016).

In addition to sustainable practices and green technologies, airport infrastructure design is essential in green airport development. Airport infrastructure design can affect energy consumption, water use, and waste production. Studies have shown that using sustainable design principles, such as green roofs and natural ventilation, can significantly reduce an airport's environmental impact (Oliveira et al., 2019).

Finally, stakeholder engagement is also an essential factor in developing green airports. Stakeholder engagement involves working with airport staff, airlines, and local communities to promote sustainable practices and reduce the airport's environmental impact. Studies have shown that stakeholder engagement can improve environmental performance and reduce negative impacts on local communities (Lin et al., 2015).

### **3. METHODOLOGY**

To identify green initiatives some airports in the world have been deploying for sustainability, this paper utilized a literature review method in collecting the data. The reason for choosing the literature review method over other research methodologies is that it can provide specific information about the topic research of the paper.

The web-based research used four different search engines to find the appropriate articles, journals, and links to other websites related to sustainability at the airports. These search engines and databases used include the following: (a) Federal Aviation Administration; (b) Transportation Research Board; (c) Airports Council International; (d) Specific airport websites.

When all the data was collected from the web-based research, all the information deemed fit in the study was saved in a Word file. The sustainability initiatives were classified into different categories. They are repeating initiatives that two or more airports had in common. These categories are energy conservation, waste reduction, reduction of water consumption, and environmental improvement.

### **4. GREEN INITIATIVES DEPLOYED IN SOME AIRPORTS AROUND THE WORLD**

Through online searches, the paper determined the initiatives airports take to take steps towards a greener future for airports. Results are grouped by the categories mentioned above.

#### **4.1. Energy conservation**

##### **- Newark Airport (EWR) and LaGuardia Airport (LGA):**

Newark and LaGuardia Airports have identified and implemented methods of reducing aircraft idling, taxiing, and approach times. Due to the congested airspace, some approaches



are several miles longer than necessary, causing excessive aircraft fuel use. Some approaches fly over sensitive areas. To maximize fuel efficiency and reduce the approach times, the airport management works with the FAA to support the development of procedures demonstrating environmental benefits, including fuel savings, emission reduction, and area noise reduction. This collaboration drafted various new procedures that add GPS and poor-weather capability to existing flight paths.

Besides, any aircraft awaiting departure release consumes fuel while idling. Implementing the automatic release procedures provides advanced - notification of anticipated departure times for the pilots. Pilots with a defined wheel-up time can minimize fuel burn by delaying engine start until the appropriate time. Since 2013, the percentage of automatic departures has dramatically increased. Delays due to individual aircraft delays have decreased significantly (Port Authority of NJ and NY, 2014).

- **Teterboro Airport (TEB):**

a) Teterboro airport installed 137,000 square feet of white roofs on its administration buildings. It was completed in December 2013 with an estimated cost of \$4 million. That white roof has a solar reflective coefficient (SRC) greater than seventy-eight. The SRC is a value that indicates that the roof reflects most of the heat and reduces building heating in the summer. The R-value, which denotes the capacity of insulating material to resist heat flow, has been increased to an average of 80, whereas the R-value was eight prior to the white roof installation (Airport Authority of NJ and NY, 2014);

b) The Airport Authority and its tenants have instigated several initiatives to lessen emissions. Fuel management and energy tactics, dropping energy demand, upping the use of renewable energy and alternate fuels, and segueing to more efficient equipment and aircraft have successfully dropped emissions related to fuel use (Airport Authority of NJ and NY, 2014). Between this switch and implementation, total CO<sub>2</sub> emissions have been decreased by 12.3% since 2009. The following initiatives have been already implemented at the airport:

- + Use of hybrid-electric light-duty vehicles;
- + Use of biodiesel for all heavy-duty diesel equipment;
- + LED lighting for Taxiways;
- + Automatic light controls to increase energy efficiency;
- + Adjusted temperature set points to reduce energy usage (tenant initiative).

- **Stewart International Airport (SWF):**

The Stewart International Airport (SWF) recognized that most emissions come from aircraft (taxi, takeoff, or landing), passengers, and employees traveling to and from the airport. With airport-wide efforts and the airlines' agreement to adopt aviation biofuels, the Airport Management is constantly evaluating solutions in these areas. The primary energy cost drivers are the energy use of buildings and vehicles. The airport has saved \$54,000 in utility costs due to the completion of the energy-efficient lighting in four buildings.

SWF is searching for opportunities to bring electricity to the parking lot via solar installations and to connect solar power to an electric vehicle charging station (Airport

Authority of NJ and NY, 2016). The airport has also purchased hybrid or alternate fuel vehicles (AFVs) for most of its light-duty fleet. This will establish a step-in vehicle buying process where the purchasing party will evaluate the per-mile operating cost and carbon footprint of vehicle(s) before purchase. There is currently dense brush around SWF. Clearing the brush is time-consuming and labor-intensive, as operating machinery can be complex. Some airports like Chicago O'Hare International have deployed grazing animals to clear brush and to provide a gasoline and labor-free way of performing grounds maintenance. This could support local businesses and provide pasture for livestock.

- **Orlando International Airport (MCO):**

The airport functions year-round and never shut down. Over 35 million passengers annually pass through Orlando International Airport, and these passengers use the 60 elevators, 50 escalators, 20 moving sidewalks, eight trains, and over 50,000 lights required to drive the facility. An additional challenge is that the airport is over 30 years old and is growing (Orlando International Airport, 2014). Using models that merely look at decreasing energy will not portray the success of the airport's energy practices. MCO practices models that evaluate energy use intensity (EUI), which looks at energy use much like vehicles that consume fuel (miles per gallon or MPG). Thus, they can benchmark EUI against other airports or facilities to match their energy reduction efforts. Methods deployed at MCO are:

- + Fitted occupancy sensors in large areas are subject to low occupancy phases. These sensors control lighting as well as temperatures;
- + Mounted carbon dioxide sensors in large meeting rooms to regulate the amount of outside air being introduced during periods of occupancy;
- + Exalted approximately 75% of airfield edge lighting to LED lamps;
- + Upgraded approximately 35% of taxiway centerline lights to LED lamps;
- + Installed high-efficiency LED fixtures in the baggage make-up area;
- + Upgraded all of the streetscape ambiance lighting in the East Atrium from incandescent to LED lamps;
- + Exalted all lights on the Tram Tubes from incandescent to LED lights;
- + Switched all light fixtures in the landside terminal loading dock and service road with high-efficiency fixtures (Orlando International Airport, 2014).

#### **4.2. Waste reduction**

- **Teterboro Airport (TEB):**

At TEB, the FBOs generate the majority of solid waste. Certain FBOs have instituted the following activities to recycle and reduce waste:

- + Segregate waste streams on site for recycling (paper, bottles and cans, cardboard);
- + When feasible, segregate newspapers taken off aircraft for recycling;
- + Send cardboard box packaging from outside catering companies back to the flight kitchen or catering facility to minimize this waste stream onsite.

- **San Francisco International Airport (SFO):**

Reducing the tonnage of waste sent to landfills and recycling the solid waste as much as possible provides financial benefits to SFO by eliminating the disposal fees of about \$140 per ton and generating revenues contingent on the type of recycled materials. Recycling also diminishes the demand for virgin materials, thereby dropping global greenhouse gas emissions. In 2013, SFO generated about 10,586 tons of solid waste. SFO carries out one of the leading recycling and composting programs in San Mateo County and continues demonstrating exemplary performance in recycling and waste reduction. Notably, the airport has improved the solid waste recycling rate from 51% in 2002 to a striking 80% by mid-2014, well ahead of a 2015 target date. SFO's recycling operations comprise composting about 35% of airport waste. SFO continues to recycle virtually all the construction and demolition waste produced at the airport, with an unswerving recycling rate of over 90%. In FY 2013, solid waste recycling contributed to greenhouse gas emission reduction at SFO of 3,060 metric tons.

#### **4.3. Reduction of water consumption**

##### **- San Francisco International Airport (SFO):**

SFO's rigorous water conservation program has brought about a drop in total Airport water use by 16 percent since FY 2008; total water uses at SFO when stated on a per-passenger basis, has reached a new low of 9.2 gallons per passenger, down from 14.7 gallons per passenger in FY 2008. This decline in overall water use could be accredited to several applied water conservation measures, such as:

- + High-tech and low-flow sensor-operated fittings in SFO's washrooms, which considerably lower water use in all bathroom fixtures;
- + Use of native florae and drought-tolerant landscaping, also known as xeriscaping, to keep irrigation demands to the least possible;
- + The Airport Mel Leong Treatment Plant (MLTP) delivers recycled water for irrigation and industrial use at the plant. In 2014, SFO introduced a new initiative to also use MLTP recycled water for street sweeping and dust control;
- + Decline in airport vehicle washing;
- + Substituting aging and dripping water pipes and faucets.

##### **- Phoenix International Airport (PHX):**

The Phoenix region's arid, hot climate places a significant premium on water, especially during Phoenix's summer months. Conserving water is essential for the long-term sustainability of the Phoenix metropolitan area. Water conservation is significant for the Aviation Department (City of Phoenix Aviation Department, 2015). With total consumption exceeding an average of 30 million gallons per month, past conservation efforts include installing low-flow plumbing fixtures and automatic shutoff valves in public restrooms and adding low-irrigation xeriscape landscaping at Phoenix Sky Harbor.

#### **4.4. Environmental improvement**

##### **- Stewart International Airport (SWF):**

a) In the office environment, paper is a resource that is highly valued and constantly used. With the onset of a system upgrade for the office computers, the new printer settings allow

double-sided printing procedures as the default setting. When employees hit “print” or “copy,” their default print setting is double-sided. Airport employees have saved fuel and reduced emissions by deploying web-based meetings using tele- and videoconferencing technology. This reduces commuting time to other Airport Authority facilities and improves employee productivity. There are “smart” meeting facilities at the central administration building at EWR that can be used to share presentations and videoconferences with other airports or the Airport Authority central office in New York City.

b) All gates at the Stewart International Airport employ gate power (400 Hz), and most gates provide pre-conditioned air (PCA) to reduce the use of aircraft auxiliary power units (APUs) and mobile ground power units at the gates. Gate power and PCA reduce the need for aircraft to use APUs to supply electricity while waiting at the gates. Anecdotal field observations at airports indicate that some aircrafts operate APUs while connected to ground power and PCA. The APU survey found that the APU, PCA, and ground power units (GPU) are often used concurrently when the aircraft is parked by the jet bridge. Surveys of airline operations managers indicate that if ground operations are not precisely coordinated, aircraft can get excessively hot or cold and will require the use of the APU to supplement the PCA. This results in unnecessary emissions as well as easily avoided consumption of energy. As a result of the survey, the Airport Management is conducting the following steps: developing an inventory of airline APU rules and guidance and working to establish best practices guidance for ground operations staff, as well as communications for pilots, to minimize the unnecessary use of APUs.

### Summary of data analysis

The data collected from this study provides some interesting insights into what airports are incorporating into their day-to-day operations to reduce energy consumption and reduce the carbon footprint made by the airport. There were many initiatives that more than two airports have undertaken. A detailed analysis in a tabular form has been created below to summarize what airports have in common in terms of green initiatives, as well as their benefits:

	Regulatory		Public Services		Efficiency
<b>Initiative</b>	<b>Framework</b>	<b>Airports</b>	<b>Cost</b>	<b>Estimated Benefits</b>	
Using LED lighting		MCO, TEB, SWF	Not available		\$21,000 in a year and \$435,000 in a 20-year life cycle
Alternate Fueled Vehicles		TEB, SWF	Not available		Helps in the reduction of emissions at a large scale
Pre-Conditioned Air and Power		SWF	Not available		Conserves energy and reduces operating costs
Solar green roof/white roof		TEB, TPA	\$4 million for 137,000 square feet area		Reduces the energy use, get rebates on electricity usage fee
Energy Efficient Escalators		TPA, DFW	Not available		32% more efficient
Automatic release procedure		TEB	Not available		Pilots can minimize fuel burn by delaying engine start until the release
Occupancy Sensors		MCO	Not available		\$35,000 in a year
Segregate waste from recycles		TEB	Not available		Helps recycle more, and \$80,000 in disposal fees
Reduce paper		TEB	Not available		Helps conserve trees
Low Flush sensor operated fixtures		SFO, PHX	Not available		120 metric tons of carbon dioxide avoided per year
Habitat improvement		SFO	Not available		120 metric tons of carbon dioxide avoided per year

## 5. SOLUTIONS TO THE DEVELOPMENT OF GREEN AIRPORTS IN VIETNAM

Through analysis of greening initiatives being implemented at some airports worldwide, the following solutions can be applied to Vietnam's airports.

*1) Using LED airfield lighting and using alternatively fueled vehicles or battery-operated vehicles*

This method can lead to significant cost savings, improved safety, and a cleaner environment. It brings such benefits as:

- **Energy Efficiency:** LED airfield lighting is highly energy-efficient and can reduce energy consumption by up to 60%. This results in lower energy costs and a reduced carbon footprint. Similarly, alternatively fueled or battery-operated vehicles offer significant energy savings compared to traditional fossil fuel-powered vehicles.

- **Reduced Maintenance Costs:** LED airfield lighting has a longer lifespan and requires less maintenance than traditional lighting systems, reducing maintenance costs. Similarly, alternatively, fueled or battery-operated vehicles have fewer moving parts and require less maintenance, resulting in lower maintenance costs.

- **Improved Safety:** LED airfield lighting provides better visibility and enhances safety for pilots and ground personnel, producing a brighter, more uniform light. Similarly, alternatively fueled or battery-operated vehicles emit less noise and fewer pollutants, contributing to a safer and healthier working environment.

- **Reduced Carbon Emissions:** LED airfield lighting and alternatively fueled or battery-operated vehicles emit fewer greenhouse gases and pollutants, leading to a lower carbon footprint and a cleaner environment.

- **Regulatory Compliance:** LED airfield lighting and alternatively fueled or battery-operated vehicles help airports and airlines comply with local and international regulations related to energy efficiency and emissions reduction.

In order to apply this method, a step-by-step approach needs to do:

### *Step 1 - Assessment and Planning*

- **Evaluate current infrastructure:** Understand the current state of the airfield lighting and vehicle fleet, and determine the age, efficiency, and performance of existing equipment.

- **Feasibility study:** Conduct a feasibility study to assess the suitability and benefits of implementing LED lighting and alternatively fueled vehicles. This should include an analysis of the financial, operational, and environmental implications.

- **Define objectives:** Clearly define the objectives of the initiative, such as reducing carbon emissions, lowering operating costs, and improving operational efficiency.

- **Develop a strategic plan:** Develop a comprehensive plan that outlines the implementation process, including budget, timeline, and key performance indicators.

### *Step 2 - Procurement*

- **Select suppliers:** Identify and select suppliers for LED airfield lighting and alternatively fueled or battery-operated vehicles. Consider factors such as product performance, supplier reputation, and cost.



- Negotiate contracts: Negotiate contracts with selected suppliers, ensuring that all requirements and specifications are clearly outlined.

#### *Step 3 - Installation and Implementation*

##### ➤ LED airfield lighting:

- Remove existing lighting: Safely remove and dispose of existing airfield lighting.

- Install LED lighting: Install the new LED lighting according to manufacturer guidelines and airport safety regulations.

- Test and commission: Test the newly installed LED lighting system to ensure it meets operational and safety standards. Commission the system for official use.

##### ➤ Alternatively- fueled or battery-operated vehicles:

- Retire old vehicles: Retire or sell existing vehicles that are not environmentally friendly.

- Deploy new vehicles: Deploy the new alternatively fueled or battery-operated vehicles into the airport fleet.

- Train Staff: Provide training to airport staff on the operation and maintenance of the new vehicles.

#### *Step 4 - Monitoring and Optimization*

- Monitor performance: Continuously monitor the performance of the LED airfield lighting and alternatively fueled vehicles. This includes monitoring energy consumption, maintenance requirements, and overall operational efficiency.

- Optimize operations: Use the collected data to optimize operations, such as adjusting lighting levels based on visibility conditions or optimizing vehicle routes for maximum efficiency.

#### *Step 5 - Reporting and Continuous Improvement*

- Report results: Regularly report on the progress and results of the initiative. This should include reporting on key performance indicators, such as energy savings, carbon emissions reduction, and cost savings.

- Continuous improvement: Continuously evaluate the performance of the LED airfield lighting and alternatively fueled vehicles and identify opportunities for further improvement.

To ensure the success of this method, it's crucial to consider regulatory requirements and to engage with all relevant stakeholders, including airport authorities, airlines, ground handling agents, and regulatory bodies, throughout the implementation process.

#### *2) Improving the method of providing aircraft with pre-conditioned air and power*

Providing aircraft with pre-conditioned air and power brings back several benefits for both the plane and the passengers:

Firstly, using pre-conditioned air and power from external sources, the aircraft's Auxiliary Power Unit (APU) can be used less, or in some cases, not at all. This reduces fuel consumption, saves money, and reduces greenhouse gas emissions.

Secondly, using pre-conditioned air and power reduces the noise and exhaust fumes around the aircraft, which improves the working conditions for airport personnel and reduces the environmental impact of aircraft operations.



Thirdly, pre-conditioned air and power help maintain a comfortable temperature and air quality inside the aircraft cabin while on the ground. This is particularly important during hot or cold weather conditions when keeping the aircraft engines running to power the air conditioning and ventilation systems may not be feasible.

Finally, the use of pre-conditioned air and power can improve the turnaround time for aircraft on the ground, as it reduces the time needed for the APU to start up and for the cabin to be cooled or heated before boarding can begin. This can result in more efficient use of airport gates and runways, reducing congestion and delays.

Nowadays, first-graded airports in Vietnam have been providing this service, and Vietnam's airports can enhance the efficiency of this service through such methods as:

- Use of Electric Ground Power Units (eGPUs): Traditional Ground Power Units (GPUs) are diesel-powered and emit significant amounts of pollutants. eGPUs are powered by electricity and produce zero emissions at the point of use. Airports can invest in eGPUs or encourage airlines and ground handling agents to use them.

- Installation of Fixed Electrical Ground Power (FEGP) and Pre-conditioned Air (PCA) systems: FEGP and PCA systems installed at airport gates provide aircraft with power and air conditioning while parked. This eliminates the need for aircraft to use their auxiliary power units (APUs), which run on jet fuel and produce emissions.

- Use of renewable energy: Airports can invest in renewable energy sources such as solar or wind power to provide electricity for FEGP and PCA systems. This reduces the carbon footprint of ground operations and can lead to cost savings in the long run.

- Upgrade of equipment: Older PCA and FEGP systems may not be as energy-efficient as newer models. Regularly upgrading equipment to the latest, most energy-efficient models can save energy.

- Regular maintenance and monitoring: Regular maintenance and monitoring of PCA and FEGP systems can ensure they operate efficiently, reducing energy waste.

- Training of ground staff: Proper training of ground staff on the efficient use of PCA and FEGP systems can prevent misuse and ensure that the systems are used optimally.

- Implementation of centralized ground power and air conditioning systems: Centralized systems that provide power and air conditioning to multiple aircraft stands from a central location can be more energy-efficient than individual units at each stand.

Implementing these improvements can significantly reduce the environmental impact of ground operations at airports and contribute to the development of green airports.

## **6. CONCLUSION**

More comfort and less time have become the goal of the aviation industry. Airports need to improve to meet this growing requirement. These requirements challenge the environment and sustainable development in the coming years. Sustainable development and environmental protection are essential and can only be achieved by identifying and eliminating the hazards involved. Becoming a green airport is the best solution to eliminate the problems faced. In other words, designing a sustainable ecosystem in the airport and surrounding areas is essential, and sustainable development efforts must be advocated and followed.

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# INTEGRATING INTERNATIONAL INDICATORS ON BUSINESS ENVIRONMENT AND NATIONAL COMPETITIVENESS IN VIETNAM'S GOVERNMENT MONITORING FRAMEWORK

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*Abstract: The Government's Resolution 01/NQ-CP dated 01/06/2023 emphasizes on development priorities in coming years as to improve business environment and strengthen the national competitiveness. To implement the Resolution, a prerequisite is to set up a monitoring system to keep track and record progress in these two key policy priorities. The paper aims to provide recommendations on the most effective way of developing such system. The paper's main research method is a combination of desk review and consultative discussion with a sample of ministries and provinces. The former focuses on examination of good international practices in developing economic performance indicators and the legal framework and current status of relevant databases. The latter aims to assess readiness of the government system to move to a results-based monitoring system in both political will and technical support. Based on theory of results-based monitoring and evaluation, the paper provides a deep analysis of selected indices in both technical and practical perspectives, and their relevance to Vietnamese context. The main conclusion is the existence of a need and government's willingness for using domestically available databases as a part of the government monitoring indicators to trace implementation progress of concerned international indicators. Based on that conclusion, two recommendations are made. First of all, selection criteria for the progress monitoring indicators should include (i) demonstration of a direct and causality to changes in component indicators of the selected international comparative indices; (ii) data collection frequency of these progress indicators should be within a year; and (iii) maximization of utilizing the existing dataset mandatorily collected by government agencies. Moreover, a framework structure of the government's progress monitoring indicators is recommended to cover five domains, including indicators on sustainable development.*

*Key words: Government monitoring framework, international index, business environment, national competitiveness.*

## 1. INTRODUCTION

The development of international indicators for global comparative analysis has been advancing rapidly over the past three decades. Current international comparative indicators cover many different aspects, such as governance, economic, society and environment. The simultaneous use of international indicators will help compare the positions of countries and provide important reference information for international investors about their trade and investment flows. In addition, these indicators assist countries in directing development of various strategic sectors to meet international standards, which are crucial to increase national competitiveness.

Given the pressure of international integration, use of comparable international indicators for monitoring domestic development performance can bring potential benefits for the country. Firstly, it strengthens transparency and accountability and encourages the participation of

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related stakeholders in monitoring the government's performance to fulfill its international commitments. Secondly, since all databases for international indicators are open and reliable sources, information extracted from those databases is internationally recognized and cost-effective. This paper, therefore, aims at the following main objectives:

- Assessing the current availability of international indicators for monitoring improvement of the business environment and enhancement of national competitiveness;
- Analyzing structures and measurements of such international indicators, and their implications for Vietnam;
- Proposing an international indicators framework (IIF) to take advantage of selective international indicators to serve the government monitoring purpose on business environment and national competitiveness.

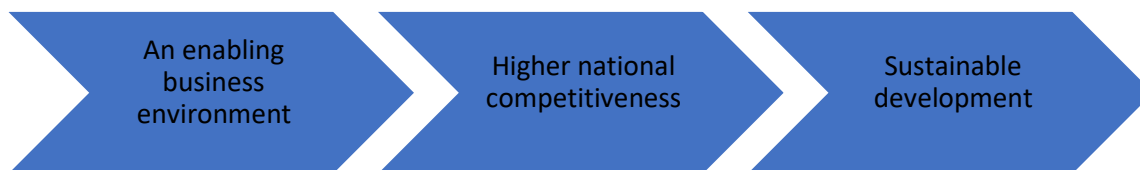
## **2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

***Results-based monitoring and evaluation (RB M&E) theory.*** The core of new public management approach is to move from input-based to results-based management (RBM) RBM is a management approach that focuses on achieving different result levels, which have been arranged in a chain of causality, ranging from outputs (or direct results of the implementation of the plan) to immediate (outcome) and ultimate objectives (impact) (Vu Cuong, 2011). RBM has become a worldwide public sector reform trend because it focuses on achieving the committed results (objectives) and holds government agencies accountable for fulfillment of their delegated functions and duties within the assigned budgets. In the continuum of the RBM cycle, three steps: (i) planning; (ii) implementing and process monitoring; (iii) results evaluating are intertwined. Typically, the RB M&E system can collect periodical information on result measures and inform supervisors about implementation progress for prompt adjustment of policies if needed.

***Among different policy priorities, improving the business environment and strengthening national competitiveness are selected by the government as conditions for sustainable development.*** On one hand, creating an enabling business environment is the foundation for improving labor productivity, and this is the core factor to maintain the National Competitiveness. Over the past three decades, Vietnam has succeeded in mobilizing and utilizing its redundant labor resource to accelerate its economic growth. However, given an increasingly fierce competition environment in the era of Industrial Revolution 4.0, the abundant and cheap labor is losing its comparative advantage. Therefore, to maintain its competitiveness and thereby sustain economic growth, Vietnam needs new competitive drivers including highly skilled labor force and science, technology, and innovation. To implement this long-term strategy, Vietnam needs to build an enabling business environment, in which governance quality is an important pillar. An enabling business environment promotes the capital formation in the business sector. An enabling business environment will lead economic agents to improve their operational efficiency and productivity as well as competitiveness. In turn, these factors will be important factors of sustainable development.

In summary, improving the business environment is a prerequisite for improving labor productivity and thereby enhancing national competitiveness, just as Michael Porter asserted:

“the only meaningful concept of competition at the national level is national productivity” (Porter M., 1991). The national competitiveness, once being strengthened, is a driving force to sustainable development. The causality effect between the three themes is described in Figure 1.



**Figure 1: Causality relationship between business environment and national competitiveness, and sustainable development**

*SMART is the common set of criteria for a good monitoring indicator, and it determines the framework for selecting the best international indicators for Vietnam.* Performance indicators are measures of project impacts, outcomes, outputs, and inputs that are monitored during project implementation to assess progress toward project objectives (World Bank, 1996). Due to the abstractness of stated development objectives, they must be translated into concrete and smart indicators for monitoring. A SMART indicator means that a good indicator should be specific (S), measurable (M), achievable (A), relevant (R), and time-bound (T) (Kusek, J. and Rist, R., 2004). Aligned with these criteria, selected international indicators on business environment, national competitiveness and sustainable development should satisfy the following conditions:

- Firstly, *international recognition of data publishers*. The international data publishers can be a formal international institution such as the UN and its specialized agencies like the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Industrial Development Organization (UNIDO), or multilateral development institutions like the World Bank or Asian Development Bank (ADB). They can also be research institutes, universities, or business-oriented organizations such as the Economist Intelligence Unit, Bloomberg, or Forbes... The important aspect is whether this publication is widely recognized nationally and internationally or not, because it will guarantee comparability and international acceptability of a country’s performance report.

- Secondly, *the coverage of international indicators*: The coverage scope of an indicator depends on various factors. At first, any indicator is developed to target to a group of economies that meet certain criteria, such as EU member countries or OECD member countries. In addition, the availability of comparable data may vary because different economies with different levels of development and statistical systems may have different availability of data for comparison.

- Thirdly, *frequency of the publication of indicators*. Most international indicators are published annually. However, some are published only every two years or do not follow any constant publication cycle. As monitoring activities require timely information to serve policymakers’ managerial purposes, priority should be given to annually collected indicators.

### **3. RESEARCH METHODS AND ANALYTICAL FRAMEWORK**

The paper utilizes two main research methods:

- *Desk review of literature*. Descriptive documents, and assessments of related indicators are collected and analyzed to clarify implication of indicators, their content and structure,



data collection methods, and scope of utilization. At the same time, the analysis also points out limitations of each indicator and makes cautions in their usage discretion. Identifying the limitations and providing cautions are important to avoid either over- or under-estimating their effectiveness.

- *Consultative discussion.* The assessment was conducted engaging eleven provinces/centrally managed cities and six key ministries that are closely related to the selective international indicators to be reviewed<sup>1</sup>. The consultation aimed at identifying the need of ministerial and provincial leaders for progress monitoring, their political and technical readiness for developing such system, and likelihood of utilizing the existing databases in this monitoring system. In addition, two national on-site consultation workshops and paper-based surveys were carried out to obtain maximum inputs on current understanding and use of international indicators from relevant ministries and provinces.

### 3. RESEARCH RESULTS

According to the database of international indices from the University of Warwick, there are currently 344 internationally comparative indices. Obtaining a comprehensive list of global indices is an impossible task. Therefore, this report can only provide an overview of the indices (i) published by reputable organizations and (ii) more importantly, relevant to measuring the business environment and national competitiveness.

#### 3.1. Review of selective international measurements of business environment and Vietnam's performance

Business Readiness Index (B-Ready). The business environment can be interpreted as all factors influencing profit-making business operations. These factors include: (i) input resources; (ii) market output; (iii) socio-economic factors; and (iv) government regulations. However, analyses of the business environment often focus on socio-economic factors and regulations since they have large impacts on most enterprises and are directly influenced by national governments.

There is a limited number of global indices on business environments that is widely published. Measurements of the business environment have high demand for data, many of which are usually difficult to access. Many business consulting companies have built their own databases on their own business environment but do not widely publish them. Widely recognized indices currently include Forbes' "Best Countries for Business" published annually for 146 economies since 2006, the EIU Business Environment Rankings conducted by EIU for 82 economies since 1997, and indices developed by the World Bank Group such as the Doing Business and Enabling the Business of Agriculture indices, implemented since 2015 and covering 65 economies. These indices reflect various aspects such as management environment, industry entry and exit, and resources. The data varies if the macro factors, competitiveness or market innovations, and the expectations are taken into consideration. Data

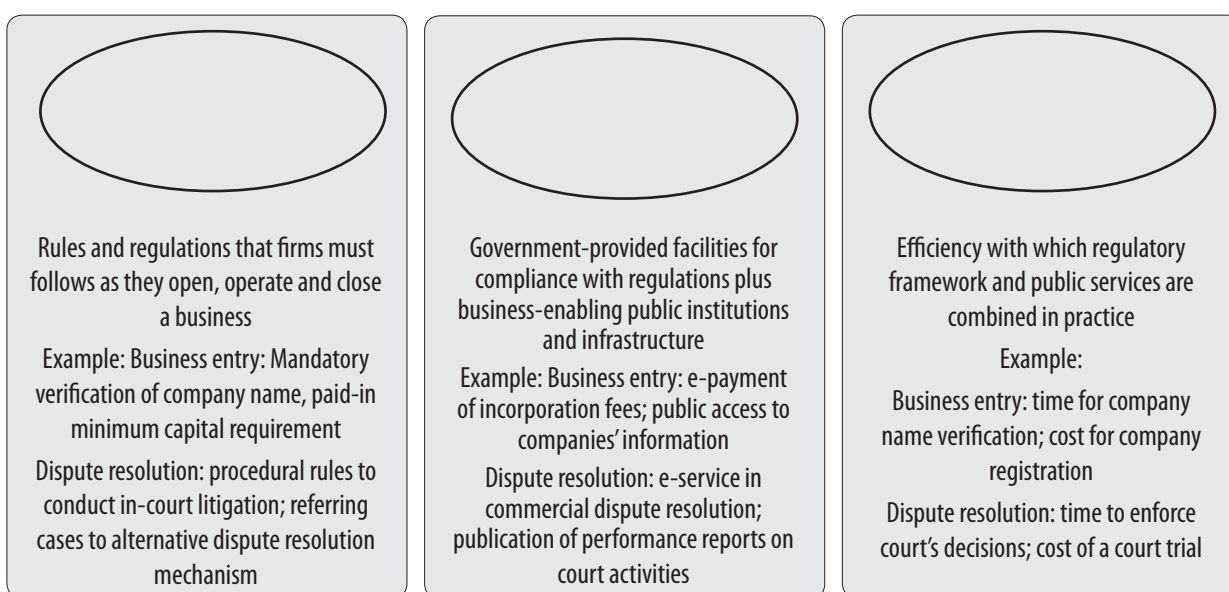
<sup>1</sup> Eleven provinces included Hai Phong, Hai Duong, Quang Ninh, and Thai Nguyen (in the North), Binh Dinh, Quang Nam, Da Nang and Hue (in the Central), Lam Dong (in the Central Highland), Ho Chi Minh City Binh Duong, Can Tho. Six ministries included Ministry of Finance, Planning and Investment, Agriculture and Rural Development, Industry and Trade, Natural Resources and Environment. and State Bank of Vietnam.



sources for these indices vary. For example, the EIU index relies on data from third-party self-assessment sources, while the Doing Business index is entirely based on survey data. In contrast, Forbes' index is based entirely on secondary data sources, including data from the Doing Business index. The construction and evaluation processes, as well as the data sources, except for officially published indices such as Forbes or EIU, are also difficult to access.

Therefore, Business Readiness Index (B-Ready), which is currently being implemented by the World Bank Group, is selected for analysis. This index is the improvement version of the Doing Business index with better evaluation methods, a better balance between formal regulations and their enforcement in practice, a broader coverage of measurement, greater diversity of the enterprise groups to be investigated, and a balanced consideration of the benefits and challenges of management regulations. B-Ready assesses the economy's business environment by focusing on the regulatory framework and the provision of related public services to firms and markets, as well as the efficiency with which they are combined in practice (see Figure 2).

B-Ready's three pillars—the regulatory framework, public services, and efficiency—can be defined as follows: (i) The regulatory framework comprises the rules and regulations that firms must follow as they open, operate, and close a business; (ii) Public services refers to both the facilities that governments provide directly or through private firms to support compliance with regulations and the critical institutions and infrastructure that enable business activities. Public services considered by B-Ready are limited to the scope of the business environment areas related to the life cycle of the firm, as described below; and (iii) Efficiency pertains to the efficacy with which the regulatory framework and related public services are combined in practice to obtain the objectives that allow firms to function. Currently, the measurement of B-Ready is in process, and the first results are expected in the first quarter of 2024. Therefore, analysis of Vietnam's ranking in business environment quality must base on ranking results of Doing Business index for the period 2015-2020.

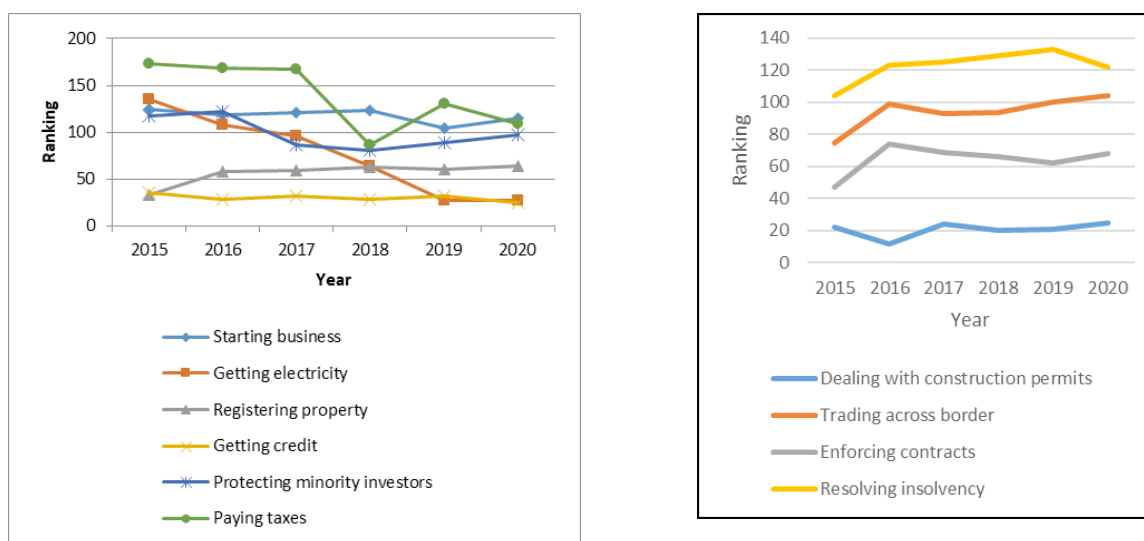


Source: WB (2022), *The Concept Note: Business Enabling Environment, BEE-Concept-Note-December-2022.pdf* (worldbank.org).

**Figure 2: Three key pillars of B-Ready measurement**

Business Environment Index for the period 2015-2020 covers 10 dimensions, including: (1) starting a business; (2) dealing with construction permits; (3) getting electricity; (4) registering property; (5) getting credit; (6) protecting minority investors; (7) paying taxes; (8) trading across border; (9) enforcing contracts; and (10) resolving insolvency. The 2020 index added a new area, government procurement.

Vietnam underwent a decline in its ranking in the business environment index in the period of 2014-2016 and then bounced back from 2017 to 2018, maintaining its position for the two years 2019 and 2020. Vietnam's ranking varies significantly across different areas. Vietnam excels in obtaining construction permits and accessing credit, with its positions consistently within the top 30 economies in both these core areas/pillars. Among these two, access to credit has a large impact on many businesses, while obtaining construction permits is a relatively unique aspect (see Figure 3).



(a) Indicators with improving rankings

(b) Indicators with declining rankings

**Figure 3. Rankings of component indicators in Vietnam's Doing Business Index, 2015-2020**

*Source: World Bank, Ease of Doing Business Report, various years.*

**E-Government Development Index (EGDI).** In the current period, digitalization, online transactions, and integrated transactions are important elements of the Industrial Revolution 4.0. Therefore, national governments have taken steps to integrate this digitalization process into the monitoring framework to oversee changes in the business environment and governance practice. This process is also known as the e-government process.

Monitoring the level of e-government development in each country against international benchmark has become an increasingly important requirement for the government monitoring framework. However, the analysis of some single indicators cannot reflect the scope and level of e-government development. The only index that directly measures e-government is the EGDI published by the UN Economic and Social Commission. This index presents the state of e-government development of the UN member states. Along with an assessment of the website development patterns in a country, the EGDI incorporates the access characteristics, such as the infrastructure and educational levels, to reflect how a country is using information technologies

to promote access and inclusion of its people. The EGDI is a simple average of three important component indices of e-government, namely: provision of online services (Online Service Index - OSI), telecommunication connectivity (Telecommunication Infrastructure Index – TII), and human capacity (Human Capital Index – HCI).

In 2022, Vietnam's EGDI was valued at 0.6787, ranking the 86<sup>th</sup> out of 193 countries. As a result, Vietnam was considered a country with high e-government development, surpassing the global average EGDI (0.6102), the average for the Asia region (0.6493), and Southeast Asia (0.6405). According to the UN's 2022 e-government survey, Vietnam's component indices for OSI, TII, and HCI scored their values at 0.6484, 0.6973, and 0.6903, respectively. In the Southeast Asian region, Vietnam's EGDI stands at the 6th place out of 11 countries. The countries ranked higher than Vietnam in the region are Singapore, Malaysia, Thailand, Brunei, and Indonesia. Compared to 2020, 6 out of 11 countries in Southeast Asia experienced a decrease in both EGDI value and ranking, including Singapore, Malaysia, Brunei, Philippines, Cambodia, and Timor-Leste. Only 3 countries (Singapore, Malaysia, and Brunei) ranked higher than Vietnam. Table 1 summarizes changes in EGDI rankings of ASEAN countries in 2004-2022.

**Table 1. EGDI rankings of Vietnam versus other countries in ASEAN, 2004-2022 period**

TT	Country	2022 (193/ 193)*	2020 (193/ 193)	2018 (193/ 193)	2016 (193/ 193)	2014 (193/ 193)	2012 (190/ 192)	2010 (183/ 192)	2008 (182/ 192)	2005 (179/ 191)	2004 (178/ 191)
1	Singapore	12 (↘)	11 (↘)	7 (↘)	4 (↘)	3 (↗)	10 (↗)	11 (↗)	23 (↘)	7 (↗)	8
2	Malaysia	53 (↘)	47 (↗)	48 (↗)	60 (↘)	52 (↘)	40 (↘)	32 (↗)	34 (↗)	43 (↘)	42
3	Thailand	55 (↗)	57 (↗)	73 (↗)	77 (↗)	102 (↘)	92 (↘)	76 (↘)	62 (↘)	46 (↗)	50
4	Brunei	68 (↘)	60 (↘)	59 (↗)	83 (↗)	86 (↘)	54 (↗)	68 (↘)	47 (↗)	73 (↘)	63
5	Indonesia	77 (↗)	88 (↗)	107 (↗)	116 (↘)	106 (↘)	97 (↗)	109 (↘)	106 (↘)	96 (↘)	85
<b>6</b>	<b>Vietnam</b>	<b>86 (-)</b>	<b>86 (↗)</b>	<b>88 (↗)</b>	<b>89 (↗)</b>	<b>99 (↘)</b>	<b>83 (↗)</b>	<b>90 (↗)</b>	<b>91 (↗)</b>	<b>105 (↗)</b>	<b>112</b>
7	Philippines	89 (↘)	77 (↘)	75 (↘)	71 (↗)	95 (↘)	88 (↘)	78 (↘)	66 (↘)	41 (↗)	47
8	Cambodia	127 (↘)	124 (↗)	145 (↗)	158 (↘)	139 (↗)	155 (↘)	140 (↘)	115 (↗)	128 (↗)	129
9	Myanmar	134 (↗)	146 (↗)	157 (↗)	169 (↗)	175 (↘)	160 (↘)	141 (↗)	145 (↘)	129 (↘)	123
10	Timor-Leste	147 (↘)	134 (↗)	142 (↗)	160 (↗)	161 (↗)	170 (↘)	162 (↘)	155 (↘)	144 (↗)	174
11	Laos PDR	159 (↗)	167 (↘)	162 (↘)	148 (↗)	152 (↗)	153 (↘)	151 (↗)	156 (↘)	147 (↘)	144

Note: (\*) Number of countries participated in EGDI ranking versus total number of UN member states. (i) or (ii) are symbols presenting increase (or decrease) in ranking order relative to the previous year.

Source: UN e-government survey, various years.

### 3.2. Review of selective international measurements of national competitiveness and Vietnam's performance

Every year, organizations such as the World Economic Forum (WEF) and the Institute of Management Development (IMD) publish a list in which countries are ranked in order of their competitiveness. These rankings are used by policy makers and stakeholders to gauge their country's relative success in meeting the criteria used in the respective competitiveness index. These indices or ratings are all based on a relatively large set of criteria, reflecting a common view that a country's competitive potential cannot be directly measured. While these indicators differ both in the number of countries included in the ranking and determinants of the level of competition, they share a common approach to include factors in three core dimensions: (i) macroeconomic environment; (ii) infrastructure; and (iii) economic outcomes (including international trade and production outputs).

The World Competitiveness Yearbook (WCY) conducted by IMD has a relatively comprehensive approach to the pillars of the national competitiveness. One distinctive aspect of IMD's index is its inclusion of such measurements of the economy's health as GDP and prices. One weakness of this index is absence of measurement on the country's level of innovation, which has been increasingly addressed by many governments in the context of the Industrial Revolution 4.0. In contrast, WEF's Global Competitiveness Index (GCI) has been published since 1979 and its structure has evolved over time. The 2020's GCI covers more comprehensive dimensions including traditional ones such as infrastructure, macro environment, human resources, market dynamism and an emerging dimension of innovation.

While the WCY index includes several indicators that overlap with other indices, such as the business cost (already exists in the business environment indices), education, high-tech goods exporting (overlapping with innovation indices), environment (overlapping with sustainable development indices), several fundamental component indicators of this index do not directly measure national competitiveness. This leads to certain difficulties in analyzing the core factors impacting national competitiveness. In contrast, GCI has a higher level of comprehensiveness and is more widely referred to. The regular participation of national leaders and corporations in the WEF conferences during the publication of the GCI shows the widespread interest in this index from various countries and businesses. Searching for the phrase "The Global Competitiveness Report" on Google yielded about 653,000 results, while the phrase "The IMD WCY" only yielded 13,700 results, representing 2.1% of the level of interest in GCI. Hence, in this paper, GCI instead of WCY index is selected for in-depth analysis.

**Global Competitiveness Index (GCI).** The GCI integrates the macroeconomic and the micro/business aspects of competitiveness into a single index to reflect the ability of a country in securing high level of prosperity to their citizens. It measures "the set of institutions, policies, and factors that set the sustainable current and medium-term levels of economic prosperity" (WEF, 2023)<sup>1</sup>. Since 2004, the GCI has been based on the latest theoretical and empirical research. It is made up of over 110 variables, of which two thirds come from the Executive Opinion Survey, and one third comes from publicly available sources such as the UN. The variables are organized into twelve pillars, with each pillar representing an area considered an important determinant of competitiveness. The GCI separates countries into three specific stages: factor-driven, efficiency-driven, and innovation-driven, each implying a growing degree of complexity in the operation of the economy (see Table 2).

**Table 2. GCI structure and weights of each component indicator**

Stage	Domain	Pillar		Component Indicator	
		Content	Weight in GCI	Content	Weight in pillar
Factor-driven economies	ENABLING ENVIRONMENT	Institutions	8.3%	Security Social Capital Checks and Balances Public-Sector Performance Transparency Property Rights Corporate Governance Future Orientation of Government	12.5% each

<sup>1</sup> ["Global Competitiveness Network: Frequently Asked Questions"](#). Archived from [the original](#) on 2009-03-26.

		Infrastructure	8.3%	Transport Infrastructure	50% each
				Utility Infrastructure	
		ICT Adoption	8.3%	ICT adoption	100%
	Macroeconomic Stability	8.3%	Macroeconomic Stability (Inflation and Debt Dynamics)	100%	
	HUMAN RESOURCES	Health	8.3%	Health (Healthy life expectancy)	100%
		Skills	8.3%	Current Workforce	50% each
		Future Workforce			
Efficiency-driven economies	MARKET	Product Market	8.3%	Domestic Market Competition	50% each
				Trade Openness	
		Labor market	8.3%	Flexibility	50% each
		Meritocracy and Incentivization			
		Financial System	8.3%	Depth	50% each
				Stability	
Innovation-driven economies	INNOVATION ECOSYSTEM	Market Size	8.3%	Market Size	100%
		Business Dynamism	8.3%	Administrative Requirements	50% each
				Entrepreneurial Culture	
		Innovation Capability	8.3%	Diversity and collaboration	33% each
				Research and development	
				Commercialization	

Source: WEF (2019), Global Competitiveness Index 4.0 Methodology and Technical Notes, The Global Competitiveness Report 2019.

In 2018, there was a change in the calculation methodology for GCI, which limits its comparability with previous years. Since access to data for the years 2021 and 2022 is currently impossible, the analysis focuses on the 2018-2019 period. During the 2018-2019 period, Vietnam made the greatest progress among the ranked countries. Vietnam’s ranking in 2019 was the 67<sup>th</sup>, or 10 steps upward from the 2018 score, making it the country with the most significant advancement in the world. However, with this rank, Vietnam is only considered average among the 140 ranked economies.

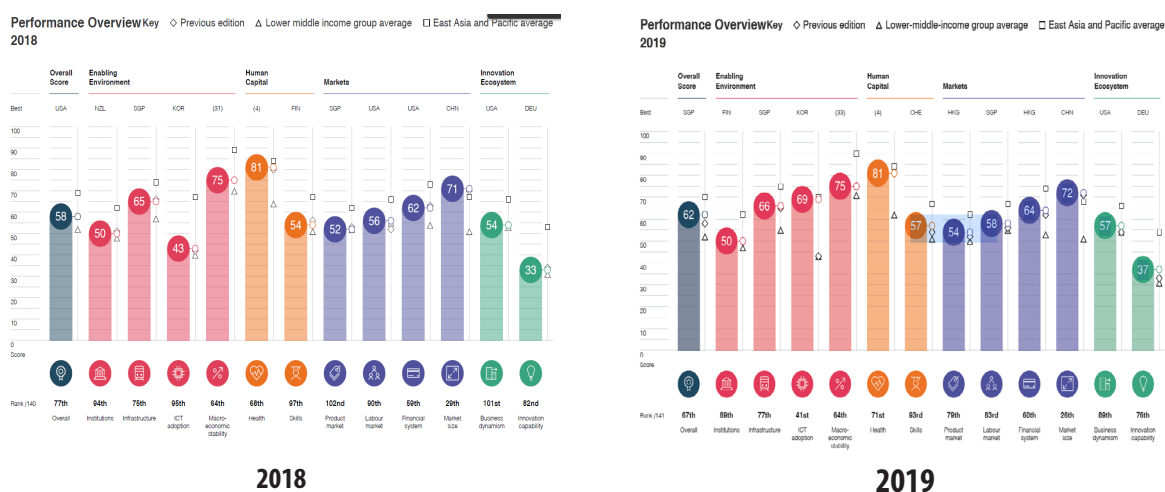


Figure 4. Absolute scores and ranking orders of Vietnam GCI, by its pillars in 2018-2019

Source: WEF (2018, 2019), The Global Competitiveness Report 2018 and 2019.

As shown in Figure 4, on one hand, Vietnam has a relatively good ranking in terms of market size, macroeconomic stability, and financial systems. In 2018, the pillars of market size and financial



systems were positioned at the 20<sup>th</sup> and 59<sup>th</sup> rankings, respectively. Furthermore, the most significant improvement was in the pillar of leveraging ICT achievements, with a score increased by 23 points in 2019, representing an improvement of 60% from 2018's level. Additionally, there were notable improvements in the skillset, innovation capability and market dynamism.

On the other hand, the institutions and business dynamism often have less favorable rankings. Regarding the institutional indicators, issues related to copyright protection and the effectiveness of accounting and auditing standards have the lowest rankings. In terms of business dynamism, time required to start a business and the recovery rate from bankruptcy in Vietnam also have relatively low rankings.

In fact, when examining the details, the number of indicators that improved in rank outweighed those that declined. This indicates a comprehensive improvement in the economy. However, the decline in rankings of the infrastructure pillars, despite the increase in actual score, suggests that Vietnam needs to invest more in infrastructure to maintain the competitiveness of its economy.

In terms of improvement in rankings, apart from the leveraging ICT pillar, the product market index experienced a substantial increase, although not showing significant score improvements. Additionally, there are positive aspects regarding the dynamism of the market and the institution. This demonstrates the Vietnamese government's strong commitment to improve the business environment, leading to relative advancement in the results compared to other economies.

**Global Innovation Index (GII).** Innovation is also a controversial concept. Due to the lack of consensus in the concept of innovation and the scarcity of data, especially in developing countries, not many international indices on innovation are available. Typical indices include representative indicators such as the proportion of spending on Research and Development (R&D) in GDP, the research workforce, the overall labor quality, the production of high-tech industries, and the number of invention patents.

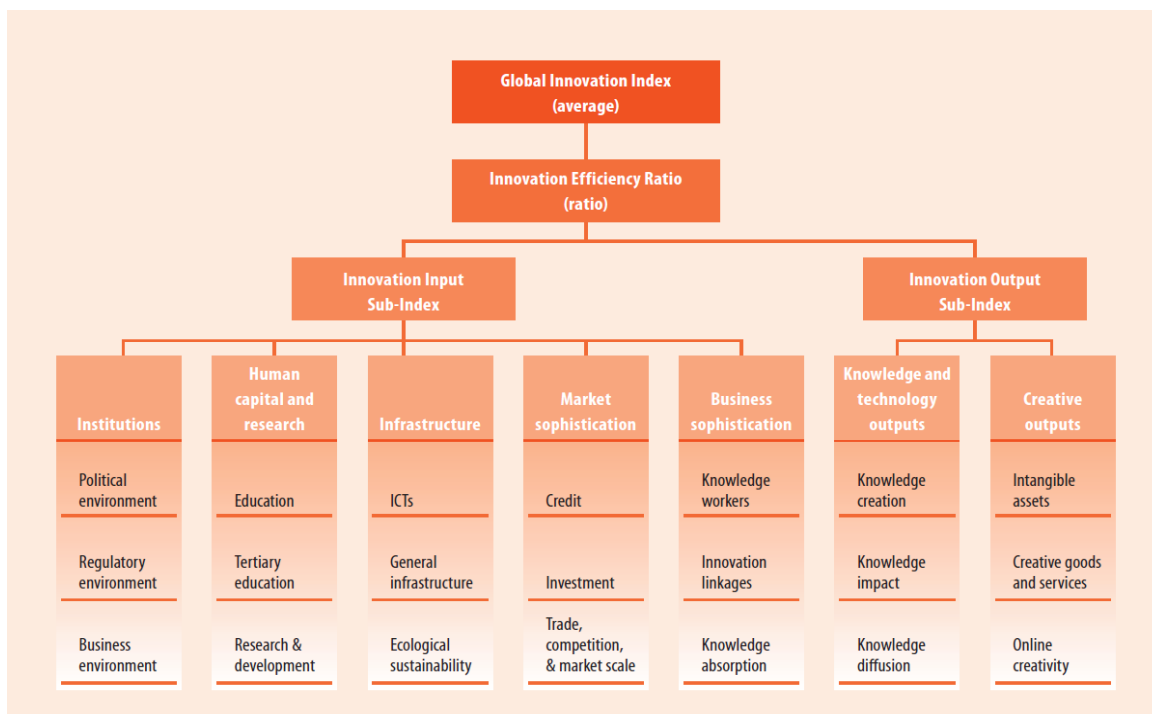
A prominent index that measures this important aspect of national competitiveness is Bloomberg's Innovation Index. Bloomberg ranks the innovation of economies in the world based on six aspects: (1) R&D: Proportion of GDP spent on R&D, (2) Production: Manufacturing value-added per capita, (3) High-tech companies: the number of publicly traded high-tech companies that has their headquarters base domestically, including aerospace and national defense, biotechnology, hardware, software, semiconductors, Internet services, and renewable energy companies, (4) Post-secondary education: the percentage of high school graduates enrolled in post-secondary education, the percentage of the labor force with bachelor degrees, annual science and engineering graduates as a percentage of the labor force and as a percentage of total bachelors, (5) Research personnel: experts, including Ph.D. students, engaged in R&D per million population, and (6) Patents: The number of patent applications, technical solutions per million inhabitants, and per million USD spent on R&D; the ratio of granted patents for technical solutions in the total worldwide. The six equally weighted indices are considered, and their scores are combined to provide an overall score for each country ranging from 0 to 100. Among over 200 economies assessed, 69 economies have data for all six indicators.



The Global Innovation Index (GII) shares some similarities with Bloomberg’s innovation index. However, it has some advantages over Bloomberg as: (i) it has broader coverage; (ii) it considers management aspects, and (iii) it is used more widely by member countries of World Intellectual Property Organization (WIPO). These important advantages of the GII lead to a selection of GII for further investigation in this paper.

The GII is an annual ranking of countries by their capacity for, and success in, innovation, published by WIPO. Until 2021 it was published by WIPO, in partnership with Cornell University, INSEAD and other organizations and institutions. It is based on both subjective and objective data derived from several sources, including the International Telecommunication Union, the World Bank and the WEF. The index is computed by taking a simple average of the scores in two sub-indices, the Innovation Input Index and Innovation Output Index, which are composed of five and two pillars respectively (see Figure 5). Each of these pillars describe an attribute of innovation, and comprise up to five indicators, and their score is calculated by the weighted average method.

Vietnam has excelled in achieving a high GII relative to per capita income. The ranking had continuously improved in the period 2012 to 2019. The highest ranking achieved in 2019 was 42nd, compared to the 76<sup>th</sup> ranking in 2012. Since then, Vietnam has always ranked first for 3 consecutive years in the group of low-middle-income countries (LMIC). Vietnam has also excelled in several pillars such as market expertise or knowledge and technology output, thanks to the large contribution of FDI enterprises. In addition, Vietnam’s scores on the Human Capital and Research pillar are higher than the averages of countries in the group of upper middle-income countries, even when Vietnam remains as a LMIC (see Figure 6a).



Source: WIPI (2019), Technical Note, GCI Report in 2019.

Figure 5. Composition of the Global Innovation Index

However, this painting is not without darkness. Vietnam ranks relatively low in the sub-index of human capital and research, together with volatility in movement trends of this sub-index over time. The two pillars of market expertise, and business expertise, have not improved in absolute scores, and have even been fluctuating over time, even though the rankings in these pillars are still improving.

Other indicators on output pillars do not show a consistent improvement trend over the years. While the ranking of the pillars on knowledge output and technology has tended to increase, the ranking of the knowledge output index has continuously been decreasing (see Figure 6b). Vietnam has outstanding scores in the output indicators, but the rankings of these indicators have not been consistently improving over time. This implies that Vietnam's output-to-input efficiency has decreased relative to other countries. In 2018, Vietnam was moved out of the list of 10 countries with the highest innovation efficiency, while remaining in the list of 20 most innovative countries. This is a concern, because only when the efficiency of using innovation inputs is maintained at a certain level can the continuous upward trend in innovation output be maintained.

In 2022, the results for Vietnam were relatively different. Along with a 04-placed decline in total ranking, the rankings of individual pillars also changed significantly and have a tendency to deviate from the general trend of them. This may be influenced by the COVID-19 pandemic, an issue that needs further research.

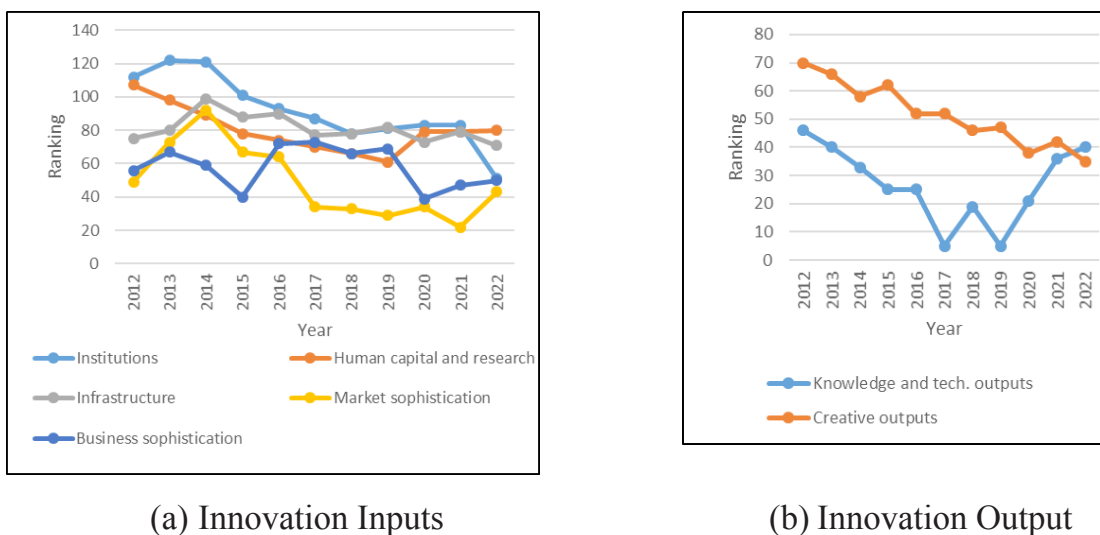


Figure 6. Rankings of Vietnam's GII pillars, 2015-2022 period

## 5. CONCLUSION AND RECOMMENDATION: HOW TO INTEGRATE SELECTED INTERNATIONAL INDICATORS IN THE GOVERNMENT MONITORING FRAMEWORK?

### 5.1. Conclusion

From reviewing the nature of selective international indicators on business environment and national competitiveness, and the government's interests in using them as performance measurement of policy priorities, the readiness for integrating international indicators into the government monitoring framework has been seen in both technical and institutional aspects.

*Technical availability of data sources.* Comparing four international indices (B-Ready, GCI, GII and EGDI), their specific pillars and component indicators with the existing databases

developed and archived by General Statistics Office (GSO) and other line ministries, it is clear that a significant proportion of indicators included in these four indices has already been collected by Vietnamese agencies, although not as straightforward as measured in international indices. The “overlapping” indicators are mainly in the fundamental domains of macroeconomic stability, public services including education and health, and access to public utility including electricity, water or internet connection.

Indicators embedded in GCI can be further investigated, including indicators of capital accumulation of the economy and labor use of enterprises. Data on these indicators are basically available in Vietnam and are accessible. At the same time, the fact that Ministry of Finance, the GSO, the Ministry of Planning and Investment, and the State Bank of Vietnam have participated in the IMF’s Enhanced General Data Dissemination System (e-GDDS) allows data to be shared widely. By the same token, existing indicators from ministries and central agencies in Vietnam have accounted for the largest proportion of indicators embedded in GII (i.e., 32 out of 81 indicators of this index). In fact, Vietnam has already data for a certain number of indicators included in the sets of international comparative indices. Thus, it is possible to use domestic sources of data managed in Vietnamese ministries and central agencies as a part of the government progress monitoring framework to trace implementation of concerned international indicators and changing patterns of their rankings.

*Institutional support.* Development of the government monitoring framework, which has integrated relevant international indicators, also receives an institutional support from the government’s directives. The government’s Resolution No. 01/NQ-CP dated 01/06/2023 has been issued to set the Main Tasks and Solutions for Implementing Socio-Economic Development Plan, State Budget Plan, and Improving Business Environment, and Strengthening the National Competitiveness in 2023. The name of the Resolution shows that, in addition to the routine monitoring duties over socio-economic plan and budget plan, the government has identified improvement of the business environment and strengthening the national competitiveness as key strategic priorities. It turns to be an actual need for monitoring changes in such two priority areas, and integrating relevant international indicators in the government monitoring framework is a crucial step.

## **Recommendations**

**Recommendation 1: Key principles of development of the government’s integrated monitoring framework.** The monitoring framework should allow frequent tracing of changes in scores and rankings of critical indicators in the international indices regarding business environment and national competitiveness, especially those in declining trend. With component indicators that are getting promising scores, how to maintain and enhance such performance is equally important.

To keep policymakers well informed about the progress in relevant international indicators, a set of progress monitoring indicators should be developed. While those progress indicators can measure only a part of the component indicators of the international indices, they are already available in the system. Improving progress indicators is a way to tackle the most critical domains of the component indicators, through which, a progress in component indicators and then, the entire international indices can be realized.

The progress monitoring indicators should satisfy the following criteria: Firstly, they must have a direct and causal relationship to the changes in component indicators of the selected international comparative indices. Secondly, frequency of data collecting on these progress indicators should be within a year, since only shorter-term indicators can help keep track of the frequent progress of the international indices. Thirdly, progress indicators should be selected from the existing dataset mandatorily collected by GSO and/or other ministries to avoid cost, human resource, and time burdens for the collecting agencies. In the medium- to long-term, when all datasets are integrated electronically, there should be a comprehensive review of existing datasets to remove irrelevant indicators and supplement the new ones, which are more aligned with the international good practices.

**Recommendation 2: Proposed structure of an integrated monitoring framework for monitoring improvements in business environment and national competitiveness.**

As results of intensive discussions with sampled ministries and provinces (as referred to in Methodology section), selected indicators from international indices can be integrated into the progress monitoring system of the government. The system, however, should be structured in the way that the causality relationship between sustainable development, national competitiveness, and business environment improvement is clearly demonstrated. Via consultation with various ministries and provinces, the framework of this progress monitoring system should include five core domains as follows:

- Domain A: Set of international indicators on sustainable development of Vietnam (in line with the United Nations' sustainable development goals). This set of indicators helps the government to monitor progress in fulfilling the government's international commitments to sustainable development.

- Domain B: Set of Vietnam's national competitiveness indicators in line with the GCI. Apart from GCI relevant indicators, this set will have additional indicators to serve the monitoring task as identified in Resolution 01.

- Domain C: Set of Vietnam's indicators on innovation capacity in line with the GII. A combination should be maximized between GII component indicators and existing indicators on innovation in Vietnam.

- Domain D: Set of Vietnamese indicators on business environment (in line with B-Ready index). This set should BE also disaggregated into progress monitoring indicators to serve the purpose of keeping track of changing patterns of component indicators.

- Domain E: Set of Vietnam's indicators on e-government (in line with the WIPO's EGDI) and also support monitoring different tasks on e-government development assigned by the government.

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# FISCAL POLICY TO STABILIZE THE MACROECONOMY IN THE CONTEXT OF GLOBAL INFLATION

PhD. Ha Thi Doan Trang<sup>1</sup>

*Abstract: In the first months of 2023, the world economy is still facing many difficulties. Even though inflation in many countries has possibly hit its peak and now is on decline, countries still continue using tight fiscal policies and monetary policies to control inflation. This has dampened resilience and economic growth globally. The decline of global trade, bankruptcy and crisis of many US and EU banks... continued to cause many issues for the management of monetary policy globally. In Vietnam, although the economy is negatively affected by trading partners, with the closely management of the government, fiscal policy and monetary policy are supporting and accompanying the business community and people to overcome difficulties and achieve some positive results, to secure macro balances, control inflation, and stabilize the money market, exchange rates, and interest rates. However, to ensure economic recovery and growth, there must be some amendments to current fiscal and monetary policies. Some potential amendments are implementing a reasonable and focused fiscal expansionary policy, focusing on removing difficulties for businesses and people; reviewing expenditure needs and restructure state budget expenditures; prioritize expenditures, implement strict, thrifty and efficient management of state budget expenditures...*

*Keywords: inflation, economic growth, fiscal policy, monetary policy*

## 1. THE GLOBAL ECONOMIC CONTEXT AFFECTS VIETNAM

In the first months of 2023, the world economy has shown positive signs. However, it is still heavily affected by the covid 19 pandemic and the conflict between Russia and Ukraine. In 2022, record-high inflation in the US and Europe reduced consumer demand in most economies, negatively affecting Vietnam's export businesses. Besides, the import of inflation also causes many difficulties for the Vietnamese economy.

In the US, though, inflation is still high compared to the target set by the US Federal Reserve (FED) of 2%. But overall, the price increases have slowed down in many areas. In that context, on June 14, the FED decided to keep interest rates unchanged, and this was the first milestone to end the series of 10 consecutive interest rate hikes (up 5% within 14 months). However, on July 26<sup>th</sup>, FED raised interest rates by 0.25 percentage points, raising the policy rate to the highest level in 22 years.

Because The Fed's interest rate hike makes the USD stronger, the USD has appreciated against VND and cause difficulties for Vietnamese importers, as the cost of importing raw materials increases. Typically, feed producers and energy businesses face many difficulties when the exchange rate rises. In particular, electronic goods, which have a large export value and account for a high proportion of Vietnam's GDP, are also affected because of the increased prices of imported raw materials. Besides, the increased interest rates by FED reduces the ability of Vietnamese business to borrow capital and lower the resilience of businesses since

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international capital flows are more likely directed to the US market due to higher interest rate, affecting the ability to attract FDI inflows, affecting indirect investment (FPI) and the efficiency of production and business activities of enterprises...

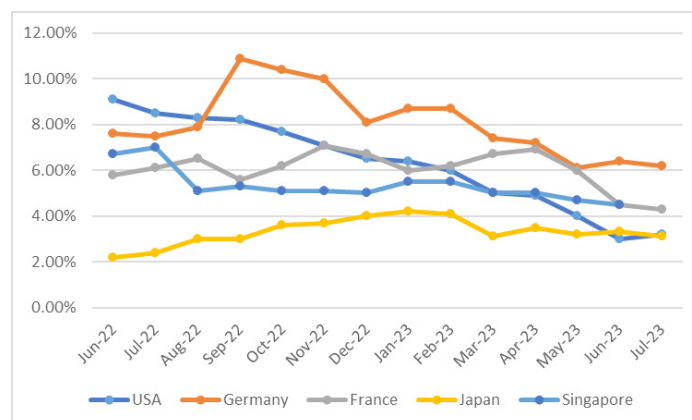


Figure 1 : Inflation in some countries

Source: IMF, WB

## VIE2. FINANCIAL POLICY IN VIETNAM

In the face of difficulties in the global economy, the financial policy must ensure multiple goals: supporting economic recovery after the pandemic; controlling inflation regarding higher prices and global inflation; relaxing the devaluation pressure of the Vietnamese dong; stabilizing interest rate; ensuring credit demand for the economy; safeguarding the banking system... There are remarkable challenges for macro policy markers and managers.

### *Regarding fiscal policy:*

Fiscal policies have been effective in recent years thanks to flexible, proactive and focused management.

The Ministry of Finance has implemented a proactive, flexible and effective fiscal policy with the continued implementation of exemption and reduction of taxes, fees according to documents issued at the end of 2021 that will take effect in 2022. State budget collection policy is continued to expand incentives in 2022 according to Resolution No. 43/2022/QH15 dated January 11, 2022, of the National Assembly on fiscal and monetary policies to support the program of socio-economic recovery and development such as reducing the value-added tax rate, from 10% to 8% from February 1, 2022, to the end of December 31, 2022...

As a result, in the last 3 years, tax has been extended and reduced by hundreds of trillions of dong. In 2021, the fiscal policy alone has exempted, reduced and extended taxes, and fees at VND 132 trillion, of which exemption and reduction is VND 24 trillion and extension is VND 108.4 trillion. In 2022, we can mobilize the largest resources and implement the largest tax, fee and fee exemption, reduction and extension, which is 200.3 trillion VND, of which 89 trillion VND is exempted and reduced and 110.7 extended.... In 2023, it is expected that the exemption, reduction and extension will be 195.4 trillion dong, of which the exemption and reduction are 74.2 trillion dong and the extension is 121 trillion dong of taxes and fees. This is a huge amount, unprecedented in precedent [20].

In 2022, Vietnam continues to be upgraded by S&P Global Ratings to a long-term national credit rating of BB+, “stable outlook”; and Moody’s Investors Service upgraded the long-term national credit rating from Ba3 to Ba2, “stable outlook”.

In 2023, the Ministry of Finance will continue to introduce a series of policies on relaxing and reducing taxes, property taxes, and many charges to support people and businesses. Decree No. 12/2023/ND-CP dated April 14, 2023, of the Government extending the deadline for payment of value-added tax, corporate income tax, personal income tax and land rent in 2023 have already been issued. very effective in stabilizing the macro-economy and controlling inflation in the context of enterprises’ production and business activities still facing many difficulties.

This fiscal support package has made an important contribution to the recovery of the economy and is considered a fulcrum and pedestal for implementing many important macro policies. The current fiscal policy space is also the space for the Government to continue to propose and issue supportive policies for people and businesses.

*Regarding monetary policy:*

In the past time, under the direction of the Government and the Prime Minister and the State Bank of Vietnam, monetary policy are managed flexibly and corodinated with fiscal policy to stabilize the macro-economy and control inflation control.

In early 2022, while the interest rate in Vietnam is 4%, US interest rate is 0-0.25%, after 8 consecutive hikes, the US interest rate has reached 4.5-4,75%. Therefore, further increase interest rates is inevitable in order to mitigate the VND risks and to ease pressure on the exchange rate. Since the State Bank of Vietnam raised interest rates twice in September and October 2022 (100 basis point each), commercial banks have also increased deposit interest rates ranging from 0,5%-1,0% as well as loan yield. These rising interest rates have increased the capital costs of businesses, especially when they have suffered heavy losses due to the Covid-19 pandemic for the last two year.

Therefore, in 2023, the State Bank has reduced the operating interest rate 3 times to help the economy, businesses and people. Up till now, the interest rate level has been stable. The average deposit interest rate of commercial banks is around 6 .1%/year (down 0.37%/year compared to the end of 2022); The average lending interest rate in VND of commercial banks is about 9.07%/year (down 0.9%/year compared to the end of 2022).

In addition, the State Bank flexibly operated open market operations and maintained offers to buy securities with volume and term in line with the objectives of monetary policy management and payment assurance; guarantee liquidity for credit institutions. The State Bank’s credit growth orientation in 2023 is about 14-15%, with adjustments in line with actual developments and situations.

In general, the management of the monetary policy of the State Bank in recent years has achieved certain results. Inflation is under control, the exchange rate is stable, and interest rates tend to decrease, creating favourable conditions for businesses and people to overcome difficulties and improve the efficiency of production and business activities.

The good coordination of policies when operating the macro-economy, especially the coordination between fiscal and monetary policies, has contributed to effective inflation control while still supporting the economy.

### 3. VIETNAM'S ECONOMIC OVERVIEW

Vietnam is a country with a large economic openness, an increasingly deep integration level, and a high dependence on the external economy. This places Vietnam in a vulnerable position to global economic shocks. The instability of financial, trade and commodity markets in the world in recent years is highly contagious and Vietnam is inevitably affected. Fiscal policy applied in 2021 especially in the years 2022-2023 under the Socio-economic Recovery and Development Program are quite comprehensive and timely. Thereby, the GDP growth index in 2022 has reached 8.02%.

In 2023, the Government and the Prime Minister directed ministries, branches and localities to focus on implementing Resolution No. 01/NQ-CP dated January 6, 2023; Socio-economic recovery and development program; Directive 03/CT-TTg dated January 27, 2023... Vietnam's economy has achieved many positive results, macro-balances are ensured, and inflation is under control. In the money market, the exchange rate is stable and interest rates are on a downward trend. However, macroeconomics still faces many challenges.

According to the growth scenario set out in Resolution No. 01/NQ/CP dated January 6, 2023, of the Government, to achieve the target of 6.5% growth for the whole year, the first 6 months of the year need to achieve a growth rate of 6.2% (in which the first quarter increased by 5.6%, the second quarter increased by 6.7%). However, the real GDP growth in the first 6 months of the year only reached 3.72% (of which the first quarter increased by 3.28%, the second quarter increased by 4.14%), did not reach the set increase, even much lower compared with the plan (2.48 percentage points lower). The economic growth rate is low while all components of aggregate demand grow slowly, such as investment and consumption. Industrial production is the mainstay, plays the main role and used to be the driving force for economic growth, but now growth is very low.

In 2023, import and export activities were difficult, in the first eight months of 2023, the total import and export turnover of goods was estimated at USD 435.23 billion, down 13.1% over the same period last year due to the decline in export turnover, the scarcity of export orders, especially in the domestic market, some labour-intensive sectors such as textiles, footwear, electronics, etc [8].

The disbursement of public investment capital is an extremely important growth engine in the current context, but there has been no significant improvement. In addition, some key markets, such as currency, securities and corporate bonds, real estate market and labour market... are showing risks, and liquidity is more difficult.

The consumer price index (CPI) in August 2023 increased by 0.88% over the previous month. Compared to December 2022, CPI in August increased by 2.02% and over the same period last year by 2.96%. On average in 8 months of 2023, CPI increased by 3.1% over the same period last year; Core inflation increased by 4.57% [8].

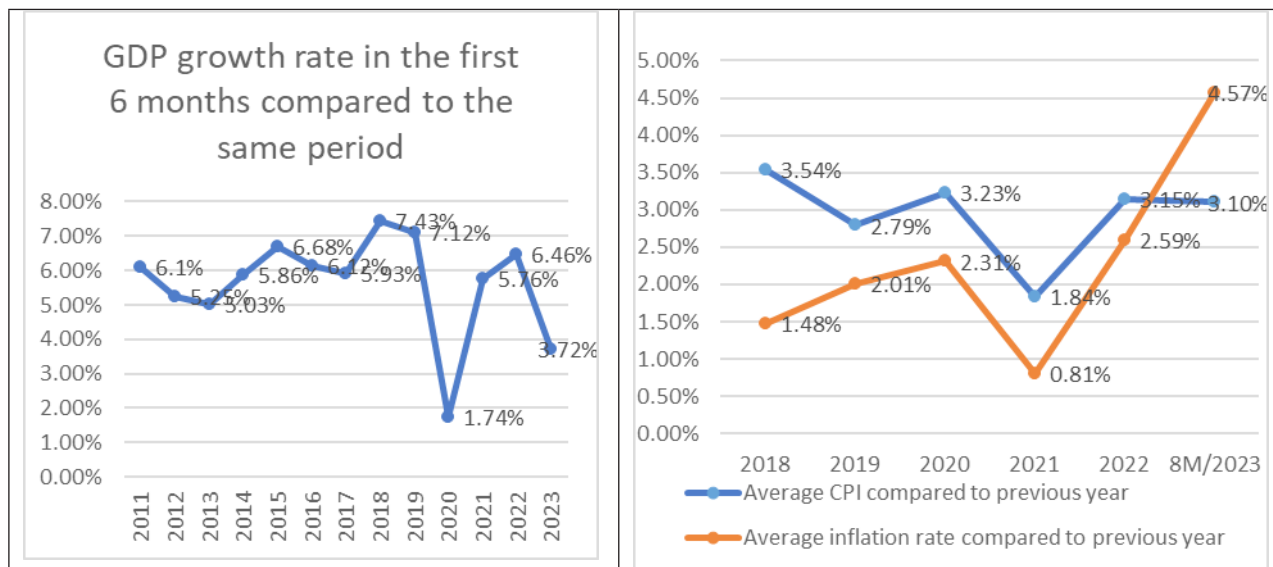


Figure 2: Some macroeconomic indicators in Vietnam

Source: GSO

4. PROSPECTS AND FORECASTS

In the last months of 2023, the pressure on the world money market has eased after the Fed’s interest rate hike cycle is expected to end. However, the world economy still has many challenges such as Global economic growth is low and there’s a risk of recession; reduced global trade affects economic growth prospects; The unresolved conflict between Russia and Ukraine will affect gasoline prices, transportation costs, logistics, production and consumption supply chains and the risk of destabilizing energy and food security; The reopening of the Chinese economy will accelerate economic growth, which may drive commodity prices up, especially for metals, energy and agricultural products; OPEC+’s policy of cutting oil supply. And these challenges will affect world commodity prices, putting great pressure on monetary policy management and inflation control of economies including Vietnam. The International Monetary Fund (IMF) forecast that Vietnam’s economic growth will recover in the second half of 2023, reaching about 4.7% for the whole year, thanks to the rebound of exports and easing domestic policies. Inflation is expected to be controlled below the State Bank of Vietnam’s 4.5% target [19].

Domestically, the last 4 months of 2023 Vietnamese economy have many advantages: a stable macroeconomic environment and well-controlled inflation for many years will strengthen businesses and people’s confidence in expected inflation; good foreign currency supply comes from remittances; Stable FDI disbursement... Recently, on June 30, 2023, the Government issued Decree No. 44/2023/ND-CP stipulating the value-added tax reduction policy per Resolution No. 101/2023/QH15 dated June 24, 2023, of the National Assembly. Accordingly, the value-added tax rate will be reduced by 2% for groups of goods and services currently applying the VAT rate from 10% to 8%, except for some groups of goods and services as prescribed. These are the factors that contribute to macroeconomic stability and inflation control.

However, domestic economic growth is also facing risks when many trading partners reduce economic growth; domestic demand is weakening due to the decline in people's income, and at the same time the economic growth slows down, making people tend to save more; The stability and sustainability of state budget revenue are not high; Disbursement for development investment is still slow; petrol prices in the face of upward pressure. Besides, from July 1, 2023, the base salary increased from 1.49 million VND/month to 1.8 million VND/month, the increase in basic salary is also a factor that puts pressure on inflation in the last months of 2023.

In addition, pressures come from the domestic financial market such as pressure to repay loans and interest due to difficult production and business of the corporate sector; The stock market fluctuated strongly, some enterprises violated the law on bond issuance, the corporate bond market faced many difficulties, the maturity volume of corporate bonds was large; Stock manipulation has harmed the healthy development of the stock market and investor sentiment, affecting the mobilization of capital by the Government and enterprises through the stock market..

## **5. SOME RECOMMENDATIONS**

In 2023, the National Assembly and the Government set a target of about 6.5% for economic growth and about 4.5% for inflation rate. In order to achieve the above objectives, there should be synchronous coordination among ministries, departments, branches and localities to harmonious coordinate between fiscal and monetary policies in order to strengthen the linkage between the different sectors and to help to stabilize the macro-economy and control inflation.

Policy makers must ensure a balance between controlling inflation and growth, interest rates and exchange rates; budget balance and support for people and businesses... Besides, it is necessary to closely monitor global and domestic economic developments, forecast and properly assess the situation, and promptly identify potential problems, risks, ensuring major balances of the economy and contributing to promoting socio-economic recovery and development.

### *About the fiscal policy:*

Firstly, focus on synchronously implementing solutions to ensure priorities in operation, ensure sustainable revenue, meet the State's spending tasks as well as unleash the economy's resources. It is necessary to continue to choose policies that both promote recovery and stabilize the macroeconomy. Fiscal policy is flexible in the short term but must adhere to the principles of balanced budgeting and fiscal discipline in the long run. At the same time, it is necessary to closely monitor the estimation and implementation of the state budget at all levels.

Second, synchronously implementing solutions to effectively use public debt, structure public debt sustainably by propagating and training public debt management operations to relevant stakeholders in order to ensure the correct, synchronous and effective of legal provisions on public debt management...; Effectively implementing the 2023 investment budget can stimulate aggregate demand and economic growth; Vietnam need to sustain its level of investment, improve the quality of the proposed project, and address deficiencies in public investment management and inter-governmental fiscal institutions.

Third, implement a reasonable and focused fiscal expansionary policy, focusing on



removing difficulties for businesses and people. In addition to the goal of promoting economic recovery, fiscal policy should aim at equality, restoring the confidence of businesses and people; promptly reducing cost pressure for businesses and employees in difficult times; limiting the rate of decline in consumer demand and increasing the resilience of the economy.

Fourth, review expenditure needs and restructure state budget expenditures; prioritize expenditures, implement strict, thrifty and efficient management of state budget expenditures. Accelerate disbursement of public investment capital to promote economic recovery, and successfully realize socio-economic development goals; Strictly control the state budget deficit, public debt, provisional debt obligations of the state budget, and local government debt, ensure national financial safety, improve the efficiency of loan use. New loans with official development assistance and concessional loans from foreign donors are only used for development investment expenditures, not for recurrent expenditures.

Fifth, promoting domestic consumption, promoting public investment to reduce cash flow congestion, increasing liquidity for the system, injecting capital into the economy, improving the investment and business environment, Reduce administrative procedures to take advantage of supply chain shifts, create and promote domestic and foreign investment, increase productivity and reduce production and business costs; Continue to increase the efficiency of implementation of support packages to restore production of enterprises.

Sixth, perfecting the legal framework, inspection and supervision mechanism to ensure the stable and safe operation of the financial market and financial services. In which, special attention is paid to reviewing, amending, supplementing and perfecting legal regulations on securities and corporate bond issuance; improving publicity and transparency; strengthening the responsibilities and obligations of the issuer; promptly detecting and strictly handling violating organizations and individuals, protecting the legitimate rights and interests of investors; strengthen management, supervision and reduce risks to the market; raise the national credit rating.

#### *About the monetary policy*

In addition to reducing interest rates and increasing access to capital, it is necessary to have policies on debt restructuring and liquidity support, and restructuring of credit institutions. Policy makers need to be carefully considered, coordinated and communicated. The State Bank should rely on policy interest rates to control inflation and avoid pressures on the exchange rate, coordinate synchronously with monetary policy measures and tools to stabilize the foreign currency market; continue to manage credit growth according to the orientation target of 14-15% for the whole year 2023; In addition to ensuring the stability of the financial sector when dealing with bottlenecks in the bond and real estate markets, it is necessary to strictly control credit in potentially risky areas; create favourable conditions for businesses and people to access bank credit, however, it is necessary to direct credit to production and business fields, priority fields and economic growth drivers according to the policy of the Government.

#### **CONCLUSION:**

Thanks to the government's concerted efforts in boosting socio-economic recovery, in the context of the global economic downturn and the lingering impact of challenges on the recovery process, many international organisations continue to highlight Vietnam's positive



economic outlook in 2023. A proactive fiscal policy supporting short-term demand, removing barriers to the implementation of public investment, and addressing infrastructure constraints can help the economy achieve targets and promote long-term growth.

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# IMPACT OF TRADE BALANCE ON STATE BUDGET DEFICIT: INTERNATIONAL EXPERIENCE AND LESSONS FOR VIETNAM

MSc. Hoa Thi Nguyen<sup>1</sup>

*Abstract: State budget deficit is not a new story for countries around the world, especially in the context of economic crisis or serious epidemic. It is worth mentioning that, not only developing countries but even developed economies are also facing state budget due to revenue sources. Taxes decreased while expenditures (for health care, unemployment benefits, unemployment insurance, energy subsidies, etc.) were increasing. Each country with its own policies has its own methods to ensure the balance of the budget, including using the effects of the balance of trade. A trade deficit not only causes the country itself to find a way to solve it, but also affects partner countries. Therefore, this article aims to research international experience on the impact of trade deficit on state budget deficit in order to provide policy directions for Vietnam's international trade activities. This is an approach from theory to practice and inherits the results of implementation in other countries, on that basis, synthesizes experience and selects suitable solutions for Vietnam. The article uses purely qualitative research methods such as description, comparison and induction based on international experience.*

*Keywords: trade balance deficit, state budget deficit, import, export.*

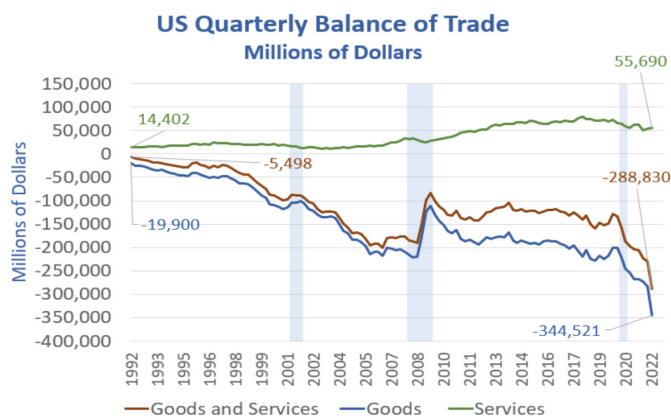
## 1. INTRODUCTION

Budget deficits are not a new story for countries around the world. The concern about “breaking” the balance of public budget is not a problem of only any country, especially in the context of economic crisis or the impact of the epidemic. It is worth mentioning that the budget statistics show that not only developing countries (India, Indonesia ...) but also major economies (USA, France, Germany, Russia, Italy...) is also facing a state budget deficit due to loss of tax revenue while expenditures (for unemployment benefits, unemployment insurance, energy subsidies...) are increasing. Each country with its policies has its own methods to ensure the balance of the budget, including using the effects of the trade balance. The deficit of the trade balance not only causes each country to struggle to find a solution, but also affects the partner countries. For example, due to the budget deficit, in 2020, the US Government believes that countries with a trade surplus have performed currency manipulation like the case of Switzerland and Vietnam in which the trade balance Bilateral trade deficit is one of the criteria considered in the investigation process. Therefore, studying the current state of trade balance deficit of countries that are important trading partners of Vietnam is an essential element in order to provide policy orientations for international trade activities of Vietnam.

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## 2. THE EXPERIENCE OF THE USA ON THE IMPACT OF TRADE BALANCE ON THE STATE BUDGET DEFICIT



USA is one of the typical countries with a trade deficit: in 2000, the deficit was about 30,000 million USD, continued to have a continuous deficit until 2006 (about more than 60,000 million USD). After that, the situation gradually improved in 2010 (a deficit of nearly 40,000 million USD) and was relatively stable in the period 2011-2014. From 2015 to 2021, there was a time when the 2021 (80.9%). (Do Phu Dong, 2022)

**Figure 1: Trade balance of the United States for the period 1992-2022 (billion USD)**

*Source: Bureau of Economic Analysis (2022)*

Since 2002, USA has experienced twin deficits, state budget deficit and trade balance deficit grew at the same time. To address the trade balance deficit, the USA follows the roadmap of reducing domestic demand and increasing demand from trading partners (Hong, P., 2001). In this context, there is also a misconception that the increase in exports from emerging economies caused the deficit to widen in recent times. Therefore, the Government has adopted a positive approach to address the trade deficit. For example, tariffs have been imposed on steel and alumina imports from Canada, Mexico and the European Union and a 25% tariff on \$200 billion worth of imports from China.

Before the Covid 19 pandemic, the US state budget was closely related to exchange rate. The US Dollar (USD) and Government Bonds (Government Bonds) have become a medium of exchange and store of value worldwide. Therefore, other countries in the world always have a high demand for holding USD and Government bonds. Since then, the gap between national saving and U.S. investment has widened. In addition, other factors such as domestic inflation (GDP deflation), labor productivity, domestic savings and fiscal policy (TKS) are additional causes contributing to the state budget (Nasir MA, Leung M., 2021). Ferrero (2010) pointed out that productivity growth and demographic factors are the main drivers of the US trade deficit with G6 countries (Canada, France, Germany, Italy, Japan and the UK). In addition, with the rise of China in the 21st century, along with the advantages of cheap labor, becoming the world's leading exporting country, the USA trade balance deficit even more (Kapustina et al., 2020).

In the context of the Covid19 pandemic that broke out in 2020 and lasted until now, personal savings decreased due to policies to cut workers and wages. According to a survey by Magnify Money (2020), more than a third of full-time workers in the USA have their salaries and bonuses cut. Besides, according to a report by the USA Department of Finance, investment at the end of 2020 increased by 6.15 trillion USD compared to the same period in 2019 (Magnify

Money, 2020). Thus, during a period of severe state budget deficit, private saving decreases and investment increases, which will also lead to trade deficit. In addition, by launching economic stimulus packages in the context of the pandemic, the USA Government has boosted people's consumption demand in the context of isolation, along with the echoes of the blockade policies that have made people switch from buying domestically produced goods to consuming imported goods. This makes the trade balance of USA goods have a heavy deficit.

## **2. IMPACT OF TRADE BALANCE ON THE STATE BUDGET DEFICIT IN CHINA**

China in recent decades has not had a problem with the state budget deficit when the economic growth rate is always high. However, with the impact of Covid19, China has faced a rather heavy state budget. For example, the state budget for the first 9 months of 2022 is 7.16 trillion yuan (about 980 billion USD)<sup>1</sup>. This is a record number and is almost triple the deficit of 2.6 trillion yuan (about 336 billion USD) in 2021. China has experienced massive tax cuts and a housing market crisis. persistently cut government revenue. After Shanghai and other major cities were "closed" because of Covid19 earlier this year, GDP almost stagnated in the second quarter of 2022. Activity in the service sector, which accounts for more than half of China's economy, saw a decline for the first time in major cities due to lockdowns imposed to contain the outbreak. Business activities became much more difficult, service industry profits decreased greatly because on-the-spot export activities could not take place, causing the revenue to be paid into the state budget also decreased significantly, causing the state budget deficit to increase.

## **3. IMPACT OF TRADE BALANCE ON THE STATE BUDGET DEFICIT IN OTHER COUNTRIES**

Many countries in Southeast Asia such as Thailand, Indonesia and Malaysia also suffered trade deficit during the 1990s. However, a strong trade surplus does not always equate to strong economic growth. For example, Japan has had a substantial trade surplus for most of the past decade, but for most of that time, its economy has also not been doing very well.

Likewise, Germany generally has a high trade surplus but moderate economic growth. There are two important reasons to explain this problem:

*Firstly*, compared to Germany's wages and production costs, the euro is too weak to match the country's equilibrium trade. In July 2014, the IMF estimated that Germany's inflation-adjusted exchange rate was undervalued by 5-15%. Since then, the euro has fallen another 20% against the dollar. The relatively weak euro is a disadvantage for Germany when it comes to joining a monetary union. If Germany still used the German mark, it would probably be much stronger than the current Euro, thus greatly reducing Germany's export cost advantage. (Michael McKeon, 2018)

*Secondly*, Germany's trade surplus widened as policies (such as fiscal tightening) constrained domestic spending, including spending on imports. Korea posted a trade deficit of \$3.8 billion in September 2022. The latest official data shows that the trade deficit in November 2022 amounted to 7 billion USD and the accumulated trade deficit has reached 42.6 billion USD since the first deficit in April 2022. Caused by the increasing value of Korea's energy

<sup>1</sup> <https://www.bloomberg.com/news/articles/2022-10-25/china-s-budget-deficit-nears-record-1-trillion-as-economy-slows#xj4y7vzkg>

imports, while the decrease in export value, mainly due to the sharp decline in semiconductor-related exports (Zhong Feiteng, CASS, 2022). At the same time, trade relations between Korea and other countries underwent major changes, leading to a trade deficit. In 2021, more than half of South Korea's trade transactions are conducted with China, the United States, Japan, Vietnam and Taiwan - accounting for 23.9%, 13.4%, 6.7%, 6.4% and 3.8%. In the first 9 months of 2022, China's market share fell the most (nearly 1.9%). The decline in Korea-China trade is one of the most important reasons leading to the country's trade deficit. But this is not only because China, but Japan, Australia and Singapore are also major contributors to Korea's trade gap deficit (\$42.5 billion) in the first nine months of 2022.

Thus, the balance of trade is an ideal model for the economy of all countries, but in reality, it is very difficult to achieve because the balance of trade is determined by many factors such as price, value, etc. currencies, exchange rates, inflation and economic policies of trading partners may be subject to change. Most countries have CCTM deficits or surpluses. Each country has its own reasons for this deficit or surplus, however, they all try to find a way to help balance the trade fair because a country with a trade surplus does not mean a growing economy. good (Japan, Germany). A country with a trade deficit must also find a way to rebalance the trade deficit because the trade deficit increases spending and increases debt, creating economic burdens for the national finance.

#### **4. LESSONS FOR VIETNAM**

*Firstly*, the Vietnamese government needs to have policies and strategies to attract direct investment from the USA. In the context that the USA-China relationship still has many tensions, USA businesses are moving to move production lines to Vietnam, trade deficit will be balanced because Vietnam needs to promote the import of raw materials. needed from the United States and still ensure that the low-VAT process is done in a developing country with the advantage of cheap labor like in Vietnam.

*Secondly*, continue to focus on exporting products in which Vietnam has strengths such as textiles, machinery, equipment, accessories and electronic components to the USA market. However, the USA is a demanding and demanding market, especially for consumer goods. Therefore, Vietnam needs to improve mechanisms and policies, prepare to welcome the wave of factory relocation from China to Vietnam so that it can take advantage of the opportunity to become the main manufacturer of USA enterprises.

*Thirdly*, the process of globalization and the high division of labor have made it cheaper to outsource or import semi-finished products from another supplier than to invest in producing those semi-finished products yourself and at the same time restructuring the links of suppliers has become the main trend in recent years. Thanks to the support of IT and the advancement of infrastructure, China has become a major supplier of raw materials and semi-finished products in the world.

*Fourth*, China has taken advantage of the latecomer in competitive advantages. Due to the policy of taking shortcuts, taking the right steps, China and India have focused on labor training and technology development in a number of fields and products in semiconductor, electronics and IT. Currently, China and India have really become the world's suppliers of this product, due to the comparative advantage of having an abundant and cheap labor source. In the past, these



sectors were the predominance of developed countries, but now due to high labor costs in these countries, the preparation of production facilities and labor force has not been commensurate with the development and development of the country. boom of these products has lagged behind China and India. Over time, China's domestic production facilities are able to produce more products that need to be imported (replacement of imported goods), on the other hand, there have been a number of brands, labels, and technological designs that have been purchased again by China.

## 5. CONCLUSION

A country's trade balance is a measure of its economic activity with the rest of the world, representing both cross-border trade in goods and services and primary and secondary income. A country's trade balance – the difference between exports and imports – shaped largely by domestic factors and more importantly by how they interact with similar factors in other countries. For example, goods produced in a certain country may enjoy a quality or price advantage over goods produced elsewhere. The higher quality or lower prices of those goods make them more competitive in the global market, increasing the demand of other countries for them as imports.

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# GOVERNANCE CHALLENGES TO THE CIRCULAR TRANSITION IN URBAN VIETNAM

Ph.D Bui Thi Thuy Nhi<sup>1</sup>

**Abstract:** *This document describes the main challenges that Vietnam's cities and regions are facing in the transition from a linear to a circular economy. By using the qualitative research methods (interview stakeholders; collect relevant information from secondary documents) and quantitative research method (surveys in 51 cities and regions), the article focuses on five main categories of gaps: policy, awareness, capacity, regulatory and funding. Major issues highlighted in the document are related to the weak vertical and horizontal coordination, which can inhibit a holistic approach to the circular economy, the need to raise awareness of the circular economy as well as to build capacities across public bodies and the business sector.*

**Keywords:** *circular economy, circular transition, governance challenges. . .*

## INTRODUCTION

A circular economy model is an economy built from a social production-consumption system that maximizes services by using cyclic material flows, renewable energy sources and cascade energy flows. Around the world, circular economy development policies in countries around the globe are at different stages. Vietnam has initiated a circular economy-oriented society with a number of specific actions and strategies. Vietnam has initially encouraged the reduction and utilization of resource consumption in many sectors of the economy and has achieved certain results. Local governments, especially in large cities in Vietnam, play an important role in policy implementation and in formulating a roadmap for the transition to a circular economy model. However, in the transition process, localities are facing certain difficulties and obstacles.

## 1. WHAT IS A CIRCULAR ECONOMY

A circular economy keeps materials, products, and services in circulation for as long as possible. It refers to an economy that uses a systems-focused approach and involves industrial processes and economic activities that are restorative or regenerative by design, enables resources used in such processes and activities to maintain their highest value for as long as possible, and aims for the elimination of waste through the superior design of materials, products, and systems (including business models) [1,6]. It is a change to the model in which resources are mined, made into products, and then become waste. A circular economy reduces material use, redesigns materials, products, and services to be less resource intensive, and recaptures “waste” as a resource to manufacture new materials and products. A circular economy approach demonstrates continuity with emphasis on reducing negative lifecycle impacts of materials, including climate impacts, reducing the use of harmful materials, and decoupling material use from economic growth and meeting society’s needs [14].

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**Second,** Provide financial incentives: Governments can offer financial incentives to businesses and consumers that adopt circular practices. For example, tax breaks, subsidies, and grants can be provided to businesses that invest in circular infrastructure or adopt circular business models. Financial incentives can also be provided to consumers who choose circular products or services, such as repair services or products made from recycled materials.

**Third,** Encourage collaboration and innovation: Governments can facilitate collaboration between different stakeholders, such as businesses, academia, and civil society, to promote innovation and knowledge-sharing. For example, innovation hubs can be created to support research and development of circular solutions. Additionally, governments can support public-private partnerships that promote circular practices, such as waste reduction or product redesign.

**Fourth,** Promote awareness and education: Governments can raise awareness and educate the public about the benefits of circular practices, as well as the costs of unsustainable behaviours. For example, campaigns can be launched to encourage consumers to reduce, reuse, and recycle, and to make informed choices about the products they purchase. Educational programs can also be provided to businesses and public institutions to promote circular thinking and practices.

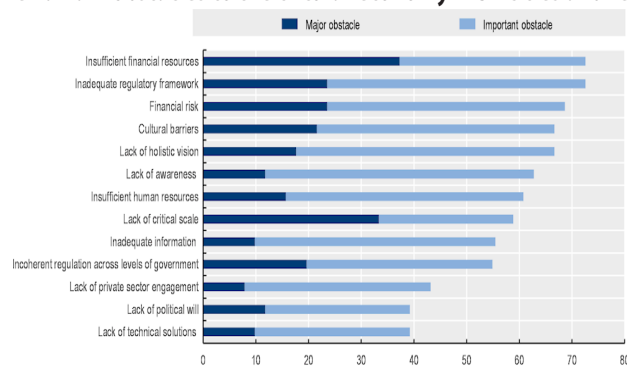
**Fifth,** Implement circular procurement: Governments can use their purchasing power to promote circular practices by procuring goods and services that meet circular criteria, such as recycled content or eco-design. By adopting circular procurement, governments can incentivize businesses to adopt circular practices and promote a circular economy.

In conclusion, the Circular Economy is a promising model for promoting sustainable development and addressing environmental and social challenges. To support this transition, governments must play a central role in creating policies and frameworks that incentivize sustainable practices, discourage wasteful behaviours, and promote circular thinking. By working together with businesses, civil society, and academia, governments can create a more sustainable future for all.

### 3. GOVERNANCE GAPS IN THE CIRCULAR ECONOMY

In the report *The Circular Economy in Cities and Regions* (OECD, 2020[14]) which , OECD has identified five types of governance gaps cities face when designing and implementing a circular economy (Figure 1). In particular, 51 cities and regions surveyed in OECD report highlighted the following gaps:

**Figure 2. Main obstacles to the circular economy in 51 cities and regions**



*Note: Results based on a sample of 51 respondents that indicated obstacles as being “Major” and “Important”.*

Source: OECD (2020[14]), *The Circular Economy in Cities and Regions: Synthesis Report*, <https://doi.org/10.1787/10ac6ae4-en>.

- *Funding gap*: Cities and regions face constraints in terms of insufficient financial resources (73%), financial risks (69%), lack of critical scale for business and investments (59%) and lack of private sector engagement (43%).

- *Regulatory gap*: Inadequate regulatory framework and incoherent regulation across levels of government represent a challenge for respectively 73% and 55% of surveyed cities and regions.

- *Policy gap*: A lack of holistic vision is an obstacle for surveyed cities and regions (67%). This can be due to poor leadership and co-ordination. Other policy gaps concern the lack of political will.

- *Awareness gap*: Cultural barriers represent a challenge for 67% of surveyed cities and regions along with a lack of awareness (63%) and inadequate information (55%) for policymakers to take decisions, businesses to innovate and residents to embrace sustainable consumption patterns.

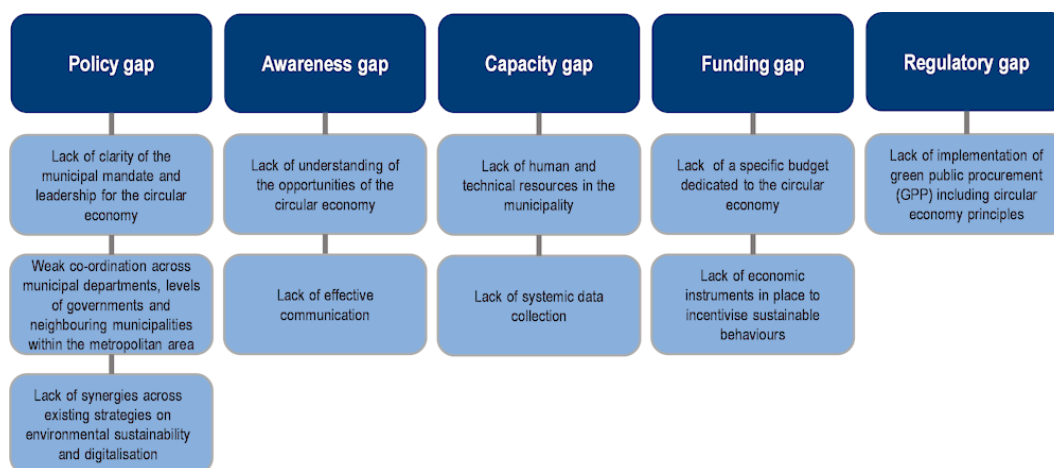
- *Capacity gap*: The lack of human resources is a challenge for 61% of surveyed cities and regions. Technical capacities should not just aim for optimising linear systems but strive towards changing relations across value chains and preventing resource waste.

#### 4. GOVERNANCE GAPS IN VIETNAM

In Vietnam, key governance challenges relate to: weak co-ordination among municipal departments and across levels of government, which may hinder policy coherence; the lack of awareness of policymakers, businesses and citizens on what circular economy entails; the lack of technical and human resources at the municipal level for linking existing strategies to a circular economy vision; the lack of economic instruments to incentivise sustainable behaviours; and the lack of circular economy principles in public procurement.

Figure 3 mentioned below provide a summary of the gaps, identified through adhoc interviews with more than 70 stakeholders in the cities.

**Figure 3: Governance gaps for a circular economy in Vietnam**



### ***Policy gap***

Policy gaps relate to the lack of leadership, co-ordination across municipal departments and levels of government, which in turn undermine policy coherence. As the circular economy is systemic by nature, a cross-sectoral approach is needed to ensure that the city rethinks urban policies and their relation with resource efficiency holistically, beyond the optimisation of the existing policies towards the achievement of targeted environmental goals, such as CO<sub>2</sub> emission reduction.

The mandate in terms of who is the lead institution for the design and implementation of a circular economy strategy in the city administration is yet to be defined. The development of a circular vision in Vietnam cities requires a clarification of the role of the municipality in the design and implementation of a circular economy vision, as well as a definition of the roles and responsibilities of the different municipal departments. In fact, the departments that have been mostly involved in the circular economy or how to transition towards the circular economy in the future, are those linked to public works and urban development, the economy, public-private companies, treasury and innovation and the environment. Strong leadership to accelerate the circular economy transition and horizontal coordination will be needed.

Municipal departments need to strengthen co-ordination to maximise synergies and investments for the circular economy. At present, there are neither incentives for horizontal co-ordination at the technical level, nor specific co-ordination mechanisms or joint programmes across municipal departments. For example, there is little connection between the urban planning and mobility departments (e.g. regarding the functions of managing and planning transport lines or measures aiming to reduce car use in the city that require co-ordinating public transportation policies with the use of parking lots and future car-sharing options). However, aligning these areas is crucial to develop sustainable and integrated urban development plans in a more circular way, for example, to change how city districts are designed, without necessarily creating additional infrastructure (e.g. by allocating existing parking lots for car-sharing and bicycles instead of private vehicles).

Policy coherence should be fostered in urban Vietnam. Recently, a lot of cities set up policies and plans to enhance environmental sustainability and digitalisation, such as the Strategy for Sustainable and Integrated Urban Development and Smart City Strategic Plan 2020. However, it is not clear how they are connected and how they would benefit from a certain level of co-ordination, in terms of investments, human and technical resources.

More effective co-ordination across neighbouring municipalities within the metropolitan area is needed. Within the metropolitan area, neighbouring municipalities hold responsibility for joint actions on public transport services, drinking water supply services and maintenance of the sewerage and wastewater treatment network, among others. However, each municipality makes individual decisions without a joint vision or plan. For example, in the case of waste sector, each municipality can hire its own waste collection service, which can hamper co-ordination for joint initiatives and economy of scale, while treatment is carried out within the provincial waste treatment plant located at another region.

### ***Awareness gap***



In Vietnam, the circular economy is an incipient concept that lacks full understanding from local authorities, the business sector and citizens. The university set up courses on the circular economy and carries out research on related topics, such as water and waste management, eco-friendly construction, sustainable materials, and plastics. However, beyond specific academic environments, there is a generalised lack of understanding of what the circular economy entails. The municipality focuses on green policies especially in regard to sustainable mobility since it represents an important priority for residents' well-being. Still, the large potential concerning closing loops in the touristic and hospitality sector, for example, which represents one of the most important economic sources of the city, is not integrated into local planning. The private sector shows some initiatives in relation to waste recycling, but there are no forms of collaboration across the value chain to close loops.

Communication about opportunities related to the circular economy is lacking. By 2021, several cities of Vietnam have set up a newsletter on the circular economy, which is a first step to raise awareness amongst citizens and engage them in public policymaking and implementation. As agents who can make a real change in the city, they must be empowered. Also, if the city is to develop a long-term vision of the circular economy, clear communication to the business sector, in terms of how the city is supporting circular economy-related activities, would be needed. A more fluid and structured communication channel across companies, universities and public administration is required to move beyond personal connection.

### ***Capacity gap***

The lack of understanding of the opportunities that the circular economy can provide is linked to the lack of human and technical capacities within the municipality. While the city has recently applied to international calls mainly on culture and digitalisation, less attention is given to major "green" initiatives and none on the circular economy. The transition towards the circular economy can be led and supported by a dynamic, competent and motivated team within the municipality.

There is room for systemic data collection that could improve the decision-making process of circular economy-related initiatives. The city has been recently working on developing a data system to incorporate environmental, mobility and energy consumption indicators. However, problems related to implementation are delaying its operability, mainly due to difficulties in reaching a high level of detail of some variables (e.g. noise, air quality level). When available, the platform should be able to show records of noise and air pollution levels, real-time traffic information, among others. Having an adequate information system that would facilitate measuring the progress made could help raise awareness towards more sustainable production and consumption patterns). A harmonised data platform could be used for taking decisions within the circular economy transition. The circular economy strategy in Spain uses an indicator system based on the European monitoring framework for the circular economy ([Box 1](#)).

The circular economy strategy in Vietnam measures the progress based on the monitoring framework for the circular economy by The Project of Circular Economy Development in Vietnam promulgated under Decision No 687/QĐ-TTg/2022 of the Prime Minister and National Strategy on Green Growth for the Period of 2021 - 2030, with a vision to 2050. Within this framework, the indicators to assess the implementation of the Vietnam's circular strategy, mainly based on as follows:



Area	Suggested indicators
Production and consumption	• Domestic Materials Consumption (Million tonnes)
	• Self-sufficiency in the production of critical raw materials in Vietnam (%)
	• Green public procurement (Number, VND)
	• Municipal waste generation per person (kg/inhabitant)
	• Waste generation (excluding waste from mineral waste) as a share of gross domestic product (GDP) (kg/VND)
	• Waste generation (excluding waste from mineral waste) relative to household consumption of materials (%)
	• Food waste (tonnes)
Waste management	• Preparing for reuse (%)
	• Municipal waste recycling rate (% (tonnes))
	• Recycling rate of waste excluding mineral waste (% (tonnes))
	• Packaging waste recycling rate (% (tonnes))
	Plastic packaging waste recycling rate (% (tonnes))
	• Recycling rate of wood packaging waste (% (tonnes))
	• Electric and electronic equipment waste recycling rate (%)
	• Organic waste recycling rate (kg/inhabitant)
• Construction and demolition waste recycling rate (NA)	
Secondary raw materials	• End-of-life product waste recycling rates (%)
	• Circular material rate (%)
	• Imports from third countries (NA)
	• Exports from third countries (NA)
	• Intra-Vietnam imports (NA)
	• Intra-Vietnam exports (NA)
Competitiveness and Innovation	• Gross investment in tangible goods (%)
	• Number of jobs (%)
	• Value-added at factor cost (%)
	• Patents related to recycling and secondary raw materials as a proxy for innovation (Number)
Climate change	• Greenhouse gas contribution in the waste sector (CO <sub>2</sub> eq (kt))

In 2017, the Cotec Foundation, a non-governmental organisation to promote innovation, presented the report *The Circular Economy in Vietnam*, which analyses the state of the art and evaluates the circular transition in the country [10]. The document proposes the following indicators:

Area	Suggested indicators
Input material	• Resource productivity: Relationship between GDP and material consumption (USD/t)
	• Raw materials consumption: Domestic consumption of raw materials (NA)
	• Domestic material consumption: Materials used in direct domestic extraction and direct consumption activities in an economy (Million tonnes)
	• National materials requirement: Accumulated mass of primary materials extracted from the natural environment by economic activities (Million tonnes)
	• National extraction of materials: Material flows extracted from the territory for further processing or consumption (Million tonnes)
Ecodesign	• Life cycle durability: The period of time from the manufacture of a product to its last effective use (Months, years)

Production	• Waste generation by sector: Share of waste generated by each productive sector ((Tonnes/total), %)
	• By-product exchange: Share of waste generated by each production sector, by-product groups ((Tonnes/total), %)
Consumption	• Consumer waste generation: Share of waste generated for each unit of materials consumed ((Tonnes/total), %)
Recycling	• Recycling rate by waste category: Percentage of waste recycled ((Tonnes/total), %)
Energy	• Energy intensity: Ratio of energy consumption to the volume of economic activity (E/VND)
	• Renewable energy: Share of renewable energy use in total energy mix
Climate	• Carbon intensity: Total carbon emissions to GDP (tCO <sub>2</sub> /VND)
Water	• Reused water resources: Share of water reused (m <sup>3</sup> , (%))
Land	• Built-up area: Total urbanised area (km <sup>2</sup> )
Food	• Reduction of food waste (NA)
Built environment	• Energy efficiency in buildings (NA)
Innovation	• Research and development (R&D) in the circular economy (NA)
Taxation and pricing	• Tax on waste (NA)
	• Tax incentives for by-products (NA)
Tourism	• Waste flows generated as a result of tourism (NA)
Source: The Circular Economy in Vietnam, <a href="https://cotec.es/proyecto/informe-economia-circular-2017/">https://cotec.es/proyecto/informe-economia-circular-2017/</a> ; Government of Vietnam (2020), Monitoring Framework for the Circular Economy, <a href="https://gov.vn/environment/circular-economy/pdf/monitoring-framework.pdf">https://gov.vn/environment/circular-economy/pdf/monitoring-framework.pdf</a> .	

### ***Funding gap***

There is neither a specific budget allocated for the transition towards a circular economy, nor specific funds dedicated to the promotion of a circular economy. Vietnam cities should have explored opportunities for funding options to enable the transition towards the circular economy. The cities should subsidise projects related to the circular economy (whether concerning a new design for more durable products, use of secondary materials in production processes or transformation of waste into resources). The grants help companies start their businesses, although further measures would be needed to scale up the activities and their financial sustainability over time.

There are no economic instruments in place to incentivise sustainable behaviours. For example, the waste fee is not exclusively based on criteria to reduce waste production, since households pay according to the category of street in which they are located, with a total of seven different grades. Some cities over the world have put in place discounts, environmental taxes and differentiated tariffs. For instance, with the aim of stimulating the separate disposal of food waste, many cities of Finland have provided households with a specific organic waste bin located in the street and unlockable through a personal magnetic card. The use of this special bin is associated with a 15% bonus on the fee to be paid for the provision of the garbage collection service. In order to get the discount, users have to use this container at least 4 times a month for 10 out of 12 months of the year. In Kitakyushu, Japan, the city applies the “environmental tax” imposed on the landfill of industrial waste. Since the tax is not levied on intermediate treatments, it is also expected to promote company recycling activities and reduce any waste generated by them. Another example, the Dutch government implements the DIFTAR system, a collecting scheme based on differentiated tariffs, which provides incentives to improve waste separation at source. This scheme enables authorities to charge for the amount

of waste generated while rewarding the effort of people who minimise waste and maximise separate collection [15].

### ***Regulatory gap***

In Vietnam, green public procurement (GPP), including circular economy principles, is not yet implemented significantly. While the guidelines for municipal procurement of the municipality incorporate some specific environmental objectives (e.g. emission of noise, gases or other pollutants, energy consumption, disposal, decommissioning or recycling costs, etc.), there is no mandatory minimum threshold for environmental criteria in public procurement processes. The central and local governments should have to prioritise GPP, increase by an extent of the number of companies that integrate environmental factors and costs in the production of goods, supplies, services and works and raise awareness of the benefits of GPP in the adoption of sustainable consumption and production models.

### **Conclusion**

In summary, to develop a circular economy in Vietnam, it is necessary to summarize and evaluate existing development models, thereby identifying development methods close to the circular economy approach as a basis for development. developed according to the criteria of circular economy. It is necessary to be aware of the opportunities to take advantage of these opportunities, on the other hand, we must also see the challenges to circular economic development that will be encountered in order to take corrective measures. Most importantly, there needs to be a clear legal corridor for the formation and development of a circular economy, from the Party's policies to the State's laws.

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# ENVIRONMENTAL MANAGEMENT ACCOUNTING IN VIETNAMESE ENTERPRISES – CURRENT PRACTICES AND RECOMMENDATIONS

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**Abstract:** *In this paper, environmental management accounting (EMA) will be viewed under various perspectives from many researchers. The role of environmental management accounting is also clarified to support policy makers, businesses and socio-economic organizations and the Government. Especially, current environmental management accounting practices are also under research before proposing several suggestions to improve environmental management accounting in Vietnamese enterprises.*

**Keywords:** *Environmental management accounting; environmental management accounting information.*

## 1. INTRODUCTION

Over the past two decades, the environment has become a global issue. The change in awareness of corporate social responsibility has placed traditional accounting in enterprises in a challenge: how environmental factors could be taken into account? not only through the traditional role of recording and reporting financial information, but also demonstrating the role of accounting as an effective aid tool for managers in managing environmental issues within each economic unit. In that context, the introduction of environmental management accounting (EMA) is inevitable to meet the requirements of environmental information in the operation of the units both in theory and in practice. EMA in the enterprise is a component of accounting related to information on environmental activities within the enterprise in order to collect, process, analyze and provide environmental information to entities in and out of the enterprise about the environment used by businesses to make decisions.

EMA was first mentioned in Norway, in the early 1970s. Up to now, EMA is considered as an economic tool with many utilities and is widely applied in developed countries such as the US, Europe, Japan and also Vietnam. However, depending on the level of development and government regulations in each country, the practice of EMA in each country is different. This paper will discuss the current practices of EMA in Vietnamese enterprises and proposes several related suggestions.

## 2. METHODOLOGY:

The main research methods are synthesis, analysis and evaluation. The research method is mainly a qualitative method to solve the research objectives; including reference to documents, relevant documents, practical observations, typical case studies of the estimating system and interviews with a number of individual managers and experts. Research results

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help: (1). Collect basic information for research orientation; (2). Collecting information to design questionnaires for research; (3). Determine the direction to propose perfect solutions according to the set goals.

Based on the research objectives, the research team conducted research on legal documents on accounting, Decrees, Circulars, Regulations, and organizational charters of enterprises in the research sample, books, newspapers and specialized scientific magazines write about financial accounting and management accounting, especially articles about environmental management accounting.

### **3. LITERATURE REVIEW**

Regarding environmental management accounting, research focuses on the following contents: environmental cost classification, environmental management accounting methods, environmental management accounting information and treatment, analyze and provide environmental information for business management.

Christian Herzig et al (2012) mentioned 12 case studies carried out in companies in 4 countries, namely Indonesia, Philippines, Thailand and Vietnam, the author said that environmental management accounting plays an important role in environmental management. enabling and facilitating the integration of environmental considerations into management decisions and promoting economic and environmental performance of an enterprise. Sharing the same view, Boutilier (2017) said that in the coming years, environmental accounting will play an increasingly important role in accounting, stemming from the increasing market demand for reporting. presenting environmental information, the trend of implementing sustainable development-oriented business strategies and the efforts of professional accounting agencies in researching and promoting environmental accounting towards globalization in this field.

USEPA (1995), UNDSO (2001), JMOE (2005) and IFAC (2005) presented the concept of environmental costs and classified environmental costs and environmental income. However, regarding the classification of environmental costs, there is no consensus among organizations because according to USEPA (1995), environmental costs are classified into 4 types, according to IFAC (2005), it is classified into 6 types, while JMOE (2005) divided into 7 types. Schaltegger and Burritt (2000), Burritt et al (2002) believe that environmental management accounting information, including environmental physical information and environmental monetary information, helps businesses determine environmental information. comprehensive environment in terms of scale and level of environmental impact. Through case studies, Qian et al (2011) demonstrate that physical information and environmental monetary information for direct waste management and recycling activities are higher than for indirect activities and external (future environmental costs) at 12 local governments located in the state of New South Wales.

According to Buch-Hansen, Mogens, three main factors that are often studied are: (i) the emergence and prospects of environmental accounting; (ii) management accounting methods and practices applied to the environment and (iii) principles of financial accounting dealing with environmental aspects.

UNDSO (2002), issued "Environmental Management Accounting Procedures and Principles", which focuses on principles, procedures, and methods to quantify environmental



costs to provide information in making decisions within the unit. Methods used in environmental management accounting include: material flow accounting method, activity-based environmental cost determination method, cost flow accounting method, classification of environmental costs in business. However, the document does not provide guidance on methods to collect, systematize, process and provide environmental cost information for decision-making within the unit.

Pham Quang Huy (2017) commented that businesses need to consider and address economic profit goals and environmental impact goals side by side. From there, businesses need to have solutions in the business process to clearly identify income factors and costs arising from the business's responsibility towards the environment, and at the same time need to recognize these factors. However, the author has not mentioned environmental management accounting models and methods in businesses

In addition, some researchers have focused on processing and analyzing environmental management accounting information through advanced environmental cost allocation methods such as material flow cost accounting method, ABC method, product life cycle cost, total cost assessment method or environmental performance analysis (Pham Hoai Nam, 2016; Hoang Thi Bich Ngoc, 2014; Le Thi Thanh Tam, 2016); showed that environmental costs are reflected in the general account and allocated according to traditional methods; environmental costs have not been tracked on detailed books, no separate environmental cost estimates and limited environmental performance assessment.

#### **4. THE CONCEPT OF ENVIRONMENTAL MANAGEMENT ACCOUNTING**

Currently, environmental management accounting has received interest from many organizations, researchers, and business executives around the world. There are many different perspectives on environmental management accounting.

According to Bennett and James (1998), environmental management accounting is the discovery, analysis and use of financial and non-financial information to optimize an enterprise's environmental problems and financial performance, which help businesses achieve sustainable development in business.

According to the United Nations Sustainable Development (2003), environmental management accounting is the identification, collection, analyzation and usage of environmental information for internal decision making. Non-monetary information about the usage, circulation and disposal of energy, water and materials (including waste) and monetary information about the costs, profits and savings associated with environment.

According to IFAC (2005), environmental management accounting is the process of managing economic performance and environmental performance through the development and application of an accounting system in accordance with environmental issues. While environmental accounting in enterprises can generally include both financial accounting and environmental auditing, environmental management accounting usually only deals with life cycle costs, full cost accounting, benefit assessment and strategic planning for environmental management.

According to Jones (2010), environmental management accounting is one of the effective tools to support the implementation of innovative initiatives, to support the implementation of the environmental management system, to help build information environment for businesses and the selection of indicators on environmental performance.

Nguyen Thi Kim Tuyen (2020) said that environmental management accounting provides environmental information in internal environmental reports as response to the request of executives to effectively manage environmental performance and economic performance

There are many different views on EMA, the views represent different views of each researcher in a different aspect. However, they are not contradictory but also complement each other to create a comprehensive view of EMA in enterprises.

## **5. CURRENT ENVIRONMENTAL MANAGEMENT ACCOUNTING PRACTICES IN VIETNAMESE ENTERPRISES**

### **5.1. Current practices on setting a system of standard costs and estimations for environmental activities**

#### *About setting standard environmental costs*

Using the survey sent to enterprises in the research sample, most enterprises have made the standard costs for production activities, including environmental costs (without separation). For environmental costs, only a few enterprises set their own standard costs. The standard costs of enterprises are usually set up, including two factors: the standard of quantity and standard of price. The basis for enterprises to determine the standard cost is based on the performance results of the previous year, the economic-technical criteria and standards prescribed for a number of factors to build the standard of factors. Enterprises often rely on the costs of the previous period, based on the standards of the quantity of raw materials, the salary regime and the deductions according to the salary, etc., proceed to develop the standard costs. The construction, management and use of the system of standard costs and estimations in the enterprises of the research sample meet the requirements of corporate governance.

According to survey results, the number of enterprises that set their own environmental standard cost is only 13/172 enterprises (accounting for 7.56%), mainly large-scale enterprises such as Viet Bac Mining Industry Corporation, Viet Bac Chemical Corporation Petroleum Quality and Services, Ha Giang Mechanical and Minerals Company, Central Pharmaceutical Joint Stock Company 1, etc.

Standard costs are often set by enterprises, including two elements: standard quantity and standard price. The basis for businesses to determine standard cost is based on the performance results of the previous year, economic and technical indicators and standards prescribed for a number of factors to set standard quantity. Standard price are determined according to market values at the time the standard are established.

#### *About setting environmental cost estimation*

In general, enterprises also only make estimates for production and business expenses, including environmental costs. In the process of making estimates, businesses mainly rely on experience and market research to see the influencing factors to determine the estimate. This leads to a number of estimates being made that are baseless, unreliable and sometimes misleading. Therefore, affecting the implementation of estimates and plans set out.

Enterprises have attached great importance to the preparation of production and business cost estimates and have fully implemented the estimates for the plan year, serving as a basis for the management and administration of production and business activities. However, some industrial enterprises in the field of mineral exploitation, fertilizer and chemical production, etc., when making cost estimates, only make cost estimates according to cost elements or items, not division of expenses. costs into variable and fixed costs. Moreover, the majority of enterprises only make annual estimates, so the impact on the information supply of management accounting is not regular, inflexible, not closely followed the information use needs of the companies. administrators. Therefore, production and business estimates are not feasible and do not have much effect in corporate governance.

## **5.2. Current practices on identifying and recording environmental costs**

The main purpose of EMA is to obtain the best environmental information to support the decision making of enterprise managers to achieve environmental efficiency and economic efficiency in production and business. However, at present, most enterprises are still influenced by traditional management accounting. Therefore, the information on EMA is mainly identifiable information such as: waste treatment costs, environmental prevention and management costs, taxes, environmental protection fees, and factory cleaning costs, environmental monitoring costs, etc. Many hidden environmental costs in production and business costs have yet to be identified. Especially, the majority of businesses have not paid attention to environmental physical information such as the flow of materials, water and energy in the production process or the amount of waste generated.

- Environmental protection tax and fee for wastewater: determined according to the provisions of Decree No. 25/2013/ND-CP; environmental protection fee for solid waste: implemented on the basis of Decree 174/2007/ND-CP; environmental sanitation or waste treatment costs: expenses for hiring functional agencies to handle domestic and industrial waste (hazardous and non-hazardous waste) of enterprises, costs for the collection department, preliminary treatment of waste in the enterprise (the cost of buying waste containers, tools for transporting waste to the gathering place).

- Depreciation cost of wastewater treatment equipment;

- Cleaning costs, including costs for cleaning the surrounding landscape such as: costs of hiring a functional unit to clean, cut grass, plant and take care of trees and flower gardens around the business area;

- Environmental monitoring costs (environmental monitoring costs) such as: the cost of hiring a functional agency to conduct environmental monitoring twice a year or voluntary according to the environmental policies of some companies;

- Labor safety expenses, such as labor protection expenses, tools and tools for occupational safety, etc.;

- Other environmental costs such as: costs of surveying occupational hygiene conditions, costs of hiring competent agencies to survey occupational hygiene and safety conditions of enterprises; the cost of killing insects (the cost of hiring a functional unit to kill insects:

cockroaches, termites, mosquitoes...) around the business area; costs of waste treatment, costs of pollution remediation, costs of training environmental officers at enterprises, costs of operating waste treatment equipment systems, expenses for regular environmental protection activities at enterprises, etc. At enterprises, the costs incurred related to environmental activities are included in the general production costs and administrative expenses. The environmental costs incurred in these enterprises are determined according to the same principles as the enterprise's production and business. Expenditures for environmental activities at enterprises are determined on the basis of solid evidence that costs have been incurred. Thus, the costs identified as environmental costs at enterprises today are merely the costs of outsourced services (hiring functional units to provide environmental services) and other monetary costs to serve them environmental service. Depending on the size, field of operation and management requirements of each enterprise, environmental cost is recognized at different levels.

In fact, these enterprises mainly identify the following environmental costs:

- For taxes and environmental protection fees: these are related to the environment arising at enterprises, including: water supply and drainage fees based on the amount of water used, industrial waste fees, transportation fees waste transfer and solid waste treatment fee based on the volume of waste.

- As for the depreciation expense of waste treatment equipment: the depreciation expense of fixed assets belonging to any workshop, the accountant shall make a table of depreciation of fixed assets, then proceed to allocate according to the output for each type of product.

- For cleaning labor costs: are the wages paid to the daily cleaning and solid waste collection workers that are contracted by enterprises with a contract salary according to the agreement.

- For other service costs: other outside service costs, including the cost of stationery, telephone, mail, conference, reception, etc. incurred at the environmental management department.

- The environmental management department at enterprises includes those who perform environmental management in general, advise and propose measures to reduce waste, dust, inspect, assess the impact on the environment on an annual basis, build and inspect the fire prevention and fighting work at the unit.

One of the methods to record and gather information about environmental management accounting today is to establish responsibility centers, including revenue responsibility center, cost responsibility center, investment responsibility center, profit responsibility center.

### **5.3. Current practices on processing and analyzing environmental management accounting information**

One of the important contents in processing and analyzing environmental management accounting information is the analysis of environmental cost indicators and environmental efficiency indexes. The actual survey of enterprises shows that most of these enterprises are not fully aware of the importance of analyzing environmental management accounting information. According to accounting data, environmental efficiency at enterprises is mainly an absolute indicator of waste treatment costs, including hazardous waste treatment costs, ordinary waste treatment costs, and cleaning fee, etc. without relative index. This shows that

businesses only focus on controlling costs at the end of the pipeline, without synthesizing and using environmental performance indicators for analysis and decision-making. Specifically, if according to the accounting method of material flow at enterprises producing and processing minerals, food processing, cement production, etc., accountants have tracked the flow of materials and waste for each producing process. In these enterprises, the balance of materials, in fact, is a quantitative inventory tool of materials used at each stage of production and used to evaluate clean production, because through that, it is possible to quantitative the losses or emissions, cost-benefit assessment of clean production solutions.

#### **5.4. Current practices on environmental management accounting reports and analysis**

Information about cost management accounting in general and environmental cost management accounting in particular through management reports is essential for business managers in making decisions. Most businesses believe that the accounting system of the unit needs to provide environmental cost information to serve managers in decision making.

Currently, the attention to the preparation of the environmental cost management accounting report is still limited. Although there are many enterprises that have not yet prepared an environmental cost management accounting report, in these enterprises there are still a number of reports prepared by the environment department, that is, an environmental impact assessment report.

Regarding the analysis of EMA reports: according to the Vietnamese Accounting Law, accountants in enterprises, in addition to receiving, processing, systematizing and providing information must also perform the function of analyzing information in order to evaluate the implementation of norms, plans and estimates and advise managers to make appropriate economic decisions. Most businesses also only perform periodic analysis (quarterly, annually) and only analyze some basic indicators to make general evaluation comments, mainly comparing actual data with the forecast. accounting/planning for a number of basic indicators, “traditional” contents; have not analyzed deeply and meticulously and found the reasons for those results. In most surveyed enterprises, the analysis, if carried out, will only be done after the end of the business process, not before and during the implementation of the estimate.

## **6. ASSESSING THE CURRENT PRACTICES OF ENVIRONMENTAL MANAGEMENT ACCOUNTING IN VIETNAMESE ENTERPRISES**

### **6.1. Achievements**

Enterprises have paid attention to the setting of standard costs and cost estimates, although many enterprises have only made general estimates in production and business costs. Although the management accounting report has not been prepared in a complete and comprehensive way, most of the enterprises have also reflected some information for the preparation of the environmental impact assessment report. From there, ensuring that accounting is really an effective management tool

### **6.2. Limitations**

EMA in the enterprises in the research sample still have some limitations, such as:



The preparation of EMA reports in enterprises is still limited. These enterprises do not manage environmental information and use environmental information for economic decision making even though enterprises in environmentally sensitive industries face uncertainty about environmental legal documents, about the depletion of natural resources, etc.

The analysis of environmental information in enterprises only stops at general analysis, not specific, so the information for decision making of managers is very limited.

### **6.3. Causes of limitation**

*Firstly*, Vietnam haven't had specific guidelines on the implementation of environmental accounting, lack of environmental accounting standards makes environmental information lack transparency, completeness and reliability for information users. The current implementation of environmental audit in enterprises is mainly carried out according to environmental legal documents and traditional accounting regulations, so the recording, measurement and provision of environmental information that these enterprises provide have not yet ensured the accuracy and completeness.

*Secondly*, the awareness of environmental protection of business managers is still limited, mainly due to compliance with environmental regulations rather than implementation of initiatives and improvements to prevent pollution and reduce waste. The implementation of environmental audit of enterprises is mainly due to coercive pressure from State management agencies rather than proactively managing the environment. The implementation of environmental audit of enterprises is mainly due to coercive pressure from State management agencies rather than proactively managing the environment, integrating environmental information in business management or providing a lot of useful environment information to support stakeholder decision-making. Therefore, environmental accounting in enterprises has not received attention and promotion from senior management

*Thirdly*, the level and capacity of accounting staffs is also one of the reasons affecting the inadequate implementation of environmental accounting in enterprises. The majority of accounting staff in enterprises have not been properly trained in environmental accounting. With existing traditional accounting knowledge, accounting staffs at these enterprises have not yet used advanced methods to allocate environmental costs more accurately, have not actively developed estimates, environmental performance indicators, etc. in order to bring benefits to enterprises from effective environmental management, waste reduction, and environmental cost reduction.

*Fourthly*, EMA is a relatively new concept of accounting, bringing multi-dimensional information and great benefits to enterprises in environmental protection activities. However, there is no encouragement from State management agencies through propaganda, promotion, implementation of pilot projects, etc. especially small and medium enterprises when facing great cost pressure while financial resources are still limited;

*Fifthly*, EMA has many different technical tools, especially effective management tools such as environmental performance analysis, balanced scorecard, etc., which are quite new to Vietnamese enterprises in general and enterprises sensitive to the environment. in particular. This is due to the lack of academic support as well as environmental accounting practice from professional associations of accountants, training organizations as well as State management agencies.



*Sixthly*, the coordination and combination between the accounting department with the technical department, the environmental management department in the organizational structure of enterprises is still inadequate. This is one of the reasons that make environmental information difficult to quantify. Accountants do not have a comprehensive view of arising environmental information, especially hidden environmental costs in accounting accounts.

## **7. SUGGESTIONS TO ENHANCE ENVIRONMENTAL MANAGEMENT ACCOUNTING PRACTICES IN VIETNAMESE ENTERPRISES**

### **7.1. Improving the recording of environmental management accounting information**

EMA aims at better environmental management measures based on prevention principles rather than waste control and treatment measures. EMA looks at where waste comes from and how to prevent it, which helps to significantly reduce environmental cost when measures are taken at the source. This requires businesses to have comprehensive environmental information. Currently, most businesses only focus on information believe money bad lip school, cancel via pine believe object physical lip school can presently works dynamic of enterprises to the environment. Therefore, these enterprises need to supplement physical environmental information because of the direct and indirect benefits that it brings to stakeholders. Therefore, depending on the characteristics of each business field, especially those that are highly sensitive to the environment such as stone and titanium mining enterprises, it is necessary to publish more physical and environmental information showing the impact of the environment. businesses to the natural environment.

### **7.2. Improving the reporting, providing and analyzing information environmental management accounting**

#### *Prepare environmental management accounting reports*

The information on the EMA report is usually prepared on the basis of the information provided by the environmental management accountant and made according to the requirements and management purposes of the management levels in the enterprise to make appropriate economic decisions. Therefore, the EMA information provided by this report must be consistent with the needs and goals of the management as well as each specific business decision of the administrator.

Management in enterprises includes basic functions such as planning, estimating, organizing implementation, checking and evaluating and making decisions. Accordingly, with the role of providing necessary information for managers, the EMA report must provide information on norms, estimates, information on the implementation situation, and analysis and forecast information to reduce costs and increase profits. However, in reality, in enterprises today, EMA and making EMA reports in general have not been given due attention, greatly affecting the effectiveness of corporate governance for these indicators.

The EMA report is designed, prepared and presented to be flexible, not uniform and comply with the financial statements. The number and format of EMA reports not only varies between enterprises, but can also vary between departments and stages of an enterprise. However, based on the basic requirements and principles of the completion and basic functions of enterprises, the EMA reports of these enterprises should be completed with the following contents:

+ The information on the EMA report must be divided into criteria in accordance with the criteria for evaluating information in each different economic situation.

+ The indicators in the report must be closely related to each other.

+ Actual data, estimates, standards or predetermined targets in the report must ensure comparability to help managers use the information to perform operational control functions in an effective and reliable way.

+ The form of the report structure should be diverse and flexible depending on the criteria for evaluating the information in each report for each specific economic situation.

+ The targets in the performance report should be distributed by area, location, time, department...

For the time to prepare the EMA report, enterprises should prepare weekly, monthly, quarterly and annually depending on the purpose and requirements of the administrator to ensure the provision of information on environmental costs and timely and appropriate environmental income.

Environmental management accounting report or internal environment report, is a means of disclosing environmental information inside the enterprise at the request of the administrator, so depending on the management characteristics and requirements of the administrator to establish the content and internal environment report form accordingly. Environmental information in internal environmental reports, including both physical and monetary information. However, the most important information is still information about environmental costs serving managers so that they have a basis for decision making. On the basis of allocating environmental costs according to the methods presented, enterprises can make some internal environmental reports related to environmental costs as shown in the table below.

**Table 1: Environmental Cost Report by Activity Level**

Environmental costs	Production process			Product		Waste
	Phase 1	Phase 2	...	A	B	
I. Environmental costs related to waste						
1. Material cost in waste						
2. Waste related energy costs						
3. Waste related water costs						
4. Depreciation of fixed assets related to waste						
5. Labor costs related to waste						
II. Cost of treatment, environmental control						
1. Waste material cost						
2. Waste treatment labor cost						
3. Cost of equipment, waste treatment works.						
4. Cost of outsourcing waste treatment						
5. Post-mining environmental restoration costs						
6. Cost of compensation for spills (if any)						
III. Cost of environmental management						
1. Cost of making an environmental impact assessment report.						
2. Environmental restoration scheme and plan.						
3. Environmental monitoring report.						

4. Cost of environmental training.						
5. Expenses for planting trees on enterprise premises.						
6. Expenses for maintenance of machinery and equipment.						
7. Labor protection costs.						
IV. Environmental research and development costs						
1. Expenses for supporting environmental initiatives.						
2. Investment cost of waste recycling technology.						
V. Expenses for social activities						
1. Infrastructure fee						
2. Local fee						
.....						
Total _						

**Table 2: Environmental cost savings report**

Content	Quantity	Value	Cost savings		
			Materials/energy	Labor	Capital
IV. Environmental research and development costs					
1. Expenses for supporting environmental initiatives.					
2. Investment cost of waste recycling technology.					
V. Expenses for social activities					
1. Infrastructure fee					
2. Local fee					
.....					
Total _					

*Analysis of environmental management accounting information*

In order to provide suitable environmental information for decision-making of managers in enterprises, analysis of EMA information is a tool to meet that. The sources of materials used in the analysis are EMA reports and other relevant actual documents. Therefore, it is necessary to organize the collection of these documents for analysis, first of all, to complete the analysis process as follows:

**Table 3 : Process of analyzing environmental management accounting reports**

No.	Contents	Implementation
1	Analytical preparation work	Planning analysis + Based on the results achieved in the previous period, taking into account the potential factors and objectives of the next period to make an analysis plan: determining the time and scope of the analysis; collection of resources; department/person responsible for analysis. . . submit to leaders for approval; + After the plan is approved, it is necessary to prepare analytical personnel, these personnel are employees of the departments in charge of EMA; + Collecting documents, including documents on estimates, actuals and other relevant documents inside and outside the enterprise; define analytical targets;
2	Perform analysis	Calculating and analyzing relevant indicators of the EMA report; On the basis of the analytical criteria, use appropriate methods for each criterion and make written evaluation comments;
3	Report analysis results	The results of the analysis are reported to the management in detail with written presentations as a basis for decision making.

The contents of the analysis of EMA reports are determined, including:

*Planning analysis.*

In the planning stage of analysis, it is necessary to pay attention to the problem of determining the source of analytical materials, the criteria for analysis, the time of analysis and the person performing the analysis.

For analytical documents, it is necessary to prepare fully, including EMA reports, collect actual information related to the current state of environmental accounting as required by the analysis to ensure the truthfulness of the analyze result.

+ *Executing the analysis plan*

After the analysis plan is approved, the analysis of EMA reports is carried out by professional people doing the analysis of the enterprise or by professional persons hired by the enterprise to practice. However, in reality, it is usually the chief accountant , general accountant or the person authorized by the chief accountant.

- When analyzing the EMA report, it is necessary to analyze the fluctuations of each relevant factor such as:

- + Analysis of environmental costs fluctuations related to waste such as cost of materials in waste, cost of energy; environmental control treatment costs; costs of environmental prevention and management; costs for environmental research and development and costs for social activities related to the environment. The important goal of analyzing the fluctuations of environmental costs is to control this cost factor to see how the actual difference is with the estimate according to the influencing factors, thereby taking timely remedial measures.

+ *Prepare analysis reports*

After the analysis is completed, the analyst should prepare an analysis report. The analysis report must show both the content of the results of the analysis data of each analytical criterion, both in terms of the text describing the current state of the analysis, the advantages and disadvantages in the process of implementing the analytical indicators. and propose the main recommendations to effectively implement the analysis criteria.

## **CONCLUSION**

This paper gives a presentation and analysis of the concepts of EMA. At the same time, this paper clearly analyzes the meaning of EMA for those involved in the development of relevant policies, for businesses and for the State. Also, this paper examines current practices of environmental management accounting then propose some suggestions to enhance it in Vietnamese enterprises.

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# FACTORS IMPACT ON AUDIT QUALITY: THE CASE OF LISTED COMPANIES IN VIETNAM

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*Abstract.* The purpose of this article is to study the factors affecting the quality of audit services of financial statements of enterprises listed on the Vietnamese stock market by independent auditing firms. The study was carried out with an audit of the financial statements of 825 enterprises listed on the Vietnamese stock market. The research results show that a number of factors have a significant influence on the quality of the audit of financial statements, such as the size and reputation of the audit firm, the tenure of the audit firm, and the auditor independence.

*Keywords:* Audit quality, Audit Firm Reputation, Auditor Independence, Audit Firm Tenure.

## 1. INTRODUCTION

Audit reports are an important basis for information users to make appropriate economic decisions. In order to maintain the position of audit in decision-making, audit quality is a top priority. However, many scandals of major auditing companies in the world in recent years have raised questions about audit quality. There are many reasons that seriously threaten audit quality. It can be seen that high audit quality will increase the reliability of financial reporting information and this is very useful in helping shareholders and investors estimate the value of the company more accurately (Behn, B., J. Choi et al., 2008). However, how to measure the quality checked is not easy and extremely complex. Besides the factors that can be identified as having an impact on audit quality such as the size and reputation of the audit firm, audit fees, independence and competence of the auditor, there are still weak prefix cannot be determined. Even though these factors have been identified, their measurement remains controversial.

In Vietnam, the financial statements of listed companies are required to be audited. And not all auditing firms in Vietnam can audit the financial statements of listed companies. Only qualified auditing firms as prescribed by the Vietnamese Ministry of Finance can audit the financial statements of listed enterprises.

In that context, the study of factors affecting the quality of financial statements audit is extremely important and necessary to improve the quality of audit services. Studies on audit quality in the world have been carried out by many researchers. In Vietnam, although there have been a number of authors studying audit quality, audit quality has not been specified and clearly defined in existing studies. The direct measurement of audit quality in Vietnam is complex and cannot be measured clearly. In addition, many factors contributing to audit

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quality are not disclosed and lack of information to find out. Therefore, the study of factors affecting audit quality is extremely topical and urgent for Vietnamese auditing firms in order to improve the quality of audit activities.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1. Literature Review**

The International Audit and Assurance Standard Board (IAASB), a sub-committee of the International Federation of Accountants (IFAC) defined an audit as an independent examination of, and expression of opinion on the financial statements of a business enterprise by an appointed auditor in accordance with his terms of appointment and in compliance with the relevant statutory and performance requirements. The audit report is the end product of every audit assignment that the auditor issues to the members of a client company expressing his opinion on the truth and fairness view regarding an enterprise's financial statements.

#### ***Factors Affecting Audit Quality***

Previous studies have shown many factors that affect the audit quality of financial statements. Different studies have different approaches to audit quality. Due to the identification of factors affecting audit quality, there are still many disagreements and disagreements. De Angelo's (1981) foundational research on audit quality asserts that audit quality is determined by the ability to detect and report material misstatements in financial statements. According to this study, De Angelo's states that audit quality depends on two factors: (i) Auditor competence and (ii) Auditor independence.

Auditor's competence represents the auditor's professional qualifications. Professional competence can be accumulated through training and practice experience. Auditors with extensive experience ensure higher audit quality (Ramadhani Calocha et al., Ramadhani Calocha & Eliada Herwiyanti 2020. Audit quality depends on both the probability that auditors detect misstatements and on whether auditors report such misstatements (DeAngelo, 1981).

The auditor independence is an important factor in enhancing audit quality. Independent auditors can detect fraud in the financial statement of audit clients. Auditor independence represents a close relationship between the auditor and the audit client. When an auditor and an audit client have a close relationship over many years, the auditor's independence can be threatened. At that time, the auditor is said to not be objective enough to comment on the audited information. Research on listed companies in the US during the period from 1980 to 2008 has provided evidence that the length of the auditor's tenure has a negative impact on future stock prices (Callen, J. L. & Fang, X. (2011).

For effective and quality audit reports, the audit firm's tenure is also considered because it has a great influence on audit quality. Similar to the independence of the audit member, the tenure of the audit firm is the length of the relationship between the audit firm and the client as of the end of the fiscal year stated in the audited financial statements. maths. According to previous studies, the operating period of an auditing firm is determined to be short when the same auditing firm has audited a company's financial statements for two or three years. Audit firm tenure is defined as when the same audit firm has audited a company's financial statements for more than three fiscal years. However, other studies suggest that audit tenure or time participating in audits does not affect audit quality (For example, Seyed Mahmoud

Hosseinniakani et al., 2014). This study encountered some objections regarding the relationship between the audit firm and the client, suggesting that a long audit tenure may reduce the independence and ability to detect errors of the audit firm.

The size and reputation of the audit firm is also believed to be a factor affecting audit quality. According to Aronmwan et al., 2013, audit firm reputation relates to the corporate image which comes over time. The reputation of an audit firm can impact investor and public confidence. Large and reputable audit firm are expected to provide more accurate audit reports (Seyed Mahmoud Hosseinniakani et al., 2014). Large listed companies tend to choose audits of reputable auditing firms because they also think that the audit quality of audit firms with good reputation will be more assured. Currently, to classify the reputation of auditing firms, it can be classified into 2 groups: Big 4 and not the Big 4 (Boulila Taktak and Mbarki, 2014; DeAngelo, 1981). Big 4 is supposed to provide better quality audit services than non-Big 4 (Boulila Taktak and Mbarki, 2014; Klein and Leffler, 1981). Investors tend to have higher trust in audit firms with a strong reputation, therefore placing more reliance on their audit reports.

Audit quality is also affected by the size and entity being audited, audit fees and audit time (Seyed Mahmoud Hosseinniakani et al., 2014). In addition to the above impacts, audit quality is also measured by other factors such as audit delay (Mohamad-Nor et al., 2010) or the effectiveness of the audit client's internal controls.

## 2.2. Hypothesis Development

Based on previous studies as well as in the context of Vietnam's economy, the authors select factors affecting audit quality including auditor independence, size and reputation of the audit firm, and the audit firm tenure. The research team proposes the following model to consider the factors affecting audit quality in the period 2017-2022:

### *Research hypotheses:*

H1: There is a positive relationship between auditor independence and the audit quality.

H2: There is a positive relationship between the scale and reputation of the audit firm and the audit quality.

H3: There is a negative relationship between audit firm tenure and the audit quality.

Factors such as audit fees, auditor expertise, and experience are not included in the model as they are difficult to gather data for in Vietnam. A research model can be depicted as shown in Figure 1.

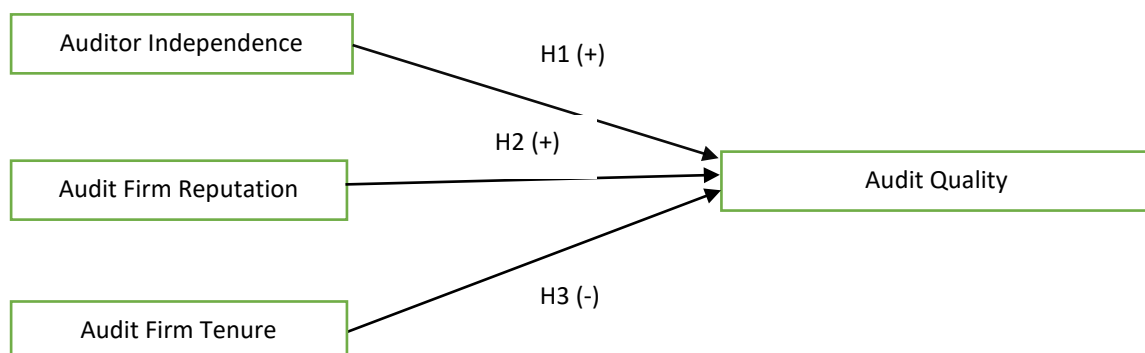


Figure 1: Research Model

### 3. DATA AND RESEARCH METHODOLOGY

#### 3.1. Research Sample Description

The research team used a sample of companies listed on the Vietnamese stock market on HOSE and HNX in the period 2017 - 2022. Research data was mainly collected from financial statements and publications. Other information is available on websites such as <http://cafef.vn> and <https://finance.vietstock.vn/>.

After excluding non-conforming research samples, the appropriate sample includes 825 companies listed on Vietnam's stock market in the period 2017-2022.

#### 3.2. Research Model and Methodology

The research team employed STATA 16 software to estimate the parameters of the model. To examine the impact of various factors on audit quality, the research utilized three regression methods: Pool OLS, Random Effects Model (REM), and Fixed Effects Model (FEM). The Hausman test was employed to choose between the REM and FEM models. The Generalized Method of Moments (GMM) estimation method was used to address endogeneity issues in the model.

Based on the theory and previous research works, the research team proposed the following model to investigate factors affecting audit quality:

$$AQ_{it} = \beta_1 + \beta_2 BIG4_{it} + \beta_3 AI_{it} - \beta_4 AFT_{it} + e_{it}$$

*In the model:*

i: represents the sampling company.

t: represents the time measured in the fiscal year of the enterprise.

e: represents the error due to random variations.

Dependent variables:

AQ: Audit quality

The independent variables in the research model include:

BIG4: Represents the scale and reputation of the audit firm, measured by the representation of the four largest international audit firms in the Vietnamese auditing market, including PwC, E&Y, Deloitte, and KPMG. The BIG4 variable is measured as follows: if a listed company is audited by a BIG4 audit firm in fiscal year t, it is assigned a value of "1," and "0" otherwise. The research expects a positive correlation between the two variables, AQ and BIG4.

AI: Represents the auditor independence. The research assumes that the highest level of independence is ensured when auditors perform the first-year audit for the audited entity. When auditors perform audits for clients from the second year onwards, there may be a relationship between the auditor and the client, which can compromise the independence of the audit. As a result, investors lose trust, leading to a downward trend in stock prices. According to regulations in Vietnam, auditors are not allowed to audit a client for more than three consecutive fiscal years. The AI variable is measured as follows: if an auditor audits a listed company for three consecutive years, AI takes the value of "1," otherwise, if it's less than three consecutive years, AI takes the value of "0". The research expects a positive correlation between the two variables, AQ and AI.

AFT: Represents the audit firm tenure. The audit firm tenure for a listed client is measured by the duration of the auditing time for the same client. The AFT variable is measured as follows: if a listed company changes the audit firm in the fiscal year immediately following, AFT takes the value of “1,” and “0” otherwise, if the company does not change the audit firm for two consecutive years. The research expects a negative correlation between the two variables, AQ and AFT.

#### 4. RESEARCH RESULTS AND DISCUSSIONS

The independent variables, namely BIG4, AI, are positively correlated on the dependent variable AQ.

The research team used STATA 16 software to estimate the model’s parameters.

To test the impact of the indicated factors on audit quality, the study used three regression methods: Pool OLS, Random Effects Model (REM) and Fixed Effects Model (FEM). Hausman test is used to choose between REM and FEM models. The results show that the FEM model is more suitable than the REM model.

Generalized Method of Moments (GMM) is used to address endogeneity issues in the model. The estimation results of the GMM model satisfy the requirements.

**Table 1: Estimation Results of the Model**

	(1)	(2)	(3)	(4)
	AQ	AQ	AQ	AQ
BIG4	-0.576	2.428	4.635***	2.235*
	(2.318)	(1.969)	(0.971)	(1.386)
AI	2.238	1.795	1.124	6.803***
	(1.730)	(1.738)	(1.105)	(1.783)
AFT	0.608	0.495	0.204	-14.29***
	(1.375)	(1.375)	(0.752)	(1.752)
Constant	-13.86	-26.65**	-27.93***	-82.63***
	(12.96)	(12.35)	(8.783)	(17.33)
Observations	4125	4125	4125	4125
Mean of Dep. Variable				

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: The authors synthesized the information from Stata 16

Estimated results:

$$AQ_{it} = -82.63 + 2.235 BIG4_{it} + 6.803 AI_{it} - 14.29 AFT_{it} + e_{it}$$

Estimation results in the model indicate that the variables BIG4, AI and AFT have effects on the market price per share with significance at the of 1%, 5%, and 10% levels. Specifically:

##### \* Scale and reputation of the audit firm

The variable BIG4, representing the scale and reputation of the audit firm, has a positive

relationship with the audit quality at a significance level of 10%. The research findings align with the initial hypothesis of the authors and a study by Seyed Mahmoud Hosseiniakani et al., 2014. The regression coefficient of the variable is 2.235, indicating that the difference in audit quality between a company audited by a Big4 firm and a non-Big4 firm is 2.235.

#### **\* Auditor Independence**

Auditor independence has a positive impact on the audit quality with a regression coefficient of 6.803. The research findings align with the authors' proposed hypothesis and a study by Callen, J. L. & Fang, X. (2011). In practice, auditor independence is highest when they perform the first-year audit for the audited entity. As auditors continue to audit clients from the second year onwards, there may exist a relationship between the auditors and clients. The longer the tenure of auditors, the lower the independence and objectivity of auditors, which may lead to auditors actively supporting clients in applying accounting choices that are not consistent with accounting standards, resulting in a decrease in audit quality.

#### **\* Audit firm tenure:**

The audit firm tenure has a negative impact on the audit quality with a regression coefficient of -14.29. A longer tenure of the audit firm may affect the independence and objectivity of the audit report because the auditing firm aims to maintain a long-term relationship with the client, potentially leading to biased audit reports. The research findings align with the authors' proposed hypothesis and a study by Omri, M. A. & Abdennebi, A. B. (2014).

### **5. DISCUSSION AND CONCLUSION**

The study evaluates the influence of factors on the quality of checking financial statements of companies listed on the Vietnamese stock market, using a sample of 825 companies listed on HNX and HOSE, with 4,125 observations from 2017 to 2022. The research results demonstrate that the size and reputation of the audit firm, the auditor independence and the audit firm tenure have a significant influence on the audit quality of the financial statements of listed companies in Vietnam from 2017 to 2022.

Therefore, regular changes of auditors and audit firm tenure contribute to reducing the familiarity of auditors, increasing the independence and objectivity of auditors and audit firms, and ultimately providing higher-quality financial information for investors. Furthermore, companies should carefully consider selecting an audit firm with a reputable and established presence in the market to perform their services. Regulatory authorities should implement stringent monitoring measures to enhance the quality of audit services in Vietnam, ensuring fairness and transparency in the stock market.

One limitation of the study is that some factors have not been measured such as qualifications, experience of auditors, audit fees. This limitation suggests potential directions for future research.

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# RELATIONSHIP BETWEEN THE STATE, MARKET AND SOCIETY IN SUSTAINABLE ECONOMIC DEVELOPMENT IN VIETNAM

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**Abstract:** *The relationship between the State, the market and society is one of the major and fundamental relationships that need to be properly understood and handled in the process of socioeconomic development in our country. Mastering and handling this relationship well will contribute to attain the goal of sustainable economic development in Vietnam today. Using multiple method including systematization, general analysis, comparative statistics, logic-history and abstraction, the article analyzes several theoretical and practical issues in solving the relationship between the State and the market, pointing out the need to harmoniously combine the State, the market and society in regulating the socialist-oriented market economy. From there, the study analyzes the perception of the Communist Party of Vietnam on solving this relationship for sustainable development in Vietnam, analyzes the current situation of solving this relationship and proposes solutions to the problem of "harmoniously handling the relationship between the State, the market and society" for sustainable economic development in Vietnam today.*

**Keywords:** *The relationship between the State, the market and society*

## 1. THEORY AND PRACTICE ON THE RELATIONSHIP BETWEEN THE STATE, THE MARKET AND SOCIETY IN REGULATING THE MARKET ECONOMY

The market economy has had a long process of formation and development and has become a popular form of production organization with a great influence on the socio-economic life of countries around the world. Along with the process of formation and development of the market economy, is the formation of economic theories of economic philosophies on dealing with the relationship between the market and the state: from emphasizing the role of the market to emphasizing the role of the state to the need to combining both the state and the market in a mixed economy.

*First, the "minimum state, maximum market" of classical and neoclassical economists.* Representing this philosophy is Adam Smith (A.Smith) (1723 - 1790). A. Smith advocated economic freedom; he emphasized the role of objective economic laws. According to him, the market needs to be operated freely, not distorted by administrative decisions. Since then, he said, "economic law is invincible", economic policy can inhibit or promote the operation of economic law.

*Second, "Maximum state, minimum market".* A representative of this philosophy is John Maynard Keynes (JM Keynes). He said that the state must play a large role in the market economy. As the main person responsible for stabilizing the economy, the state must implement

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financial-monetary policies and measures to combat cyclical recessions, ensure sufficient employment and maintain the economy in a state of no inflation. The practice of applying JM Keynes' theory to market economic development in most countries has proved that it is not an effective "medicine" to help the capitalist economy develop. The failure of state intervention in the economy is increasingly common in a capitalist market economy. The practice has proven that market regulation or State regulation in a modern market economy has its defects.

*Third, "Harmonious combination between the State and the market" by Paul Anthony Samuelson (PA Samuelson).* PA Samuelson believed that running the modern economy must rely on "two hands", that is, the market and the state form a mixed economy, in which the market determines most of the prices and output, the State controls the economy as a whole with its tax programs, budget expenditures, and monetary policy regulations.

Applying the above points of view in regulating the market economy of countries shows that the most difficult thing for states in economic management is to define the boundary between the state and the market. The above practice has necessitated the search for an entirely new force beyond the state and the market to balance this relationship. That force is "Society". Society has a role to play in complementing and monitoring both the market and the state.

Social organizations guide members' behaviour based on social values. Social organization is both a social establishment of the State; as an institution to protect and promote the legitimate and legitimate interests of its members; are both customers of enterprises participating in the market. The driving force of social organizations is the social values and legitimate interests of each social class, community, and group.

Society through organized activities arouses public consciousness of the people, thereby influencing government decisions, and at the same time, it can form the society's external supervision and regulation of state power and market behaviour, thereby avoiding the situation of power associated with abuse of power, group and market interests associated with greed and falsehood.

However, "society" also has limitations such as: society tends to pursue the local interests of class, community, social group, etc., which often conflict with each other and also conflict with the common interests of the whole society. Therefore, without the State's hand, it will cause anarchy, unable to solve local group interests and public interests; Similarly, a lack of application of market principles in the management of social organizations will push organizations into administrativeization, lack of dynamism and lack of financial resources.

The problem is, it is necessary to harmoniously solve the relationship between the State, the market and the society in the economic operation mechanism to promote the strengths and limit the weaknesses, contributing to promoting the rapid and sustainable development of the market economy.

Theory and practice show that perceiving and resolving this relationship is a process, depending on the level of production force development, and views on the economic operating mechanism of each country and at different stages in a country. Therefore, the resolution of this relationship in each economy, even in each different stage of development of the market economy, and the degree of participation in the market economy, or the degree of participation in the market, determines the degree of state participation or the degree of participation in the market.

## **2. PERCEPTION OF THE COMMUNIST PARTY OF VIETNAM ON THE RELATIONSHIP BETWEEN STATE, MARKET AND SOCIETY IN SUSTAINABLE DEVELOPMENT IN VIETNAM**

Before Doi Moi, Vietnam developed an economy according to a command economy model, with a centralized planning mechanism, the economy operated under the control of the State on factors of production as well as income distribution. The state interferes deeply in the activities of the economy and does not attach importance to the laws of the market.

Along with the Doi Moi process, Vietnam changed from a command economy model to developing a multi-sector commodity economy, developing a socialist-oriented market economy. Accordingly, the market mechanism regulated by the socialist state was formed.

In 2011, the Platform for building the country in the transitional period to socialism first determined that special attention must be paid to mastering and properly solving major relationships, including the relationship between the market economy and the socialist orientation.

The 12th Party Congress, based on summarizing practice and developing theories about the transition period to socialism, The Party adjusted the relationship “between the market economy and socialist orientation” into the relationship “between obeying market rules and ensuring socialist orientation”. Along with that, The Party has added the relationship “between the State and the market” to the relationship “between the State, the market and society”, officially considering this to be the ninth largest relationship among the major relationships that need to be identified and studied systematically on the theoretical level in the current conditions of socialist-oriented market economy development in our country today (Communist Party of Vietnam, 2016, p. 98).

Next, the 5th plenum of the 12th Central Committee requested: “Clearly define and properly implement the position, role, function and relationship of the State, the market and society in accordance with the market economy; ensure the socialist orientation; strengthen and maintain the Party’s leadership role” (Centre Office, 2017, p. 28).

At the 13th National Congress, inheriting the perception of the socialist-oriented market economy through the Party congresses since the renovation until now, The Party has determined: “The socialist-oriented market economy is the general economic model of our country during the transition to socialism. It is a modern market economy with international integration, fully and synchronously operating according to the rules of the market economy, under the management of the socialist rule of law state, led by the Communist Party of Vietnam; ensuring the socialist orientation for the goal of “rich people, strong country, democracy, justice and civilization” suitable to each development stage of the country...”

Based on the new perception of the socialist-oriented market economy, the 13th National Congress determined that “In a socialist-oriented market economy, there is a close relationship between the State, the market and society. The State builds and perfects institutions, protects property rights, and business rights, maintains macroeconomic stability and major balances of the economy; creates a favourable, public and transparent environment for businesses, social organizations and the market to operate; regulates, orients and promotes economic development, associate economic development with cultural and social development, ensure social security and people’s life, protect the environment, and ensure national defence and security. The

State manages the economy by-laws, mechanisms, policies, strategies, master plans, plans, standards, norms and state economic forces in accordance with the requirements and laws of the market economy. The market plays a decisive role in determining the prices of goods and services; creating motivation to effectively mobilize and allocate resources; regulating production and circulation; regulating the operation of enterprises, purge weak enterprises. Social organizations have the role of creating links, coordinating activities, solving problems arising among members; representing and protecting the interests of the members concerning other subjects and partners; providing support services to members; reflect the aspirations and interests of the people of all classes to the State and participate in criticizing the laws, mechanisms and policies of the State, supervising agencies and the contingent of state officials and civil servants in law enforcement (Communist Party of Vietnam, 2021, pp. 130-132).

Thus, the 13th Party Congress indicated the role and function of the state, the market and society in the general relationship. The social content is shown in supporting, supplementing and overcoming the shortcomings of the state and market factors to create a complete and synchronous operating mechanism for the socialist-oriented market economy in Vietnam.

### **3. ACHIEVEMENTS IN SOLVING THE RELATIONSHIP BETWEEN THE STATE, THE MARKET AND SOCIETY IN VIETNAM**

Along with the advancement in awareness, the relationship between the state, the market and society has been gradually institutionalized, which has not only unleashed creativity in development thinking but also paved the way to promote production and business activities. Resolving this relationship has achieved the following main results:

*Firstly, the coordination between the state, the market and society in the operating mechanism of the socialist-oriented market economy has been strengthened.* That shows:

The coordination between the state, the market and society in the process of policy formulation has been strengthened: The State accompanies, dialogues, listens to businesses and people to have appropriate policy responses, and promptly solves problems and inadequacies of the business investment environment. Enterprises and society participate in the process of policy shaping more and more clearly and effectively, hence policy feasibility is also higher.

The settlement of the relationship between types of enterprises: state-owned enterprises, private enterprises and public enterprises, according to the principle of equality and clear orientation. State-owned enterprises focus on investing in key areas, important geographical areas, fields associated with national security... creating an infrastructure foundation for growth; holding a key position in the economy, as an important material tool for the State to orient and regulate the macro, as a key force in international economic integration. Private enterprises also have strong development, currently contributing over 40% of GDP, 30% of the state budget, attracting about 85% of the labour force of the country (General Statistical Office, 2022). In 2014, Vietnam officially added the type of “Social Enterprise” in the Law on Enterprises (amended) to open the legal basis and conditions for this type of business to develop. These enterprises have been encouraged to invest in solving existing problems of society such as poverty, environmental pollution, child protection, etc. Private enterprises have cooperated and associated with state enterprises, cooperatives, and household economy; developing joint stock companies with the wide participation of social actors, especially employees.

*Second, the State's role in macroeconomic management is adjusted to be more consistent with the market mechanism.*

The state has done a good job of orienting economic development. On the basis of applying objective economic laws, the State orients the development of the economy. The State uses strategic tools, plans, policies, programs and projects to run synchronously, ensure macro balances in the development process, promote the transformation of the growth model from breadth to depth, and raise social labour productivity; the key sectors of the economy were restructured in a positive direction and the right direction.

The State has institutionalized guidelines and policies to create conditions and environment for the operation of the market economy, such as Civil Code, Land Law, Housing Law, Intellectual Property Law, Commercial Law, Enterprise Law, Investment Law, Competition Law, Food Safety Law, Law on Product and Goods Quality, Labor Law, Law on Real Estate Business, Amendment to the Law on Real Estate, and Law on Law on Securities (2015). The 13th evaluation "Has formed a fairly complete economic legal system, creating a legal basis for enterprises of all types of operating ownership"

In addition, there has been a clear definition and distinction between the state management function and the production and business management function of the grassroots units. At the same time, there is a separation between the functions of macroeconomic management and the function of owners of state-owned enterprises, gradually eliminating the "managing ministry", the "governing government" of state-owned enterprises.

*Third, the role and function of the market in the socialist-oriented market economy is increasing.*

The market has gradually been the basis for the State to orient the country's economic development through strategies, master plans, plans and programs for socio-economic development. The market is the basis for creating a complete, synchronous, consistent, transparent and solid legal framework, which is not only a system of laws and regulations but also includes the necessary institutions to implement and enforce law enforcement and dispute resolution, including courts and law enforcement agencies.

Market factors and types of markets gradually develop synchronously, associated with regional and world markets. many barriers to market entry are removed; The investment and business environment have been significantly improved, and innovative start-ups and business development are quite vibrant.

The size and structure of the financial market have been adjusted more reasonably: between the money market and the capital market, the equity and bond markets, the government bond market and corporate bonds, between credit services and non-credit services; payment in cash gradually decreased, forms of payment via bank were expanded.

The real estate market, labour market and science and technology market have been focused on and gradually improved and developed such as forming organizations, consulting centres, trading floors...

*Fourth, the state economy has gradually promoted its leading role in the economy*

State-owned enterprises have been gradually rearranged and reorganized more effectively. The operating mechanism of state-owned enterprises has undergone an innovation in the direction of business autonomy, fair competition, publicity and transparency. The



operational efficiency and competitiveness of several state-owned enterprises have been improved. According to the Enterprise White Paper in 2021, the state-owned enterprise sector has a higher labour utilization efficiency than the FDI enterprise sector, in which the labour utilization efficiency of SOEs is 18.9 times; followed by non-state enterprises with 17.0 times and the lowest with FDI sector with 13.0 times. Vietnam's SOEs are occupying a huge market share in several fields such as energy, telecommunications, banking, etc., contributing more than 29% of the country's GDP (General Statistical Office, 2022)..

*Fifthly, the private economy makes an increasing contribution and becomes an important driving force in promoting the country's economic development.*

The number of private enterprises has increased sharply in a variety of forms, there are large enterprises and corporations capable of applying science and technology, brand names and competitiveness in domestic and international markets, especially in the fields of investment, tourism business, urban areas, automobile production, high-tech agriculture, trade and services. The outstanding efficiency of private economic groups such as Sun Group, Vingroup, Thaco, Masan, and FPT... recently shows this quite clearly. These corporations are not only leading in the fields of domestic activities but also have been successfully building and developing products and works of regional and international stature. In the period 2016-2020, the private economic sector achieved an average growth rate of 10.4 %/year (higher than 7.53 %/year in the period 2011-2015). In 2022, the GDP of the private sector will reach 50.04% while that of the FDI sector will reach 20.2% (General Statistical Office, 2022). This is one of the successes of the process of handling state, market and social relations in recent years.

*Sixth, social enterprises and socio-political organizations are increasingly developing.*

Social enterprises have developed diversely, influenced government policies and spread widely in the community. According to the Research Report on the State of Social Enterprises in Vietnam, the most popular field in which Vietnamese Social Enterprises operate is agriculture - accounting for 35%; followed by health (9%), education (9%) and environment (7%); child care 5%; employment and skills 4%; retail 4%; business support 3%; industry (web; design, print) 2%; health care 2%; financial support and services 2%; social care 2%; traffic 2%; culture and entertainment 1% and other fields 35% (General Statistical Office, 2022).

Socio-political organizations are not only the centre of solidarity, gathering a large number of people's forces, representing and protecting the legitimate rights and interests of their members, as well as performing the role of the political foundation of the people's government and organizing the mobilization of the people to successfully perform the political tasks of the Party and the State.

Besides, there are more and more other social organizations, with various forms of organization, such as economic associations, professional associations, mass associations gathered according to interests and wills, non-profit social protection organizations, etc. The associations have gathered a large number of members to join organizations in almost all fields of economy, society, industry and society, and can perform their roles as support economic activities; participate in the formulation, implementation and supervision of the implementation of laws and economic policies...



#### 4. LIMITATIONS IN DEALING WITH THE RELATIONSHIP BETWEEN THE STATE, THE MARKET AND SOCIETY IN VIETNAM

Over the years, the perception and implementation of the relationship between the State, the market and society has made positive changes and achieved many positive results. The State has performed its function and role in the socialist-oriented market economy based on respecting the role, function and principles of the market and upholding the supervisory and critical role of social organizations. However, in the implementation of this relationship, some limitations and weaknesses have not met the requirements of sustainable development of the market economy. Manifestations:

*Firstly, there is insufficient awareness of the role and functions of the State and the market and society as well as the relationship between the State, the market and society.*

The Doi Moi process has undergone 37 years, but the implementation of fundamental reform in the role and functions of the State according to the modern market economic model has not yet met the requirements of reality, still upholding the role of the State. In addition, the weakness of the administrative apparatus, the limitation of capacity and qualifications of the state staff and civil servants, and the weakness of management have made the market not fully promote its functions and roles.

On the other hand, administrative tools and administrative orders are still used quite commonly in the management and administration of the economy, etc., therefore, the role of orienting, leading and regulating the economy has not been clearly shown, still heavy on administrative intervention, replacing the market.

*Second, the role and function of the market have not been fully promoted.*

The market economy institution in our country has not yet considered the role and function of the market as an objective entity, moving and developing according to inherent laws, independent of individual will and social organization. Shown in some industries, fields and localities, there are still apply-give mechanisms, review-approval mechanisms, and subsidy policies...

*Third, awareness and activities of social organizations still have some limitations.*

Currently, the legal basis for social organizations is still lacking, so their operation is not fully guaranteed by law (except for social enterprises whose legal basis is mentioned in the 2014 revised Enterprise Law). Because the functions, tasks and legal basis are not clear, many social organizations in Vietnam have not been active in their functions and tasks of monitoring and countering the laws, mechanisms and policies of the State, and supervising law enforcement agencies, cadres and civil servants...

In addition, several social organizations in Vietnam, taking advantage of the name of non-state organizations, have carried out the intentions of benefiting individuals and private interest groups, taking money from the State's budget, from international organizations for their purposes, not for the common goal of society. On the other hand, many social organizations have colluded with international reactionary elements, opposing the lines and policies of the Party and State, and going against the common interests of the community, nation and nation.

The above practice poses a problem, finds a solution to the problem harmoniously deals with the relationship between the State, the market and the society in the development of

a socialist-oriented market economy, to realize the goal of promoting fast and sustainable development of a market economy, turning Vietnam into a developed, high-income country with socialist orientation.

##### **5. SOLUTION SOLVING THE RELATIONSHIP BETWEEN THE STATE, THE MARKET AND SOCIETY FOR SUSTAINABLE DEVELOPMENT IN VIETNAM TODAY**

To realize the goal of promoting a market economy to develop quickly and sustainably, turning Vietnam into a developed, high-income country in the direction of socialism, it is necessary to harmoniously solve the relationship between the State, the market and society in the direction of “strong state, efficient market and creative dynamic society”. Therefore, the following solutions need to be taken:

*Firstly, continue to build a socialist rule of law state, and improve the efficiency in performing the functional role of the State.*

*First of all, to build and perfect a socialist rule of law state that is clean, strong, lean, effective and efficient, serving the people and the development of the country; strengthen publicity, transparency, accountability, and control of power in association with tightening discipline and discipline in the activities of the State and cadres, civil servants and public employees; continue to step up the fight against corruption, wastefulness, bureaucracy, crime and social evils”. Hence, it is critical to:*

- Continue to build and perfect the legal system and organize the implementation of the law. In particular, it is necessary to thoroughly grasp the principled viewpoints that ensure the conformity between the subjective will and the objective requirements in building and perfecting the legal system; ensuring democracy, legality and science in law-making; ensuring the effectiveness of law adjustment. Building a legal system that is adequate, timely, synchronous, unified, feasible, public, transparent and stable, taking the legitimate rights and interests of the people and enterprises as the focus to promote innovation and ensure the requirements of rapid and sustainable development

- Continue to renovate the organization and operation of the state apparatus and strengthen control over state power. Define more clearly the roles, positions, functions, tasks and powers of state agencies in the exercise of legislative, executive and judicial powers based on the rule of law, ensuring state power is unified, clearly assigned, closely coordinated, and strengthened control over state power.

- Continue to build and strengthen the contingent of cadres and civil servants to meet the requirements of building a socialist Vietnamese rule of law State of the people, by the people, for the people.

*Second, improve the effectiveness of regulation, and leadership, and strengthen the role of orientation, creating a stable, open and transparent environment... of the State in the socialist-oriented market economy.*

*Second, continue to complete comprehensively and synchronously the socialist-oriented market economy institution. This includes:*

- Continuing to perfect the market economy institution in the direction of respecting the role and function of the market, considering the market as an objective entity that moves and develops

according to inherent laws; building a stable, transparent and open business environment for the activities of business entities and market entities; ensuring the right to freedom of business, property ownership and regulations on entry and exit from the market, the bankruptcy of enterprises, handling of contract violations and violations of business laws; synchronously and fully build market factors and types of markets; The State plays the role of leading and regulating the development of the market system and managing and building a strong and effective market management apparatus, which are the factors that create an efficient market, contributing to promoting rapid and sustainable socio-economic development. Specifically:

- Continuing to improve the institutions on mobilizing and allocating resources, on management and use of land, natural resources and investment capital of the State so that the allocation of resources of the State is carried out according to the market mechanism, through open and transparent bidding with the participation of enterprises of all economic sectors.

- Continuing to perfect the institution for synchronous development of market factors and types of markets. Consistently implement the market pricing mechanism for goods and services. Develop synchronously, with modern infrastructure and transaction methods, all kinds of markets for goods, services, financial and monetary markets, science and technology markets, labour markets, and real estate markets so that the markets can operate smoothly and connect.

- Continuing to improve institutions, promote development and improve the operational efficiency of enterprises. The State supports and encourages the development of cooperative economic models, cooperatives, small and medium-sized enterprises, and household economy in agriculture. This is to perfect mechanisms and policies to promote the development of all economic sectors and bring into play the role of economic sectors in the economy.

- Continuing to improve institutions to promote the roles and functions of the social element, such as: perfecting the legal basis to effectively promote the role of the social element - social organizations in the relationship with the State and the market; effectively and efficiently implement the Regulation on Democracy at the grassroots level, on that basis, promote the role of people, businesses, socio-political organizations, professions and the community in participating in the formulation, criticism and supervision of the implementation of the State's policies and laws.

*Third, harmonize the relationship between State, market and society in developing Vietnam's socialist-oriented market economy. This includes:*

- Promoting the role of the market in allocating production resources, regulating the production and circulation of goods, and regulating business activities.

- Improving the efficiency of the state's economic management. It is critical to prioritise improvement in the quality of formulation and implementation of laws, policies, strategies, master plans and plans, maintain macroeconomic stability, and create a favourable environment for businesses, social organizations and markets to operate.

- Promoting the role of socio-political organizations in protecting the rights and interests of their members, members, criticizing and commenting on laws and policies of the State, supervising enterprises, agencies and the contingent of cadres, civil servants, and public employees of the State in law enforcement.

## 6. DISCUSSION AND CONCLUSION

After 37 years of doing the renovation, based on theoretical research, absorbing world experience and in operating practice, summarizing the development movement of the socialist-oriented market economy, the Party has realized that the relationship between the state, market and society is one of the major and important relationships that need to be properly handled to create a driving force for development. At the same time, it also identified the functional role of each element: the state, the market and society, and indicated the need to accelerate the institutionalization of the roles of the elements. This is a very important basis for solving this relationship in practice.

The reality of dealing with the relationship between the State, the market and the society in the socialist-oriented market economy in Vietnam during the Doi Moi process has posed a requirement to find solutions to solve this relationship in the direction of “strong state, efficient market and creative dynamic society”. That is: continue to build a socialist rule of law state, improve the efficiency in performing the functional role of the State; continue to complete comprehensively and synchronously the socialist-oriented market economy institution; harmoniously deal with the relations between the State, the market and the society in the development of the socialist-oriented market economy in Vietnam.

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# REPORT ON LONG-TERM SUSTAINABLE PUBLIC FINANCE - SOME RECOMMENDATIONS FOR VIETNAM

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**Abstract:** *In recent years, sustainable development has been an indispensable requirement for all countries. The process of public finance reform in Vietnam requires the full and timely provision of information on long-term sustainable finance in the public sector. Reporting on the long-term sustainability of public finance is an extremely important requirement, closely related to national development requirements and international economic integration requirements. The following article focuses on studying the role of the report in providing information on the long-term sustainability of public finance and orientations for Vietnam in the preparation of this report in the near future.*

**Keywords:** *Reporting, public finance, long-term sustainability*

## 1. INTRODUCTION

In the context of public finance innovation towards more transparency, efficiency, and sustainability, the research has practical significance to help the Government assess the long-term financial sustainability of public finance and improve the basic legal and practical implementation in reporting on the long-term sustainability of public finance. This article consists of four main parts as follows:

1. Overview of the long-term sustainability
2. Overview of the report on the long-term sustainability of public finance
3. Current situation of the reporting system providing public financial information in Vietnam
4. Some recommendations for Vietnam in preparing reports on the long-term sustainability of public finance.

Content:

## 2. OVERVIEW OF THE LONG-TERM SUSTAINABILITY

### 2.1. Some perspectives on long-term sustainability:

The term “fiscal sustainability” has expanded its meaning as governments around the world have shifted their management from a medium-term perspective to a long-term vision. “Fiscal sustainability” originally meant a measure of a government’s payment ability. Contemporary fiscal sustainability analysis focuses on financial conditions that could slow economic growth, increase tax burdens, or pass on significant costs to future taxpayers.

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According to the authors in the article *State and Local Finance: Increasing Focus on Fiscal Sustainability* proposed the concept of key sustainability is “the ability of governments to meet existing spending commitments with existing resources”.

The International Public Accounting Standards Board (IPSASB) introduced the concept of long-term fiscal sustainability in the Recommended Practice Guideline (RPG): “Long-term fiscal sustainability is the ability of an entity that meets its current and future service delivery and financial commitments”.

Thus, according to IPSASB to ensure fiscal sustainability: future revenues must be sufficient to finance future expenditures.

Finance sustainability is not just about predicting the future; it is about the urgency of policy changes as well as the need for new budgetary tools to assess the financial position of the government because conventional tools fail to meet the mandate. The Medium-Term Expenditure Framework (MTEF) and fiscal rules, two of today’s most prominent innovations, extend the 3-5 years advance budgeting timeframe, but they are inconsistent with the issues long-term. An MTEF does not see far enough ahead and coupled with difficult constraints, could prompt some stressed governments to engage in fiscal policy aimed at improving the medium-term outlook at the cost pay is the long-term financial health of the country. This is not just speculation, as some EU countries have used one-time savings to meet Stability and Growth Treaty requirements (European Commission, 2004) Australia, New Zealand, and the UK consider financial sustainability as part of a new financial responsibility regime introduced over the past decade.

## **2.2. Aspects of long-term sustainability**

The four dimensions of sustainability are interrelated and include:

- i) Solvency - the ability of the government to pay its financial obligations.
- ii) Growth - a fiscal policy that sustains economic growth.
- iii) Stability - the capacity of the government to meet future obligations.
- iv) Fairness - the capacity of the government to pay current obligations without shifting the cost to future generations.

## **2.3. Assessment of long-term fiscal sustainability**

The interest in sustainability has given rise to innovations in accounting and economic analysis such as accrual and budgeting, the application of present value analysis to government budgeting, intergenerational accounting, and financial disparity analysis. Countries will experiment with different techniques, and some will include sustainability analysis in their annual budget processes, while others will conduct such studies as a standalone activity.

However, when assessing long-term sustainability, implicit commitments and future obligations are much more burdensome than express or incurred obligations. In practice, no government records future pension obligations on its financial statements, although some additional notes that discuss various issues do not meet the requirements recognition standards. Over the past decade, some analysts have viewed financial statements as a more complete and reliable statement of financial health than a budget.



But financial reporting has inherent limitations that greatly reduce its utility as a measure of long-term sustainability. One problem is that Financial Statements only recognize explicit liabilities, but many government obligations are incorporated into expectations about how it will behave in the future; Another reason is that the financial statements recognize liabilities arising from past actions, not future obligations arising from the current policy. The financial statements provide information about the financial position at a point in time, without providing revenue or debt obligations, nor distinguishing between liabilities that may come due in the coming year and those that are due payable in the distant future. In fact, according to established accounting rules, financial statements completely ignore the possibility of future revenue generation.

IPSASB and other authorities are setting new rules that will expand the information that must be reported. As accounting practices expand, leading governments will apply similar standards to budgets and will adhere to or reconcile them with financial statements. The integration of budgets and financial statements will take place in phases, possibly over a long period of time, but it will provide a more complete basis for assessing fiscal sustainability.

In July 2013, IPSASB issued a practice guide for reporting on the long-term sustainability of public finances. This document provides guidance on the preparation and presentation of reports on the long-term sustainability of public finances. RPG provides information on the impact of current policies and decisions made at the reporting date on future cash inflows and outflows and supplements the information in the financial statements for purposes of sharing. The long-term financial sustainability information prepared under this RPG will allow the user to assess various aspects of the entity's long-term financial sustainability, including the nature and extent of financial risks faced by the entity.

Reporting information under this RPG represents good practice, so a long-term financial sustainability reporting entity is encouraged to comply with this RPG. However, the reporting guidelines provide only minimal levels of information. In fact, entities may present additional information if it is useful in meeting the objectives of the financial statements and in meeting the qualitative characteristics of the financial statements.

## **2. OVERVIEW OF THE REPORT ON THE LONG-TERM SUSTAINABILITY OF PUBLIC FINANCE**

### **According to the International Public Accounting Standards Board's long-term sustainability reporting practice guide**

**First**, for reporting purposes: The report allows users to assess various aspects of an entity's long-term financial sustainability, including the nature and extent of financial risk the entity faces.

**Second**, about reporting scope: According to IPSASB, the scope of the reporting of long-term financial information is particularly relevant to the national level and to the Consolidated Government as a whole and is considered relevant to the local government level. Therefore, to consider whether a report is appropriate for a local level, it is necessary to ensure that an entity has one or more of the following characteristics:

- i) Significant tax and/or other revenue-raising powers;
- ii) Powers to incur significant debt; or

iii) The power and ability to determine the nature, level, and method of service delivery including the introduction of new services.

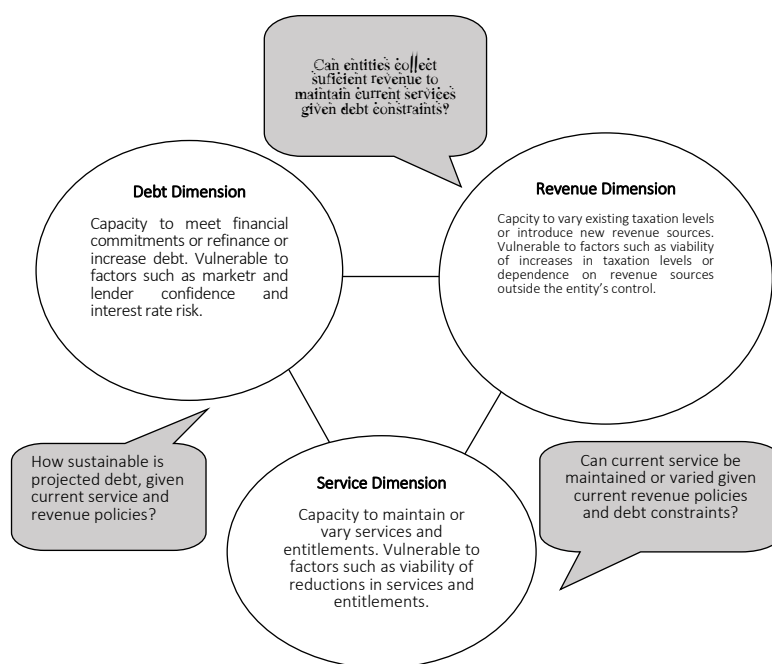
**Third**, about the form and structure of the report: The format and content of an entity's long-term fiscal sustainability information will vary depending on the nature of the entity and the regulatory environment in which it operates. Information on long-term fiscal sustainability typically consists of three components:

- i) Forecasts of cash inflows and outflows in the future;
- i) Aspects of long-term financial sustainability including the metrics used to measure it;
- iii) Principles, assumptions, and methods underpinning forecasts.

**Fourth**, about the reporting format: Information on long-term fiscal sustainability may be disclosed as a separate report or as part of another report. In addition, it may be published at the same time as the entity's regular reports or at a different time.

**Fifth**, about the content of the report: The report covers three interrelated aspects of long-term financial sustainability: services, revenue, and liabilities. Aspects are related when changes in one aspect can affect other aspects. Each dimension must provide two elements: capacity and vulnerability. Where capacity is an entity's ability to change or affect an aspect, and vulnerability is the extent to which an entity is dependent on factors beyond its control or influence.

The relationship between aspects of long-term financial sustainability is illustrated as follows:



**Figure 1. The relationship between aspects of long-term financial sustainability**

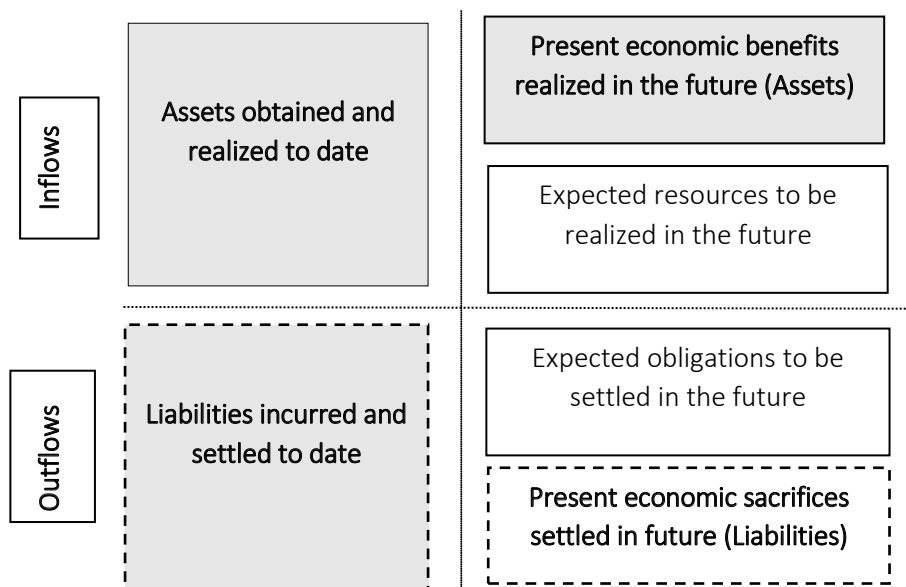
Source: IPSASB (2013), RPG 1- Reporting on the Long-Term Sustainability of an Entity's Finances

Aspects of long-term financial sustainability can be represented through a variety of indicators. Therefore, the choice of which index to use should be suitable for the characteristics of each entity.

**Compare reports that provide information on long-term financial sustainability with financial statements:**

*First*, information on long-term financial sustainability is broader than information taken from financial statements. It includes projected cash inflows and outflows related to the provision of socially beneficial goods, services, and programs using current policy assumptions over a specified period of time. Long-term financial sustainability assessments use a variety of data, which in addition to financial information also includes non-financial information.

*Second*, the objective of financial statements of public sector entities is to provide useful information for reporting users, for accountability and decision-making purposes. Although financial reporting is the core, a more comprehensive scope is needed to meet the needs of users, the scope of reporting information on long-term sustainability includes future financial information. In particular, to meet financial reporting objectives in terms of accountability and decision-making, the entity should provide users with future cash inflows and outflows, to supplement information about the entity’s financial position in the financial statements.



**Figure 2. Exhibit One Supplementing Information provided in the Statement of**

**Financial Position**

Source: IPSASB (2013), RPG 1- Reporting on the Long-Term Sustainability of an Entity’s Finances

**3. CURRENT SITUATION OF REPORTING SYSTEM PROVIDING PUBLIC FINANCIAL INFORMATION IN VIETNAM**

The reporting system providing public financial information in Vietnam includes four main types of reports as follows: Periodic Budget Reports, State Financial Statements, Annual State Budget Finalization Reports, and State Treasury Professional Statistical Reports. Each reporting system has different purposes, and different scope of information provided.

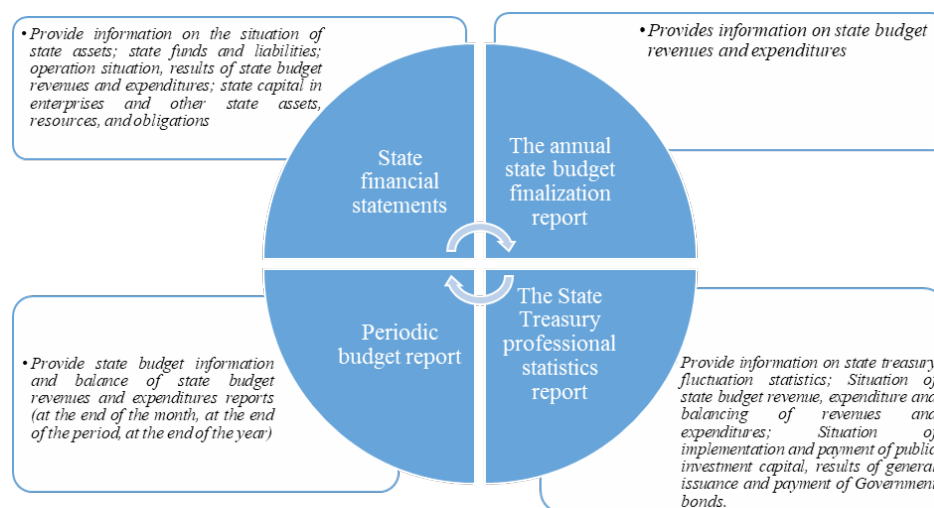
*State financial statements* are reports that provide information on the situation of state assets; state funds and liabilities; operation situation, results of state budget revenues

and expenditures; state capital in enterprises and other state assets, resources, and obligations as prescribed in Article 30 of the 2015 Accounting Law. State financial statements shall be prepared and submitted to the National Assembly and People's Councils along with the time of state budget finalization in accordance with the Law on State Budget.

**The annual state budget finalization report** is a report that provides information on state budget revenues and expenditures that are summarized for annual settlement according to the provisions of Article 5 of the Law on State Budget 2015. State Accounting Department - The State Treasury is responsible for compiling finalization reports of central-budget-funded units and summarizing the results of central-level budget finalization with the results of local-level budget finalization presided over by the Department of State Budget - Ministry of Finance to complete the annual State Budget Finalization Report and submit it to the Government and the National Government; Assemble.

**Periodic budget report** means a budget report and balance and summarization of state budget revenues and expenditures reports (at the end of the month, at the end of the period, at the end of the year). The periodic budget report will provide state budget information to the National Assembly, the Government, People's Councils, People's Committees at all levels, leaders of the Ministry of Finance, leaders of the State Treasury; Department of Finance, Department of Finance, and related entities serving socio-economic management and administration.

**The State Treasury professional statistics report** provides information on state treasury fluctuation statistics; the Situation of state budget revenue, expenditure, and balancing of revenues and expenditures; Situation of implementation and payment of public investment capital, results of general issuance and payment of Government bonds. Capital mobilization results according to bond maturity. Report on operating sales and number of trading accounts Results of state budget expenditure control through the State Treasury; Cash receipts and expenditures through the State Treasury... The State Treasury professional statistics report provides information to the leader of the Ministry of Finance and the leader of the State Treasury.



**Figure 3. Reporting system providing public financial information in Vietnam**

Source: Vietnam State Treasury

Basically, Vietnam has established a system of four reports to provide complete, timely, and multidimensional information on financial management and annual budget for the National Assembly, Government and People's Council, People's Committees at all levels, Leaders of the Ministry of Finance, Leaders of the State Treasury; Department of Finance, Finance Department and other subjects. However, the current reporting system only meets annual management goals and does not provide long-term information on the long-term sustainability of public finances.

Evaluation Criteria	The reporting system providing public financial information in Vietnam
Reporting period	The annual state budget finalization report: annual & State financial statement: annual period. The State Treasury professional statistics report and Periodic budget report: at the end of the month, the end of the period, the end of the year. This reporting system has an annual reporting period.
Purpose of the report	The reporting system providing public financial information in Vietnam provides information on budget and finance in annual management and administration to state management agencies.
Scope of information	The reporting system providing public financial information in Vietnam provides historical information on a yearly basis. The current Reporting system has not provided predictive information such as forecasting future cash inflows and outflows, and has not provided information on future debt obligations arising from current policies.

**Figure 4. Evaluation of the reporting system providing public financial information in Vietnam**

*Source: Group of authors compiled*

Therefore, to evaluate the long-term financial sustainability of public finance, in addition to this system of four reports, Vietnam needs to supplement a report on long-term financial sustainability.

#### **4. SOME RECOMMENDATIONS FOR VIETNAM IN PREPARING REPORTS ON THE LONG-TERM SUSTAINABILITY OF PUBLIC FINANCE**

**First of all**, Vietnam needs to study and improve the legal environment fully, clearly, and synchronously to create a basis for preparing reports to provide long-term sustainable information, in order to meet practical requirements and ensure transparency and accountability in public financial management.

**Second**, in order to be consistent with the budget management situation in Vietnam, this report needs to be prepared at two levels: a nationwide report and a provincial and city report. This report is provided separately, separate from the budget finalization report and the state financial statement. In addition to complying with regulations on form, structure and principles of preparation methods that meet the minimum contents according to IPSASB's guiding documents, it is possible to add some information suitable to the characteristics of public financial management in Vietnam.

**Third**, in order to feasible preparation of this report, the Government needs to develop a roadmap suitable to the actual conditions of Vietnam. Unlike the current financial reporting system, this report needs a variety of data, including financial and non-financial information. In particular, macro-based non-financial information on future economic and demographic conditions, country assumptions, and global trends,...

**Fourth,** Vietnam needs to learn from the experiences of some leading countries in making reports on the long-term sustainability of public finances such as Australia, New Zealand, the United Kingdom, etc. Based on the lessons learned from countries, Vietnam should consider the appropriateness of reporting on long-term financial sustainability in the context of national financial resources and capacity to ensure the feasibility of implementation.

## **CONCLUSION**

On the basis of the reporting theory on the long-term sustainability of public finance, the difference between the content of the report providing information on the long-term financial sustainability and the financial statements and the assessment of the current state of the system. The report provides public financial information in Vietnam, the study has drawn out important solutions in reporting on the long-term sustainability of public finance in Vietnam. In the context of the growing economy and deeper integration, the provision of long-term sustainability information for public finance needs to be urgently completed and synchronously completed in terms of legal and regulatory bases. implemented in practice, in order to improve the quality of public financial information to ensure complete publicity and transparency in the management of government resources.

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# ECONOMIC LINKAGES IN TOURISM DEVELOPMENT TO THE SUSTAINABLE DIRECTION

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*Abstract: This article aims to analyze the need to develop economic linkages in tourism development and then the principles and factors affecting sustainable tourism development. Research to help policymakers build, supplement and complete the legal corridor for economic links activities in the field of tourism between localities and regions in order to bring out the best potential of each region regions and promote sustainable development of Vietnam's tourism industry.*

*Keywords: economic linkages, tourism, sustainability*

## 1. INTRODUCTION

Competitive pressure is increasing, localities have to cooperate with tourism development more and more. The connection is easy thanks to the open policy and the infrastructure system fully invested by the State to serve economic development. According to experts, at present, the tourism products of each locality are often poor, if developed in the wrong direction, they will “destroy” their own potential, not create specific products to compete. In fact, when the boundaries of tourism between localities are no longer clear, tourism linkages are an effective solution to create a unified destination with a diversity of products based on individual advantages each locality. With such a specific nature, in order to attract and retain tourists, tourism activities are not only confined within a locality, but need to be expanded, combined, and linked within their own locality, with many people other localities and neighboring provinces. This is also the inevitable development trend of tourism in the context that Vietnam has been constantly integrating and opening up with international friends.

If the locality has good tourism linkages through the system of tours, inter-regional and inter-provincial tourist routes, the advantages of local tourism will be maximized, creating attractive tourism products, is highly competitive and attracts more and more tourists to visit, explore and learn. Economic linkage in tourism development aims to avoid spontaneous development and create products that are competitive with international products. In the process of economic linkage to develop tourism, it will help accelerate the transition of agricultural labor in rural areas to labor in the service and tourism sectors. Economic linkage in tourism development allows exploiting and overcoming the differences between the linked regions, in order to maximize the advantages and available resources of the region. Create new service industries to create jobs and increase income for local people. Economic linkage helps to attract investment and foreign currency capital to the local sub-region, the region encourages investment in infrastructure to

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support the construction and upgrade of local health and education facilities in addition to creating a transshipment exchanges of international trade flows attract investment from at home and abroad. With these benefits, the study of economic linkages to promote sustainable development of Vietnam's tourism is a necessary need in the current period.

## **2. METHODOLOGIES**

### **2.1. Research method**

The study was carried out with the use of research methods including: data analysis, data synthesis, comparison to clarify the influence of economic linkages in the tourism sector in Vietnam today as well as evaluate the role of this activity. From there, propose orientations to exploit the strengths of economic links to ensure sustainable development in the field of tourism in Vietnam in practice.

### **2.2. Data**

Secondary data is obtained from reliable sources, mainly from in-depth studies, state-level scientific research works, articles published in specialized journals on tourism activities and linkages. Economics and works are published through the website.

## **3. CONTENT**

### **3.1. Concept and role of economic linkage in tourism development**

#### **3.1.1. Concept of economic linkage in sustainable tourism development**

Economic linkage in tourism development is one of the economical but effective solutions for tourism development when the tourism border between localities no longer exists, instead there is a common destination, unified and unified with product diversity based on distinct regional advantages.

From the concept of economic linkage, it can be understood that economic linkage in sustainable tourism development is as follows: "Economic linkage in sustainable tourism development is a form of association between economic entities engaged in tourism business tourism and non-tourism business in order to achieve the highest efficiency in tourism economic development. These are voluntary, mutually beneficial economic activities, under a prior agreement between business or local entities to coordinate activities between the provision and use of services related to the tourism industry calendar in order to achieve the goals of each locality in the process of economic integration".[5]

Economic linkage for tourism development is an inevitable issue for each locality in order to exploit the potential advantages of developing the tourism industry, becoming a spearhead industry, contributing more and more to the country local budget.

#### **3.1.2. The role of economic linkages in tourism development includes the following main contents**

##### ***Economic linkages help propagate, advertise and promote tourism branding more easily***

Economic linkages help connect events and festivals of each locality in the region to create a series of regional tourism events to attract tourists, especially key markets, bringing efficiency high economic efficiency; through the organization of tourism investment promotion

forums throughout the region to promote foreign investment attraction, especially investment from transnational tourism business corporations; Promote the establishment of an electronic information portal, build a database of tourism and related fields, establish a brand, and form a specialized tourism newspaper for general use in the entire region; Research to build and position the entire region's tourism image in the market and investors. Coordinate between state tourism management agencies, tourism businesses, and regional tourism associations to promote and provide information to tourists at destinations; Support each other in promoting specific tourism products of the region and each locality in the region; perfect the regional tourism investment promotion system; creating linkage and coordination between state management agencies in tourism and tourism businesses, ensuring harmony in the interests of each locality and promoting the overall tourism synergy of the entire community region.

The joint tourism development association program contributes to bringing about results in joint management and administration, human resource training, tour design, tourism product exploitation, promotion and promotion, and promotion of tourism development develop cluster tourism and tourism in each province. The joint tourism development program creates a driving force for tourism development for localities. At the same time, the connection between localities has brought efficiency and cost savings while still ensuring the quality and scale of programs. In addition to actively building and developing its own travel programs specific to each locality.

Building common linkage programs is a condition for cooperation in building open tourism policies, creating conditions for all economic sectors to participate in investment, exploitation and development of tourism. Mobilize maximum resources of each locality to build specific products that attract tourists. At the same time, implementing regionally linked tourism programs, oriented according to domestic and international market needs.

***Economic linkages help synchronously build tourism infrastructure, especially transportation infrastructure***

Cooperate in building a unified tourism space on the basis of connecting tours, routes, zones and tourist spots in order to develop diverse types of tourism (visiting, convalescence, ecology, extreme sports, etc.) ,...); exploit and preserve regional natural and cultural heritage; forming regional destinations with high competitiveness domestically, regionally and internationally; linking key areas, national tourist zones and spots, and urban areas in the region; create a series of tourism events in the region such as festivals, international cultural festivals, typical national festivals.

Economic linkages help improve the tourism infrastructure system, especially the transportation system for each locality in the region, connecting with inter-regional, regional and international transportation systems. Focus on finding development investment mechanisms and creating breakthroughs in promoting the implementation of projects with great influence, creating links with tourist areas. On the basis of the approved planning, localities in the region coordinate to build and complete the system of regional tourism technical facilities such as hotels, restaurants, entertainment spots, forming a system Technical facilities to serve tourism are synchronized on a regional scale. At the same time, it contributes to upgrading transportation

axes connecting with economic corridors, international and domestic border gates, connecting urban areas in the region with each other and with tourism centers nationwide.

***Economic linkages help mobilize investment capital and build investment and policy mechanisms for common tourism development in the region, reviewing tourism development planning in accordance with the strengths of each locality.***

Economic linkages help mobilize investment capital and build investment and policy mechanisms for common tourism development in the region, reviewing tourism development planning in accordance with the strengths of each locality. Coordinate the development of regional policy mechanisms to invest in tourism infrastructure and technical facilities, especially entertainment areas and typical and high-quality shopping areas, on the basis of that basis is unified in planning specific tourism products of the region based on the advantages of each locality in the region.

***Economic linkages help improve tourism cooperation and competitiveness***

Share experiences in tourism development between localities to strengthen the tourism management and administration capacity of local Governments, focusing on reducing market entry costs of tourism businesses, improving Increase transparency and information, increase access to resources for tourism businesses, reduce unofficial costs, reduce time costs to implement State regulations, improve service quality tourism business support service.

Encourage tourism businesses and tourism associations between localities in the region link together to form large-scale tourism businesses with strong brands, participating more deeply in the value chain at the national, regional and international levels.

Periodically organize tourism area development conferences to attract diverse and multi-dimensional opinions from managers, experts, researchers and tourism businesses, serving as an important reference base important for localities in the region to make policies.

### **3.2. Principles of economic linkage in sustainable tourism development**

#### ***3.2.1. Ensure that entities in economic linkages are equal and all benefit equally***

The classics have pointed out that, if there is no unity of interests, there is no unity of purpose, but there can be no unity of action. Among the principles of cooperation in the fields of industry, agriculture and services for mutual benefit is considered as one of the most core principles. For economic linkages between regions in the field of tourism, ensuring equality and mutual benefit is considered the most basic principle and core condition for economic linkage. The benefits here need to be understood comprehensively, with immediate or long-term benefits, direct or indirect benefits, economic benefits or non-economic benefits, etc. to ensure full and fair. This is also the principle that ensures sustainable economic linkages.

The principle of ensuring equality and mutual benefit comes from the role of interests in activities in general as well as economic linkages in tourism development in particular. Economic interests promote the parties involved in association with each other, being the glue together in the linking process. The parties come together to agree to cooperate and associate with each other because they find long-term benefits. For new localities, they can find support in terms of capital, experience and strategies in tourism development. Locals that have done it

will find opportunities to innovate and renew their inherent resources, creating conditions for localities to increase in value.

Understood this principle, the interests of the parties involved in the association must be equally ensured on the basis of the contributions of the parties. Ensuring this principle will create a sustainable adhesive between entities participating in the association, from state management agencies in tourism to businesses directly involved in the provision of services related.

In order to ensure the above principle, it is necessary to discuss openly, democratically and fairly among the associated entities, and ensure fairness in terms of profit sharing, damage distribution, risks, cost calculations, etc. prices on the basis of stakeholder contributions. However, in any respect, economic linkage can only exist when the parties perceive themselves to be more profitable than in the case of not participating in the association. This principle requires that in the process of preparing economic linkages, the overall benefits as well as the partial benefits need to be fully analyzed and realized.

***3.2.2 The achieved results of economic linkages in tourism development are not only measured by economic efficiency but also must ensure other social and environmental factors towards sustainable development.***

In economic activities in general, economic linkage for tourism development in particular is considered as one of the important criteria to evaluate the link. This stems from the law of thrift, the law of improving labor productivity and many other economic laws. Efficiency here must be viewed from two angles: economic efficiency, or partial efficiency, and overall efficiency, or ensuring sustainable development. The principle of efficiency in tourism development cooperation on the one hand requires the parties participating in the association to obtain high efficiency in the exploitation, use and provision of tourism-related services. On the other hand, it is necessary to consider the overall efficiency in terms of society, environment and economical use of resources, towards the goal of sustainable development.

Thoroughly grasping this principle, in economic linkages, it is necessary to combine and solve harmoniously between partial efficiency and total efficiency, between economic efficiency and socio-economic efficiency.

***3.2.3. Economic links in tourism development must be on a voluntary basis and ensure the substance.***

Economic linkage in tourism development is essentially cooperation in economic activities. Freedom is considered as one of the principles of economic association. Therefore, voluntariness is also considered as a principle in tourism development cooperation. Benefits, as analyzed, are the basis for creating the voluntary participation of organizations and individuals involved in the association.

Voluntaryness is understood as the active and self-determined participants in the cooperation relationship in order to bring into full play their strengths and at the same time compensate for their limitations, regardless of which locality or enterprise.

This is a necessary condition for the association. Besides voluntariness, self-responsibility or assurance of substance is also a matter of principle. Because the nature of the link ensures sufficient conditions for the linking process to take place closely.

This principle stipulates the responsibilities of the parties involved in the process of economic integration, mutually benefiting and sharing the risks, if any, in the process of economic linkage.



Since then, the economic linkage activities between the participants are carried out smoothly, smoothly, successfully and with high efficiency. In contrast, the forms of association between affiliated organizations are established on the basis of intentions not derived from voluntary principles, from necessary economic relations, but on the basis of coercion forcing, forcing them to work unsuccessfully and inefficiently. Within the scope of the association, the subjects must perform well and ensure the honesty in the process of providing services.

### **3.3. Factors affecting economic linkage in sustainable tourism development**

#### **3.3.1. Local and state institutions and policies**

Local government is a government organized to ensure, protect and serve the rights and interests of the people in the locality. Therefore, any activities of the local government in particular and of the state management levels in general are aimed at maintaining security and order and increasing benefits for the people living in that area people have a full life based on local resources, including resources for tourism development. Here, there are administrative boundaries, natural tourism resources, and local specialties. There is a community living here for many generations, which has created rich and diverse humanistic tourism resources. All these factors will create attractive tourist attractions for both domestic and international tourists.

In addition, other factors such as security and safety; Hygiene and health in tourist destinations and routes must also be paid attention by local authorities in planning and issuing adequate development policies to ensure the health and comfort of tourists when traveling to local.

At the state level, tourism development through the resolutions of the National Assembly Standing Committee, the Prime Minister's decisions, the Government's plans... this is a significant factor helping to orient and guide the development of tourism promote the development of the local tourism industry. Each locality has different policies and regulations to develop local tourism, including policies such as encouraging investment, supporting cost reduction and having separate incentives for businesses participating in each field areas, supporting policies to protect local security, environment, hygiene and health.

Besides, local tourism with the advantage of natural tourism resources and cultural tourism resources, it is necessary to have policies to preserve the environment, landscape, natural environment, cultural and historical values, spiritually, these factors will be worn out or even lost, reducing or more seriously destroying the advantages of attracting tourists to the locality.

In terms of the political - legal environment, businessmen always have to develop business strategies that are adapted to the characteristics of the environment. When the political system is stable along with administrative procedures such as simple and transparent customs procedures, investors in general and investors engaged in exploitation in the tourism sector in particular will do so. Righteous and healthy business, together with reasonable policies, incentives and supports of local authorities will stimulate investors to exploit tourism on the basis of the resources of the provinces, in which tourism resources.

Thus, it can be seen that if the locality creates an attractive and healthy business environment with appropriate incentive policies, it will attract the investment of businesses as well as the desire for economic linkage of the localities. neighboring areas in terms of tourism economic development.



### **3.3.2. Human resources for tourism**

Laborers in the tourism industry operate in the following fields: first, performing the management function: managers, staff working in state management agencies in charge of tourism; second, performing professional functions: lecturers, teachers, researchers at tourism training schools and tourism research institutes; third, performing tourism business functions: personnel working at business establishments, direct provision of tourism services, local tourism associations...

With the trend of integration, the new development of the tourism industry requires tourism human resources to always learn, explore, improve new knowledge, update scientific and technological applications related to the tourism industry. service, profession. Always maintain ethics, personal style, and professional ethics to be able to compete in today's tourism environment. The places that train human resources for tourism compile curriculum content, update modern and appropriate teaching methods to train qualified, capable and ethical human resources at the request of tourists age...

If the local tourism industry has a team of human resources, managers with competence and expertise, positive thinking, creativity, good management ability, high skills and professionalism, that will be a factor prerequisite to promote local tourism development in the right direction.

### **3.3.3. Market and international integration**

Economic linkages that interact with the market and integration are often dynamic and strongly developed, and vice versa, the market and international integration are also challenges for the existence and development of many economic links.

Depending on the competitive angle, economic linkages can become static or dynamic. Economic linkages with global elements will become more dynamic than economic linkages with only local competition.

Businesses are governed by the national business environment, but they are also linked to the global market in many ways. Today, the global marketplace offers businesses the opportunity to improve efficiency through improved participation in the value chain: raw materials, components, machinery and equipment, low-cost manufacturing, participation larger market. Enterprises participating in economic linkages with global markets will have better opportunities for development.

### **3.3.4. Related support services**

The network and means of transport are the most important factors in the infrastructure system - ancillary services. Transport is a necessary condition in the process of tourism development. Road, sea, river, and air transport networks are continuously renovated and upgraded to serve the people's daily travel needs and economic activities. But it is also undeniable that the influx of tourists to tourist destinations also promotes the transportation industry to develop more strongly.

The communication network is an important part of the infrastructure to exploit the local tourism advantages. Communication networks are driven both by the growth of the size and complexity of tourism demand as well as by the rapid expansion and sophistication of new tourism products.

The system of electricity and water works has a great impact on tourism because visitors not only need to meet the minimum needs such as food, accommodation, and transportation, but also need convenient electricity and water to meet their personal needs everyday like at home.

The system of ancillary service facilities includes banking services, medical services, public services, entertainment services, works serving the transmission of information and cultural content, etc to create synchronization in the tourism service system, helping visitors have the most optimal service options and always find it interesting and comfortable during their stay in the locality.

Thus, local infrastructure - ancillary services are the levers affecting economic activities, including tourism, in order to promote the exploitation of tourism potential in the most effective way.

#### **4.CONCLUSION**

Developing economic linkages is a fundamental policy issue at the national level in general and in specific regions in particular. Economic linkages are decisive for socio-economic development, security and defense, or a combination of these factors. Lack of regional linkages will reduce labor productivity and investment efficiency. Therefore, investment links for sustainable development must be based on the principle of focusing on strong development in sectors where localities have advantages to create motivation for the overall development of the country. Economic linkages will create conditions to expand economic space for cultural and social exchanges, enhance understanding between ethnic localities and friendship and cooperation between Vietnam and other countries. Economic development based on regional and sub-regional linkages is not a new goal, but in reality, regional and sub-regional boundaries in current policy documents still overlap, based on many different approaches. The connection between sub-regions and localities is still just a combination of many individual development poles with little truly effective interaction and cooperation. In the coming years, if the tourism industry is to be positioned as a key economic sector of a country with a lot of tourism potential like Vietnam, it is necessary to have a sufficient tourism management apparatus; a synchronous and unified management system from central to local levels to regulate regional relations; organize a stable apparatus to establish solid inter-sectoral and inter-regional relationships; If tourism managers are strong enough, the tourism industry will have a chance to excel and lead the spread of other industries, contributing to socio-economic development.

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# PROPERTY TAX IMPLEMENTATION CONTRIBUTES TO THE SUSTAINABLE DEVELOPMENT OF VIETNAM'S REAL ESTATE MARKET

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**Abstract:** The development of a sustainable real estate market is a strategic choice that contributes to the rapid and sustainable development of countries worldwide. To promote the sustainable development of the real estate market, it requires the presence of various mechanisms and synchronized policies, among which the role of taxation cannot be overlooked. Property taxes play a stabilizing role in housing market prices and income redistribution, serving as an important tool to regulate the real estate market. In many countries, including Vietnam, property taxation is still not fully developed, and the real estate market faces difficulties. However, this presents an opportunity to implement tax reforms to control and bring sustainable innovation to the real estate market. This article will focus on analyzing the effectiveness of property taxation and its operation in Vietnam in recent years, as well as proposing solutions to improve property tax policies to contribute to the sustainable development of the real estate market.

**Keywords:** Real estate market, sustainability, property tax, development

## 1. INTRODUCTION

The real estate market in Vietnam has been continuously and rapidly developing in recent years, becoming one of the crucial components of Vietnam's economic growth. According to data from the Vietnam Financial Times, the real estate market is one of the 21 most important primary economic sectors (out of a total of 1,571 economic sectors from level 1 to level 5 according to Decision No. 27/2018/QĐ-TTg), ranking 9th in terms of value scale. However, the contribution of the real estate sector to GDP is still limited. Particularly in 2021 and 2022, this contribution continued to decrease due to the impact of the COVID-19 pandemic. In 2022, the real estate business sector contributed 3.6% to GDP. If we consider the two sectors most directly related to real estate, which are construction (10.6% of GDP) and finance-banking (8.2% of GDP), the activities of these three sectors account for 22.4% of GDP. (Figure1)

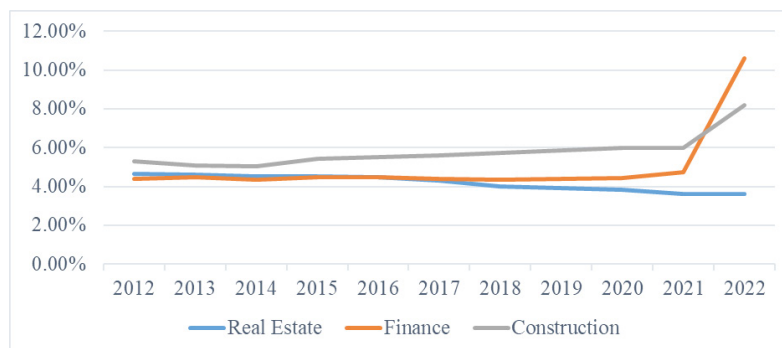


Figure 1. Proportion of Real Estate Industry to GDP

Source: General Statistics Office

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A stable and healthy real estate market will have a positive impact on the economic and social development of a country. Conversely, an unstable real estate market with irrational or prolonged price fluctuations will have negative consequences for economic development, create difficulties in addressing housing needs for the population, and give rise to various social issues. To achieve the goals of economic and social development, one of the tasks is to develop a safe, healthy, and sustainable real estate market.

However, after a period of formation and development, the real estate market has also revealed shortcomings in market operation mechanisms, legal systems, market participants, commodity structures, transactions, information, and management. It also faces the challenge of balancing economic development and ensuring a living environment for people. Alongside strategies and policies aimed at improving the material quality of life for people, governments nowadays are also implementing strategies and policies to promote stable and sustainable development. The direction of sustainable development in the real estate market is receiving attention and emphasis. To promote the sustainable development of the real estate market, it requires the presence of multiple mechanisms and coherent policies, in which the role of taxation is essential.

In Vietnam, the current system of tax policies, fees, and levies related to assets generally covers activities related to establishing ownership rights and usage rights, as well as asset utilization and transfer processes. This includes agricultural land use tax, non-agricultural land use tax, and transfer fees, among others. However, Vietnam has not officially enacted a law on property taxes to regulate taxable assets. Overall, the current tax regulations related to assets in Vietnam are not in line with international standards, as they are fragmented and do not cover all types of taxable assets, resulting in duplication among different tax categories. Although tax policies for real estate in Vietnam have been amended and supplemented in recent times, their practical implementation still imposes certain requirements that need further research and improvement to be suitable for the country's new development context.

The article will focus on analyzing the effectiveness of property tax policies, how these policies worked in Vietnam during the past period, and proposing solutions to improve property tax policies in order to contribute to the sustainable development of the real estate market.

## **2. OVERVIEW OF THE RESEARCH**

### **2.1. Overview of the Research on the Real Estate Market's Sustainable Development**

Sustainable development is an organizing principle that aims to meet human development goals while also enabling natural systems to provide necessary natural resources and ecosystem services to humans. The desired result is a society where living conditions and resources meet human needs without undermining the planetary integrity and stability of the natural system.[1][2] Sustainable development tries to find a balance between economic development, environmental protection, and social well-being. The Brundtland Report in 1987 defined sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs”.[3][4] The concept of sustainable development nowadays has a focus on economic development, social development and environmental protection for future generations.

Sustainable real estate aims to create buildings and infrastructure that meet current needs without compromising the needs of future generations in terms of the environment, society, and economy. Sustainable real estate includes commercial properties and residential buildings designed, constructed, and operated in a way that minimizes environmental impact.

Research on real estate development, in general, and sustainable real estate development, in particular, is quite common worldwide. Real estate is placed within the framework of a market economy, forming the real estate market, which is considered one of the most important markets for the national economy with direct links to financial markets, construction markets, building material markets, labor markets, and more. Sustainable development of the real estate market includes economic, social, environmental, and other aspects. (Kauskale, 2018)

The real estate market can only be considered sustainable when all different aspects of sustainability (environmental, economic, social, and cultural) are addressed. Many nations employ ESG criteria to measure elements connected to sustainable development in the real estate industry, which is a growing trend. The ESG trend emphasizes ensuring that real estate projects are built and operated by optimizing environmental, social, and corporate governance factors.

The concept of ESG was initially mentioned in a 1953 publication by American economist Howard Bowen as corporate social responsibility (CSR) in business operations. ESG appeared for the first time in 2003 in a United Nations report titled “Who Cares Wins? The ESG standards consist of three groups of criteria, as follows:

E: Environmental: Criteria related to environmental protection and natural resource conservation, such as climate change impact and carbon emissions, water and pollution management, resource extraction from forests,...

S: Social: Criteria related to society as a whole, ranging from basic issues like customer satisfaction to holistic issues such as diversity, equity, and inclusion, privacy, data security, community relations,...

G: Governance: Criteria related to organizational operations, including corporate governance issues, intellectual property protection,...

## **2.2. Overview of Property Tax Research**

The real estate tax is the vital means and tool for government to make macroeconomic adjustments and its functions can be summarized into three aspects: increasing the local government revenue, stabilizing housing market price, and reallocating the income [5][6]. The second function, which related to the housing price, is the vital means to adjust housing market price and has attracted much attentions in the previous literature [7].

Theoretically, the impact of real estate tax is not so straightforward. First, the literatures focus on the taxation shifting perspective. Similar with other kinds of taxation, the real estate tax will also turnover, shifting between buyers and sellers of properties. As such, imposing tax would cause the fluctuation in the housing market. The housing market elasticity determines the relation between real estate tax and price [8][9]. Second, from the capital pricing perspective, researchers argue that tax tends to restrict the growth of house. In short-term, imposing property tax will reduce the supply, which then lead to low efficiency. In long-term, imposing property

tax will lead to price decrease. In this sense, imposing the property tax shall be an effective means contributing to restrict speculative demand in housing market [10] [11].

The research findings of Li and Florez-Perez (2021) in the cities of Shanghai and Zhongshan in China indicate an unclear impact of property taxation on controlling real estate prices. According to Ai (2018), it has been concluded that in the long run, the influence of property taxation on property prices is gradually weakening based on an investigation of tax rates, property taxes, and housing prices in 18 countries. However, both studies suggest that property taxation can, to some extent, change people's consumption habits, thereby affecting the societal demand for housing.

### **3. IMPLEMENTING PROPERTY TAX FOR SUSTAINABLE DEVELOPMENT OF THE REAL ESTATE MARKET IN VIETNAM**

#### **3.1. Objectives of Sustainable Development of the Real Estate Market in Vietnam**

The National Green Growth Strategy for the period 2021–2030, with a vision towards 2050, has set forth objectives for transitioning to a green growth model by promoting the greening of various economic sectors, adopting a circular economy model through efficient and sustainable utilization of natural resources and energy, and developing sustainable infrastructure to enhance the quality of growth, leverage competitive advantages, and minimize negative environmental impacts. To achieve these objectives, Vietnam has implemented several policies to promote the sustainable development of the real estate market.

Decision 2161/QĐ-TTg dated December 22, 2021, approving the National Housing Development Strategy for the period 2021–2030, with a vision to 2045, has outlined the objective of developing a sustainable and transparent housing real estate market under the regulation and supervision of the state, in line with land use planning, strategies, programs, and housing development plans. The aim is to limit speculation and the wastage of land resources in housing development.

To achieve the objectives of the strategy, one of the proposed government solutions is to adjust and supplement taxes related to housing in order to regulate the housing real estate market in line with the actual situation and prevent revenue losses for the state budget.

#### **3.2. Implement Property Tax in Vietnam**

The real estate market is a significant market with wide-ranging influence on the sustainable development of the economy and close connections to other markets such as the financial market and the currency market. It has a profound impact on all segments of the population. The sustainable development of the real estate market greatly affects the safety and stability of the financial market. Additionally, sustainable development of the real estate market contributes to rational revenue sources for the state budget, especially for local government budgets.

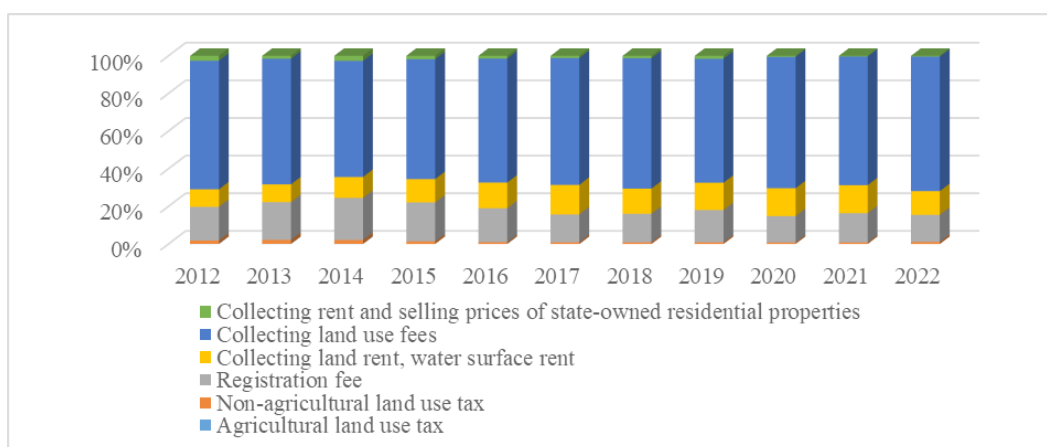
In the budget revenue system in Vietnam, there are currently three groups of different revenues related to real estate (land and housing), including: (i) revenue policies related



to establishing ownership rights and property use rights (such as land use fees or land rent when the State allocates or leases land; registration fees for houses and land); (ii) revenue policies related to the use and exploitation of real estate (such as agricultural land use tax, non-agricultural land use tax); (iii) revenue policies related to real estate transfer, including personal income tax, corporate income tax,...

The results of the implementation of the property tax policy in the period 2012–2022 have achieved some results; the budget revenue from the real estate market is increasing. In 2022, revenue from land and real estate-related activities increased 4.4 times over 10 years and reached about VND 292 trillion, accounting for over 7% of total budget revenue.

In the total revenue from land and activities related to real estate, it is clear that the land use levy accounts for the largest proportion, on average, about 63.4%. Although this is an important source of revenue, it is a one-time source of income and a source of income that lacks buoyancy and whose real value decreases over time. Furthermore, as more and more land is allocated land use rights, it is expected that this source of income will decline in the future (Tran Hung Son, 2021). The average proportion of land rent and water surface rent accounted for 17.3%, followed by the average registration fee, which accounted for 16.5% of total property-related revenue in Vietnam in the period 2012–2022. Meanwhile, agricultural land use taxes accounted for only the lowest proportion on average, average 0.04%, and this rate is decreasing because the government has implemented a policy of exemption and reduction of agricultural land use tax since 2003 in order to promote the field of “three agricultures” (agriculture, rural areas, and farmers). The rates for non-agricultural land use taxes and the collection of rents and sales of state-owned houses averaged 1.2% and 1.4% of total property-related revenues, respectively. (Figure 2)



**Figure 3. Structure of Revenue from Real Estate and the Period 2012 – 2022**

*Source: General Statistics Office, Ministry of Finance*

Furthermore, the tax revenue from real estate transfers, especially personal income tax, tends to increase significantly. The reason for this is the vibrant development of the real estate market and the tax administration measures implemented to limit under-declaration of property values in order to reduce tax liabilities in real estate transactions. In 2022, the tax revenue from real estate transfers is estimated to reach 41,000 billion Vietnamese dong, more than double

the 20,000 billion dong collected in 2021. However, the level of taxation and the methods of taxation for real estate income also reveal certain issues that need to be adjusted to meet new requirements.

To contribute to promoting sustainable development of the real estate market and implementing the measures and orientations for tax system reform as defined in the party's and state's documents and resolutions, it is necessary to study and review tax policies related to real estate transfers for appropriate adjustments. These adjustments may include regulations related to taxable income, tax rates for real estate transfer activities, and more.

### **3.3. Issues Raised When Property Taxes Contribute to the Sustainable Development of Vietnam's Real Estate Market**

The role of anti-speculation and control has not yet been promoted to help the healthy and stable development of the real estate market. In order to perfect and apply the property tax policy to contribute to the sustainable development of Vietnam's real estate market and prevent land speculation, the State needs to overcome some of the following problems:

*Firstly*, the tax rate on land is too low, almost insignificant and insufficient to regulate the real estate market. At present, homeowners in Vietnam do not have to pay housing property tax, but only pay non-agricultural land tax, with the tax rate on land within the limit of 0.03% of the land price. During the period 2012-2022, the rate of tax on non-agricultural land use in the total state budget income was still modest, averaging about 15%. The amount of tax payable under the Law on non-agricultural land use tax is still low, has not promoted the organizations, individuals in society to use the land efficiently. Land use owners are not much affected by taxes, land is not used out of performance for business production, even left empty, causing waste of land resources.

*Secondly*, the state of agricultural land. Non-agricultural land use tax policies are outdated and no longer appropriate in the current context of development. At the same time, the Government issued a policy of exemption and reduction of non-agricultural land use tax until the end of December 31, 2025, which creates a loophole for many speculators to collect, subdivide, buy, and sell land plots. agriculture (actually no agricultural production) to seek profit but still only subject to 2% tax on the transfer price (sometimes not declaring true transactions). Farmers have lost their land; agricultural land is fallow; and agricultural investment enterprises have difficulty accessing the land fund because of the sky-high rental and purchase prices. An agriculture with large sample fields and modern-scale production is a dream on paper but difficult to realize.

*Thirdly*, land use fees account for a high proportion of the total asset value. The land use levy is a one-time income and has a real decrease in value over time. Meanwhile, developed countries only collect house and land taxes every year but not one-time land use fees. Currently, the land use fee accounts for about 10% of the apartment value and about 30% of the value of townhouses (houses attached to land). Particularly for villas, land use fees account for 50% of the house value. The reality shows that land use levy still accounts for too large a proportion of the total value of real estate, and the taxing of property will lead to a situation where tax is on top of tax.

*Fourthly*, according to current regulations, individuals transferring real estate pay tax at 2% of the transfer price. Accordingly, for transactions with a high difference between the

buying and selling prices, 2% is considered not enough to limit speculation; vice versa, if the selling price is lower than the buying price, the seller, even though he has a loss, has no income from this transaction but still has to pay personal income tax. In addition, the situation of understating the transfer price to reduce the amount of tax payable is quite common. Meanwhile, the local land price list is always lower than the market value.

#### **4. SOLUTIONS TO PROMOTE THE IMPLEMENTATION OF PROPERTY TAX TO CONTRIBUTE TO THE SUSTAINABLE DEVELOPMENT OF VIETNAM'S REAL ESTATE MARKET**

One of the solutions mentioned in the Tax System Reform Strategy until 2030, aimed at achieving the goal of completing a comprehensive and sustainable tax policy system that is in line with international practices, is to continue exempting agricultural land use tax until the end of 2025. Additionally, research will be conducted to enhance regulations on property and land taxation and introduce taxes on houses to encourage the effective use of property and land while limiting speculation in the real estate market. The government has also outlined the construction and implementation of real estate taxes in the Tax System Reform Strategy until 2030 and the Financial Strategy until 2030. However, practice in many countries shows that reforming tax policy related to real estate is a complex process, requiring consensus, a strong commitment to reform, and careful preparation of implementation conditions. In the foreseeable future, priorities for reforming the real estate-related tax policy system in Vietnam should be aimed at strengthening, rationalizing and modernizing the tax types related to real estate that are being applied specifically as follows:

*Firstly*, the study applies the property tax policy as an alternative to the non-agricultural land and agricultural land use tax policies, ensuring compliance with recognized principles that have been widely applied in many countries. In the world, thereby creating financial resources to stabilize the budget. Property tax policy needs to synchronize many related regulations, such as personal income tax from real estate transfers, registration tax, and tax administration law. This will make it easier to mobilize resources, encourage reform initiatives, and create the necessary synergy between state management agencies and taxpayers to successfully implement and maintain the application. property tax.

*Secondly*, the taxable property's taxable value should be determined according to the principle of attaching to the market price. The State needs to issue an annual land price list close to the market value of real estate, used as a basis for calculating real estate tax and income tax from real estate transfers, ensuring consistency between the government and its tax and other financial policies, and at the same time, ensuring stable state budget revenue. Vietnam should consider applying a taxable property value threshold. The regulation of taxable thresholds will contribute to ensuring the simplicity of the application of this tax, minimizing compliance costs, while still ensuring appropriate regulation across regions and localities.

*Thirdly*, apply a progressive tax rate to the value of the property and different tax rates for different types of land and houses. Tax on the house is calculated on the basis of the value of the house; however, the tax rate should be determined based on the intended use of the house. The determination of a specific tax rate needs to be considered in a number of aspects, including the harmony of requirements for mobilizing resources for the state budget, efficiency

in revenue collection (revenue is large enough compared to the cost of tax collection), the ability to pay taxes for different target groups, and the overall development of the economy.

*Fourthly*, improve tax policy for income from real estate transfers by individuals as well as businesses. Accordingly, in the coming time, Vietnam may study tax collection on income from real estate transfers by individuals according to the holding period. The shorter the purchase and resale period, the higher the tax rate must be, together with other relevant taxes, to contribute to limiting speculation and supporting the sustainable development of the real estate market. For enterprises, if production and business activities (including the income currently enjoying corporate income tax incentives) suffer a loss, this loss should also be allowed to be offset against the profit from the transfer of real estate. movables. The remaining income after clearing will be subject to the corporate income tax rate for business activities with income. The addition of regulations allowing a 2-way offset between income from real estate transfer activities and other business activities will contribute to removing difficulties and reducing compliance costs for businesses.

*Fifthly*, strengthen the efficiency of real estate market management by building and strengthening databases on real estate and real estate transactions. In order to reform the tax policy for real estate successfully, according to international experience, it is necessary to have a good preparation of technical factors, especially for determining the value of houses and land.

## **CONCLUSION**

The development and completion of tax policies related to real estate in any country is a complicated matter. These are taxes that have a wide impact, affecting all classes of people and different subjects in society. Accordingly, reform proposals and orientations need to be carefully studied, and an implementation roadmap is needed so that people and businesses can gradually adapt to the policy through promoting information and propaganda work. transmission. At the same time, to successfully apply the property tax policy, it is necessary to have a good understanding of technical and management factors.

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# PROMOTING TRADE CONTRIBUTES TO ECONOMIC RECOVERY AND DEVELOPMENT

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**Abstract:** Vietnam, in its participation in international trade, has capitalized on the advantages of cheap resources and labor, leading to rapid growth in the export of labor-intensive technology products. Trade has played a crucial role in economic growth and enhancing Vietnam's global competitiveness through diversifying the supply source and expanding consumer markets. However, recently, Vietnam's import-export structure has shown signs of instability and dependence on external factors. Therefore, it is necessary to reassess the current trade situation in Vietnam. Based on the latest research data, this article will shed light on the industrialization status and comparative advantages of Vietnam's economy in two main aspects: the level of technology embedded in Vietnam's exports and imports, and the value added of export items and their relationship with trading partners.

**Keywords:** trade promotion, recovery, economic development

## 1. INTRODUCTION

In the face of economic challenges and disruptions, promoting trade plays a crucial role in supporting economic recovery and fostering sustainable development. Trade serves as a catalyst for economic growth by facilitating the exchange of goods and services across borders, fostering international cooperation, and enhancing global competitiveness. Recognizing the significance of trade in revitalizing economies, governments and policymakers strive to implement effective measures and policies to promote trade and unlock its potential benefits.

This paper aims to explore the importance of promoting trade in driving economic recovery and development. It examines the role of trade in leveraging resources, stimulating economic growth, and reducing the impact of shocks on national economies. By analyzing the key factors and strategies involved in promoting trade, this study seeks to shed light on the potential pathways for enhancing trade activities and their positive implications for economic progress.

Through a comprehensive review of existing literature, empirical studies, and case analyses, this paper delves into the various dimensions of trade promotion, including diversification of trade, optimization of value chains, and facilitation of trade facilitation measures. It also explores the role of technological advancements, digital trade, and infrastructure development in fostering trade expansion and resilience. Furthermore, this study highlights the need for coordinated efforts among governments, international organizations, and stakeholders to implement policies that promote trade, remove barriers, and foster a conducive trade environment. It emphasizes the importance of multilateral agreements, regional integration,

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and collaborative initiatives to strengthen international trade relations and create a more inclusive and sustainable global trading system. By examining the opportunities and challenges associated with trade promotion, this paper contributes to the existing body of knowledge on the subject and provides valuable insights for policymakers, researchers, and practitioners involved in trade policy formulation and implementation.

## 2. CHARACTERISTICS OF VIETNAM'S IMPORT-EXPORT ACTIVITIES

When examining the structure of imports and exports categorized by their usage purposes, it becomes evident that Vietnam had a higher proportion of intermediate goods for producing and exporting consumer goods compared to several countries including the United States, Japan, China, South Korea, and ASEAN member countries during the period of 2010-2020. This highlights Vietnam's reliance on intermediate goods for its production and export activities in the consumer goods sector. Additionally, Vietnam's trade structure shows a positive aspect in terms of technological level, with a significant presence of high-tech manufacturing categories like "electrical and electronic equipment" and "medium-tech manufacturing: engineering" in its trading activities.

However, there is a notable disparity between the proportion of exported goods and their contribution to value-added. Despite exporting numerous electronic products, Vietnam's domestic value-added in these exports is minimal. On the other hand, the highest value-added export products consist mainly of crude oil, natural gas, coal, agricultural products, as well as certain clothing and footwear items.

These characteristics of Vietnam's import and export structure have important implications for the country's industrial development and trade strategies. The reliance on intermediate goods for producing and exporting consumer goods underscores the necessity of strengthening domestic value-added activities and upgrading the technological capabilities of Vietnamese industries. Moreover, it emphasizes the significance of diversifying export products and enhancing the competitiveness of value-added sectors.

By understanding these dynamics and exploring ways to address the existing challenges, policymakers can shape strategies and policies that promote sustainable economic development, technological advancement, and a more balanced trade structure in Vietnam. From the above aspects, some characteristics of Vietnam's imports and exports can be summarized as follows:

**Firstly**, imports for processing and assembly have a low level of value-added content.

The reality of importing inputs for processing and assembly of Vietnam's export industries is evident through trade in value-added (TiVA) data. The export value-added of Vietnam has shown an increasing trend, especially since 2016. Domestic value-added in 2019 increased by 327% compared to 2010, indicating a higher utilization of domestic inputs.

When considering the source of inputs for Vietnam's exports, it is evident that China is the largest supplier of intermediate inputs for the manufacturing process in Vietnam during the period of 2010-2019, accounting for 21.4% of Vietnam's imported value-added. Japan, South Korea, Singapore, and Thailand are the next major input suppliers for Vietnam, accounting for 19%, 8.33%, 6.37%, and 5.57% respectively. While none of the classified sectors in Vietnam

have high risk levels in terms of dependence on foreign countries and concentration of supply, there are several sectors with medium risk due to high ratios of foreign raw materials, such as textiles and electronics.

**Secondly**, the actual benefits of participating in FTAs are not as high as expected.

The reason for Vietnam's limited benefits from participating in FTAs is the high proportion of foreign inputs in its exports, leading to the risk of goods not meeting the requirements of Rules of Origin (ROO). Specifically, FTAs often have rules of origin requirements that specify minimum domestic content or value-added criteria for products to qualify for preferential treatment. When Vietnam relies heavily on imported inputs, meeting these requirements becomes challenging. Consequently, Vietnam's exports may not qualify for preferential tariff rates or other benefits under the FTA, limiting the extent to which Vietnam can fully leverage the advantages of the agreement. Depending on foreign inputs in the production process can hinder the development of the domestic value chain and the absorption of advanced technology, limiting the potential benefits that could be gained from FTAs in enhancing productivity and competitiveness.

Additionally, foreign input suppliers greatly benefit from Vietnam's participation in FTAs due to the increased demand for foreign inputs by export-oriented enterprises. For example, in the electronics manufacturing sector, Vietnam heavily depends on imported components such as integrated circuits, microchips, and display panels. Foreign suppliers of these components, often from countries with advanced technological capabilities, benefit from the increased demand and market access in Vietnam through FTAs. They occupy high-value-added production activities within the value chain, while Vietnamese enterprises mainly engage in assembly and processing activities.

**Thirdly**, the weak development of the supporting industry

The supporting industry plays a crucial role in enhancing the linkages within the supply chains of key industries in Vietnam's economy, such as textiles, footwear, electronics, agriculture, and fisheries. In recent years, the domestic supporting industry has shown promising growth in terms of quantity and quality, accounting for approximately 4.5% of the total number of enterprises in the manufacturing industry.

However, in the technology sector, the supporting industry in Vietnam still faces certain existing challenges and limitations. Domestic supporting industrial products remain simple, with average and low technological content, and they have small value within the product value structure. The localization ratio in various industries is still low, for example, the electronics industry ranges from 5-10%, the automobile industry from 7-10%, and the textile, footwear, and leather industries from 45-50%.

**Fourthly**, high trading costs

The trading costs between Vietnam and key partners such as ASEAN, Australia and New Zealand, Canada, the United States, and the three largest trading partners in Europe, namely France, the United Kingdom, and Germany, have shown a decreasing trend during the period of 2010-2018. However, it can be observed that the reduction in non-tariff trading costs between Vietnam and some partners has been significantly slower compared to the reduction in tariff

costs. In the trade exchange between Vietnam and ASEAN, tariff costs were reduced by 74% in 2018 compared to 2010, while non-tariff trading costs during the equivalent period were only reduced by 12%.

### **3. ENHANCING TRADE RESILIENCE FOR ECONOMIC RECOVERY**

To address the challenges in international trade activities outlined above, Vietnam can consider implementing a comprehensive set of solutions:

**Firstly**, diversifying trade for enhanced resilience: This involves promoting export programs, encouraging market diversification, and strengthening trade promotion agencies. Implementing quality standards and certifications, fostering innovation and research, and adopting industry-specific strategies will also be beneficial. Additionally, leveraging e-commerce and digital trade, bolstering logistics and infrastructure, and fostering international cooperation and partnerships are crucial steps.

**Secondly**, enhancing position in the value chain: Vietnam can transition from the traditional model of focusing on low-value industries and final goods to a more advanced approach. This entails shifting towards high-value industries and prioritizing activities that add significant value within each sector.

**Thirdly**, facilitating trade: The country should actively work on reducing trade barriers, promoting free trade agreements, and investing in infrastructure improvements. Emphasizing the adoption of information technology to streamline trade processes is equally important.

By implementing these synchronized solutions, Vietnam can strengthen its position in the global market and effectively navigate the challenges of international trade.

### **4. CONCLUSION**

In conclusion, promoting trade is crucial for driving economic recovery and development, especially in the face of economic challenges and disruptions. It serves as a catalyst for economic growth, facilitates international cooperation, and enhances global competitiveness. To unlock the potential benefits of trade, governments and policymakers need to implement effective measures and policies.

The characteristics of Vietnam's import-export activities highlight the need for strategic considerations in industrial development and trade strategies. Vietnam's reliance on intermediate goods for producing and exporting consumer goods underscores the importance of strengthening domestic value-added activities and upgrading technological capabilities. Diversifying export products and enhancing the competitiveness of value-added sectors are also crucial for a more balanced trade structure.

However, Vietnam faces challenges in fully leveraging the benefits of free trade agreements due to the high proportion of foreign inputs in its exports, which may not meet the requirements of Rules of Origin. Additionally, the weak development of the supporting industry and high trading costs pose obstacles to Vietnam's trade resilience.

To enhance trade resilience and drive economic recovery, Vietnam can focus on diversifying trade, enhancing its position in the value chain, and facilitating trade. Market diversification, trade promotion, innovation, and industry-specific strategies can contribute to diversifying

trade. Shifting towards high-value industries and prioritizing value-added activities within each sector will enhance Vietnam's position in the value chain. Reducing trade barriers, promoting free trade agreements, investing in infrastructure, and adopting information technology are key to facilitating trade.

By implementing these comprehensive solutions, Vietnam can strengthen its trade resilience, enhance its global market position, and foster sustainable economic development. Coordinated efforts among governments, international organizations, and stakeholders are crucial in creating a more inclusive and sustainable global trading system.

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# CAPITAL SAFETY FOR VIETNAM COMMERCIAL BANKS

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**Abstract:** *In the article, we mention issues related to capital adequacy and financial safety of commercial banks, especially in the context of digitalization of banking and financial activities. Analyzing the current situation of capital adequacy in financial safety of Vietnamese commercial banks in the period 2011-2020. From the assessments through the success, limitation and cause, the article proposes 7 groups of solutions to ensure capital adequacy and enhance financial safety for Vietnamese commercial banks in the current context.*

**Keywords:** *Capital security of commercial banks, Financial safety of commercial banks*

## 1. INTRODUCTION

Commercial banks are important financial intermediaries in the economy with the main activities of receiving deposits, using them for lending, and providing banking services to customers in the economy. The commercial banking system plays the role of regulating capital flows in the economy from the place of excess capital to the place of lack of capital, performing the function of intermediary payment for the economy. As a special enterprise, doing business in the monetary field, banking business always faces many risks. As a financial intermediary in the economy, commercial banks have to have social responsibility before many groups of people involved, so capital and financial safety of commercial banks to ensure full repayment of principal and interest to depositors is the duty of commercial banks. In addition, banking activities involve all sectors and components of the economy, so unsafe banking activities will negatively affect the macro-economy. Therefore, ensuring capital adequacy is a prerequisite for commercial banks in particular and the economy in general to develop stably and sustainably.

## 2. RESEARCH OVERVIEW AND METHODS

### 2.1. Research overview

- Tran Thi Lan Anh (2020) “Factors affecting capital adequacy of Vietnamese commercial banks”, PhD thesis, National Economics University. The thesis has shown that factors such as capital adequacy ratio in the previous period, profitability, provision for credit risks, liquidity, bad debt sold to Vietnam Asset Management Company, capital adequacy level of the whole industry are positively and statistically significant to the capital adequacy ratio (CAR).

- Truong Quoc Cuong (2012) “Ensuring the safety of banking operations in Vietnam - viewed from Basel standards”. The study compared the legal compliance of the State Bank of Vietnam applied in 2010, 2011 with Basel 2.

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- Sufian (2009), “Determinants of bank efficiency during unstable macroeconomic environment. Empirical evidence from Malaysia conducted research at commercial banks operating in the Malaysian market.

- Nguyen Duc Trung (2012) “Ensuring the safety of Vietnam’s commercial banking system on the basis of applying the Basel international capital standards treaty”, PhD thesis, Banking Academy. The thesis has mentioned the view of the safety of the banking system from a macro perspective to the regulator, the content of the Basel2 treaty, international experience for the management agency in applying and drawing lessons for the State Bank of Vietnam.

- Tu DQ Le (2017) “Financial soundness of Vietnamese commercial banks: A Camels approach” The study used to incorporate the DEA model into the Camels approach. The research has provided credit ratings of Vietnamese commercial banks, thereby helping Vietnamese managers approach the financial status of banks according to international standards.

## **2.2. Research Methods**

We use the methodology of dialectical materialism, historical materialism, statistical methods, synthetic and comparative analysis methods in this paper.

## **3. RESEARCH CONTENTS**

### **3.1. Theoretical basis**

#### **3.1.1. Financial security of commercial banks**

Finance of commercial banks is the movement of cash flows associated with the process of creating, distributing and using monetary funds arising in the course of operation to achieve the set objectives of commercial banks. As a financial intermediary in the economy, the finance of commercial banks includes financial relations with entities in the economy. (1) Creation of monetary funds: The creation of monetary funds is demonstrated through: (i) Creation of sufficient capital to ensure capital adequacy; (ii) Establishing the scale of deposit capital, capital from valuable papers to meet the demand for investment loans and liquidity; (iii) Establishing a risk reserve fund to cover risks and limit losses; (2) Distribution of monetary funds: The distribution of monetary funds is shown through: (i) Distribution of assets must ensure the maintenance of an asset portfolio structure to ensure diversification and dispersion of risks; (ii) Ensure quality distribution of assets; (iii) Comply with the principles of capital use, ensure safe limits in lending and investment; (3) Objective: to achieve the projected return and reduce risks.

Financial safety is the ability of a bank to survive, endure and withstand adverse impacts of the external environment to the extent that it can. In other words, a bank is considered safe when the bank creates its own capital to ensure capital safety, creates enough mobilized capital for lending and investment activities, and meets liquidity needs. At the same time, the bank’s capital allocation ensures asset quality, risks spread and targeted returns within the identified risks appetite. Therefore, the financial safety of commercial banks is the balance between profits and risks in business activities, ensuring the development of the bank in the future. Thus, the financial safety of commercial banks is the creation and distribution of capital with the goal of avoiding losses beyond control based on risks appetite, and at the same time, ensuring profitability.

For commercial banks: (i) financial safety is the basis for existence and development, (ii) financial safety is the basis for improving competitiveness, (iii) financial safety meets integration requirements, (iv) financial safety shows the responsibility of commercial banks to society, (v) financial safety contributes to ensuring safety of the system and national financial security.

The contents of financial safety of commercial banks include (i) capital adequacy, (ii) asset safety, (iii) liquidity safety and profitability assurance. Within the framework of this article, we mention a very important content that is capital adequacy.

### ***3.1.2. Capital safety of commercial banks***

For commercial banks, equity capital accounts for a small proportion of total business capital of commercial banks, but plays an important role in business activities. Own capital creates the strength and competitiveness of commercial banks. The size of capital reflects the financial capacity of commercial banks, the ability to compensate for losses if risks occur, and determines the ability to modernize technology and expand the network. Therefore, ensuring sufficient capital in business activities is the basis for commercial banks to withstand risks, expand business activities, and is the basis for the existence and development of commercial banks. The assurance of sufficient capital in business activities is reflected in the following issues: (i) Equity structure of commercial banks. Equity capital of commercial banks includes tier 1 capital (owner's equity) and tier 2 capital (additional capital of commercial banks). Tier 1 capital is used to measure the financial health of commercial banks and is used when the commercial bank incurs losses without stopping its business operations. Tier 2 capital is reserve capital, capital instruments, and long-term debt. Tier 2 capital is additional capital, so the stability is lower than Tier 1 capital. Therefore, consider the capital structure of commercial banks is to assess the level of financial safety as well as the ability to compensate for losses when risks occur. Ensuring the capital adequacy ratio is the commercial bank's guarantee of the interests of depositors in the event of a risk. With the characteristics of borrowing to lend, mobilized capital accounts for about 90% of the total business capital of commercial banks, so an insolvent commercial bank will affect the operations of other commercial banks and may threaten the operation of the whole financial market. Therefore, this is one of the important conditions to assess the financial safety of commercial banks.

## **3.2. Practice in Vietnam**

### ***3.2.1. Implementing capital adequacy at Vietnamese commercial banks:***

Commercial banks are enterprises that borrow to lend, therefore, to ensure full repayment of principal and interest to depositors, commercial banks must ensure capital adequacy. Capital adequacy is demonstrated through the size of own capital as well as the capital adequacy ratio of the commercial bank itself.

As of October 31, 2022, the commercial banking system in Vietnam includes: 4 state-owned commercial banks, 31 joint stock commercial banks, 9 foreign commercial banks, 2 joint venture commercial banks. In the period of 2011 - 2020, commercial banks shall ensure capital adequacy in accordance with the provisions of Circular 13/2010/TT - NHNN; Circular

09/2010/TT - NHNN and Circular 22/2011/TT - NHNN (period 2013 - January 2015); Circular 36/2014/TT - NHNN and Circular 06/2016/TT - NHNN (from July 2016). Circulars 13, 36 and 06 all require a CAR  $\geq 9\%$  and only count risky assets according to credit risk. The difference related to Capital adequacy ratio calculation in these 3 circulars is the division of assets according to different levels of risk. From 2019 up to now, 10 commercial banks selected for research have been recognized to apply Basel2 to ensure safety in accordance with the provisions of Circular 41/2016/TT - NHNN. Accordingly, the CAR regulation is  $\geq 8\%$ , including credit risk, operational risk and market risk.

Regarding the scale of equity capital: In the period of 2013 - 2022, many commercial banks increased tier 1 capital through retained earnings and issuing more shares; at the same time, increase tier 2 capital through bonds with a term of more than 5 years. Except for Exim bank's decrease in equity capital and NCB's slight increase, the equity capital of the remaining commercial banks tended to be strong in the period 2013 - 2018. In 2013, 2014, in the context of many negative changes in the banking market, commercial activities of commercial banks did not have many bright spots, so the ability to increase equity capital was low. Since 2015, with the positive changes of the macro economy and the banking market, along with that, the SBV announced the Basel2 implementation roadmap for commercial banks, so commercial banks strive to increase their own capital, especially in the 2016-2022 period.

Regarding capital adequacy ratio (CAR): this is a measure of a commercial bank's ability to meet relevant obligations when the commercial bank is at risk. Helping commercial banks to deal with damages and fully comply with depositors without having to stop their operations. In the period 2011 - 2022, the CAR coefficients of Vietnamese commercial banks are guaranteed according to the regulations of the State Bank. In 2014, the State Bank announced the roadmap to implement Basel2. VCB has always maintained a relatively high CAR, being one of the first commercial banks to apply Circular 41/2016/TT - NHNN. VietinBank and BIDV, due to difficulties in raising Tier 1 capital, during the whole period, the CAR coefficient calculated according to the provisions of Circular 13, Circular 36 and Circular 06 of these two commercial banks was not much higher than the minimum level. In 2019, thanks to the successful issuance of shares to KEB, BIDV had enough capital to apply Circular 41, but BIDV's CAR only reached the minimum threshold. Many other commercial banks maintain CAR coefficients higher than the minimum threshold of at least 2%.

Regarding meeting the level of capital adequacy under Basel2: Immediately after the State Bank announced the Basel2 application roadmap VCB, BIDV, VietinBank, Techcombank, VPBank, MB, ACB, TienphongBank, HDBank actively implemented measures to implement this treaty. Many commercial banks have established the Basel2 Project Management Unit (PMO) with the role of a focal point to coordinate the implementation of Basel2 among units and departments in commercial banks to implement Basel2-related projects, and issue documents specifying the functions, duties and responsibilities of the PMO as well as related departments; Perform analysis and assessment of the difference between the current status and the requirements of Basel2; Changing the risk management model from distributed risk management to centralized risk management based on a three-line control structure.

Building a risk appetite framework: Commercial banks have identified key risks as prescribed in Circular 13/2018/TT - NHNN. Traditional risks such as credit risk, operational risk, market risk are identified. Some commercial banks make risk appetite statements according to the intermediate method, meaning that the appetite statement is mainly qualitative, less quantitative.

Regarding models and risk measurement tools: Most commercial banks have initially implemented and completed the construction of internal credit rating models, applied to credit appraisal and approval; plan to deploy operational risk tools such as LDCs, RCSAs, KRIs; using data from the market to build VaR calculation models, market-based pricing models and model-based pricing models.

Regarding the application of information technology in risk management: Commercial banks have invested in purchasing and building software to perform the functions of loan creation, security asset management, debt recovery, calculation of risky assets, and management of assets and liabilities.

About data: Due to the requirement of data fields for many years, commercial banks have implemented the construction of a centralized data warehouse along with the establishment of a data governance framework to manage data, serving the construction of risk quantification models.

With the efforts and implementation since the State Bank announced the Basel2 implementation roadmap, up to now, many commercial banks have been recognized by the State Bank to implement governance in accordance with Circular 41.

### **3.2.2. Assessing the situation:**

Evaluation of successes: In the period 2011 - 2022, Vietnamese commercial banks ensure the capital adequacy ratio in accordance with regulations of the State Bank. Many commercial banks have made efforts to increase their own capital (both tier 1 capital and tier 2 capital) to improve financial capacity, ensure capital adequacy ratio according to regulations and towards the application of Circular 41 (Basel2 standard method). In the equity structure, Tier 1 capital accounts for the main proportion, showing the solidity of the capital structure of commercial banks. Regarding the CAR coefficient, commercial banks maintain this ratio according to the regulations of the State Bank ( $\geq 9\%$ ). In 2019, 8 commercial banks have been approved by the SBV to apply the capital adequacy ratio calculation (pillar 1) according to the provisions of Circular 41, and these commercial banks all ensure a CAR ratio greater than 8%.

Some limitations: (i) The scale of equity capital of Vietnamese commercial banks is still limited, especially to meet the requirements of calculating capital adequacy ratio according to international practices; (ii) The implementation of pillars related to capital adequacy, capital adequacy calculation or Basel2 disclosure of Vietnamese commercial banks is still limited.

The above limitations stem from two groups of reasons: (1) The subjective reason is that some commercial banks still have many problems, so it is difficult to increase charter capital; Business activities of commercial banks have many potential risks; The process of restructuring some commercial banks has not been effective; some commercial banks constantly change their senior leadership and scandals related to fraud and appropriation of customers' money make

business performance low... (2) Objective reasons: (i) the economic environment has many negative developments; (ii) the legal environment is incomplete, inconsistent or outdated, which is no longer suitable with the practice of ensuring financial safety of commercial banks; (iii) social environment has many changes; (iv) VAMC's activities in dealing with bad debts are not really effective...

### 3.3. Proposed solutions

**Firstly: Increasing equity capital:** Own capital can show the financial capacity of commercial banks. In the period 2011 - 2022, Vietnamese commercial banks have made efforts to increase their own capital, some commercial banks are really successful, in the short term, commercial banks need to increase capital to meet Basel2 requirements for unfinished commercial banks and increase capital to meet Basel2 requirements for commercial banks that have completed Basel2 according to the standard method. In the long term, after completing the application of Basel2, commercial banks must apply Basel 3 with higher capital adequacy requirements. Therefore, increasing equity capital is essential for all commercial banks. The increase in own capital can be done in two forms: increase of tier 1 capital and increase of tier 2 capital.

**Secondly: Completing the internal capital adequacy calculator (ICAAP):** Building a specific ICAAP roadmap is an important part that cannot be ignored when implementing Basel2 because when implementing pillar 2, ICAAP provides results of internal capital adequacy assessment based on overall risk measurement. Commercial banks must apply an internal capital adequacy assessment process related to their risk profile as well as their own capital adequacy maintenance strategy. ICAAP identifies all material risks at commercial banks that are outlined in pillar 1 (credit risk, market risk and operational risk) and risks not mentioned in pillar 1 such as liquidity risk, concentration risk, reputation risk, equity risk, business risk, income risk, etc. interest rate on the bank book, liquidity risk, concentration risk. Thus, in the long term, besides the basic risks prescribed by the State Bank, commercial banks must have a plan to build capital calculations for other types of risks according to ICAAP that are not yet regulated in Circular 13.

Completing the risk appetite framework: In fact, commercial banks now identify basic risks such as credit risk, market risk, operational risk and liquidity risk. Therefore, perfecting the risk appetite framework to identify the overall risk categories, measure the risk tolerance to determine the level of capital is needed. To complete the risk appetite framework, commercial banks can implement the following solutions: (i) Declare risk appetite according to qualitative and quantitative analysis methods. (ii) Determine overall risk tolerance, (iii) Develop key risk indicators (KRIs), (iv) Develop tolerance levels for KRIs...

**Thirdly: Improve the risk management policy:** To serve the measurement of credit risk, operational risk, market risk to serve the calculation of capital adequacy ratio according to Basel2, one of the first tasks for commercial banks is to perfect the risk management policy. This is because the risk management policy for each type of risk is considered a guideline in risk management activities. The risk management policy for each type of risk must be comprehensive, meeting the following requirements:



- For risk appetite: The management policy for each type of risk must reflect the risk appetite of commercial banks in each period. Based on the business strategy of commercial banks, the Board of Directors decides on the appetite of each type of risk and declares this risk appetite. Decisions on the level of risk are made through regulations on risk appetite, determining the limits of each type of risk that commercial banks can accept in general for the entire business. Also, define limits for each asset class, activity, or business unit. The risk limits must be consistent with the scale and degree of diversification of business activities, in accordance with the risk measurement and management capabilities of commercial banks.

- For the principles of risk management: (i) Provide a unified principle from identification, measurement, control, monitoring to reporting of each type of risk; (ii) Provide principles for risk management in normal and adverse conditions (such as events of strong fluctuations in exchange rates, interest rates, natural disasters, epidemics, data loss incidents...).

- Specify the limits of each type of risk: (i) For credit risk: Determine the target bad debt ratio, the target bad credit granting rate according to customers, industries and economic sectors; (ii) For liquidity risk: Specify the minimum market risk limit for each portfolio, for traders, limit for stop loss for interest rate risk, foreign exchange risk, commodity risk, stock price risk.

- Regulations on measures and tools to prevent risks: (i) For credit risk: Propose the principle of determining the cost of credit risk offset in the method of calculating interest rates, valuing credit products according to the level of credit risk of customers. At the same time, clearly reflecting the principles of applying credit risk mitigation measures, specifying the authority to approve credit risk reduction measures; (ii) For market risks: Regulations on hedging measures that commercial banks can use; (iii) For operational risk: reflect the principle of using outsourced activities, buying insurance, applying technology. Along with that, reflect measures to prevent and handle operational risks that occur frequently in business activities. - Strengthening the self-responsibility of officials and employees in each stage of the credit risk, market risk and operational risk management process. Clearly define departmental and individual responsibilities for risk management decisions.

**Fourthly: Completing the credit risk measurement tool according to Basel2:** Some commercial banks are in the process of preparing to apply Circular 41. Therefore, with this group of commercial banks, it is necessary to urgently complete the final stages of testing and proceed to apply the SA method. Commercial banks have completed measuring credit risk according to SA standard. Accordingly, the risk coefficients, the probability of default (PD), the outstanding balance at the time of customer default (EAD), the loss ratio when the customer defaults on debt (LGD) and the actual debt maturity M are regulated by the SBV and associated with a risk coefficient based on independent ratings. This is the simplest of the three methods of RRTD. According to the recommendations of the Basel committee, commercial banks should build their own models to calculate estimates in accordance with the characteristics of their business operations. This model is approved by the banking supervisory authority before being officially applied.

**Fifthly: Building a system of market risk limits:** Commercial banks should soon issue regulations on market risk limits because the goal of market risk control is to manage the level



of losses of commercial banks against possible fluctuations in interest rates and exchange rates compared to approved limits. Set of indicators to measure market risk and established limits and tools to manage market risk positions. The set of market risk limit indicators must be consistent with the method of measuring market risks and be established in accordance with the capital size, business strategy plan and risk status of each commercial bank. Research, limit proposal, review and change as well as approval should be clearly and specifically specified in the responsibilities of departments involved in market risk management. The set of limit indicators should be developed by the legal department and the market risk management department, and submitted to the board of directors for approval. The daily market risk limit control process is detailed and specific. Market risk status should be strictly controlled according to the set of interest rate risk limits approved by the Management and controlled in daily business activities.

**Sixthly: Building a market risk management model:** For commercial banks that are preparing to apply Circular 41, that is to manage market risk according to the standard method. Therefore, commercial banks in this group need to complete the application of market risk management according to the standard method. Accordingly, capital is calculated separately for each of the specific and general risks arising from positions in debt and equity instruments. However, the application of this method mainly focuses on the general market risk, while the specific risk is mainly measured through the credit risk measurement system. The standard approach measures four types of risk: interest rate risk, equity position, exchange rate risk, and commodity risk.

Commercial banks have begun to apply the standard method of risk management. Therefore, in the coming time, commercial banks in this group need to develop a model for disaster risk management according to IMA method. Accordingly, the VaR value of each transaction, portfolio and all commercial banking activities can be determined. This method allows commercial banks in this group to calculate more accurately the required capital for market risk according to the actual business operations of their commercial banks. However, the IMA method is only implemented with the consent of the banking supervisory authority. To prepare for the application of the IMA model, commercial banks need to do the following issues: (1) Building a VaR model to determine the value of VaR for each transaction, portfolio as well as the entire operation of commercial banks. VaR value is calculated on the software system and VaR is used for risk management, quantitative management, financial management, financial reporting and calculating the required capital. VaR helps commercial banks to save capital, test the strength of commercial banks (Stress Test), check and predict the full level of withdrawal (back-test), predict the level of loss (EL). To calculate VaR, commercial banks can use 3 methods: (i) Delta - Gamma method, (ii) Historical simulation method, (iii) Monte Carlo simulation method; (2) Periodically, commercial banks need to apply Back - test to see if the applied VaR system gives accurate results or not. From there, make recommendations for modification to ensure the accuracy of the model.

**Finally: Develop operational risk calculation tools:** For commercial banks, the risk measurement has been completed according to the standard method. Therefore, in the coming time, commercial banks in this group will develop and apply operational risk management

according to advanced measurement method (AMA). The AMA model includes internal loss data, external loss data, risk scenarios, business environment and internal governance factors, calculated through risk, self-assessment of controllability and key risk indicators. In order to implement this method, commercial banks must complete the database, ensure sufficient data as well as the reliability of the data to serve the calculation and internal estimation through the following solutions: (i) Complete loss event data (LDC), (ii) Improve self-assessment tool (RCSA), (iii) Improve key risk index method (KRIs), (iv) Business continuity (KRIs). For the remaining commercial banks, it is necessary to complete the credit risk measurement according to the standard method. Accordingly, the measurement method is based on the average annual gross profit of commercial banks in 3 consecutive years. This average is multiplied by the beta of each business line. The beta coefficient ranges from 12% to 18%. This is the capital requirement for each business area. From 2020, after completing operational risk management according to the standard method, commercial banks in this group develop and apply operational risk management according to the AMA method like commercial banks have implemented since 2020.

#### 4. CONCLUSION

Compared with foreign commercial banks, the financial safety assurance of Vietnamese commercial banks is still limited. Especially in ensuring capital adequacy, asset safety, liquidity safety as well as in risk management in accordance with international practices. In the context of 4.0, besides traditional risks, Vietnamese commercial banks have to face risks due to the influence of high-tech crime. At the same time, the Covid-19 pandemic has caused serious consequences to the economy. It is necessary to study the capital adequacy of commercial banks in order to enhance financial safety and improve the quality of banks' assets.

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# BOOSTING THE PERFORMANCE OF THE VIETNAMESE SEAFOOD INDUSTRY AFTER THE COVID-19 PANDEMIC: A CLOSER LOOK AT CAPITAL EFFICIENCY OF LISTED SEAFOOD COMPANIES

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**Abstract:** During the Covid-19 pandemic recession, the seafood industry is one of the critical pillars of the Vietnamese economy. The total export turnover of this industry in 2021 reached 8.89 billion USD, with an increase of 5.7% compared to 2020. The seafood industry's export value contributed 2.6% to the national export turnover. In 2022, the Vietnamese seafood industry achieved an important milestone when the export turnover hit 11 billion USD. These statistics express the importance of the seafood industry in the national economy. In this study, we propose some solutions to enhancing the performance of the Vietnamese seafood industry through a deep dive into factors contributing to the capital efficiency of listed seafood companies during one decade, from 2011 to 2021. We found that current assets and working capital efficiency play a significant role in direct capital efficiency. Financial leverage decreases the return of shareholders. We recommend three leading solutions based on the empirical findings: tightening cost management, adjusting capital structure, and increasing value-added business investment.

**Keywords:** performance, seafood industry, capital efficiency, Covid-19 pandemic, listed seafood companies

## 1. INTRODUCTION

The seafood industry is one of the key economic sectors, playing a significant role in developing the Vietnamese economy. Seafood-processed products become one of the four main export products of Vietnam. The export turnover of the seafood industry has been increasing considerably over the last two decades, from about 2 billion VND in 2002 to 11 billion VND in 2022. 2022 is an impressive year for the Vietnamese seafood industry's recovery and growth. During the Covid-19 pandemic recession, the seafood industry is one of the critical pillars of the Vietnamese economy. The total export turnover of this industry in 2021 reached 8.89 billion USD, with an increase of 5.7% compared to 2020. The seafood industry's export value contributed 2.6% to the national export turnover. In 2022, the Vietnamese seafood industry achieved a significant milestone when the export turnover hit 11 billion USD. With such an outstanding performance, Vietnam became the third largest seafood exporter in the world, accounting for over 7% of the world market share. The greatest of these achievements belongs to seafood processing and exporting enterprises.

However, remarkable achievements in the export turnover only sometimes mean the highly competitive power of the seafood enterprises. Over the period from 2011 to 2022, the return

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on sales of the seafood industry fluctuated largely. The average level is just around 4%. Being a capital-intensive industry, seafood enterprises usually have a long business cycle, making it difficult to enhance profitability. Another challenge for seafood enterprises is to raise enough funds for technology and business expansion. Most of the seafood enterprises in Vietnam are private, small and medium-sized; hence, obtaining external sources of finance takes work. Toward the strategic goals of the seafood industry in 2045, seafood enterprises need to have an insight into performance, especially capital use efficiency, because the expected payoff in the long term depends closely on today's action.

In this paper, we take a closer look at the capital efficiency of the seafood enterprises listed on the Vietnam Stock Exchange to identify significant factors and make recommendations for boosting the performance of the seafood industry. Specifically, our study provides insight into the actual situation of capital efficiency and factors affecting the capital efficiency of listed seafood companies in Vietnam. Our study contributes to the extant literature on the performance of the seafood industry with two points. First, we study the efficiency of using capital components before approaching the overall assessment of capital efficiency. Second, we extend the time range compared to previous studies on the seafood enterprises in Vietnam.

## **2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK OF THE STUDY**

The importance of the seafood industry in the Vietnamese economy makes it an eye-catching topic for researchers, policymakers, and international organizations. However, there are few studies on the capital efficiency of the seafood enterprises. One of the big names in the field study on seafood enterprises is Nguyen Thanh Cuong. His typical research includes capital structure and its determinants, financial performance, and working capital management of the seafood processing enterprises in Vietnam. His studies establish a basis for further studies of other researchers such as Nguyen Thu Ha (2019) on capital structure, Mai Thi Dieu Hang (2019) on business performance, Bach Thi Thu Huong (2020) on dividend policy, Nguyen Huu Tan (2022) on stock behaviour using the Fama - French Model.

Regarding capital efficiency, Bui et al. (2019) examine the impact of working capital management on the profitability of 45 companies in the Aquaculture Industry of Vietnam. They collected the data from the financial statements of 45 companies from 2006 to 2017. They find that the Cash Conversion Cycle, Account Receivable and Payable positively impact the ROA and ROE of the sample companies. Ngo (2017) constructs two models for ROA and ROE with explanatory variables, including capital structure, Inventory turnover, Account Receivable Turnover, Asset structure, Size, Growth, and Percentage of SG&A. The author finds the positive effect of Inventory and Account Receivable management, the negative impact of capital structure, SG&A percentage and asset structure. No significant results are found in the case of Size and Revenue growth.

Wang et al. (2021) performance evaluation of 17 fishery businesses from 2015 to 2017. The authors provided a general overview of the fishery sector in Vietnam through technical efficiency, technical progress and the total factor productivity in the four years. Input variables include total assets, equity, total liabilities, and cost of sales; output variables are revenue and profit. The findings show that most fishery companies achieved progress in total performance

efficiency. The authors proposed some solutions, such as stabilizing the resources of goods, securing production, and reducing costs.

The study on the capital efficiency of the seafood enterprises in Vietnam could be seen as sparse. Several previous studies examine this topic, but they need to provide a comprehensive understanding of the capital efficiency of the seafood industry. Moreover, the research period of extant literature needs to cover the Covid-19 pandemic crisis. Therefore, we address these issues in this paper by an in-depth analysis of the capital efficiency of the seafood enterprises in Vietnam. We select the seafood companies listed on the stock exchange and expand the research period to 2 decades, from 2011 to 2021. We also classify capital efficiency into two levels, direct and ultimate, to provide an insight into the capital efficiency of seafood enterprises.

According to Hodgson (2014), in the comprehensive study on “What is Capital? Economists and sociologists have changed its meaning - Should it be changed back?”, there are two approaches to the definition of capital. The first school of thought follows the post-Smith trend, defining capital as “any relatively durable thing or attribute that leads to the satisfaction of wants.” The economist Adam Smith defines capital as a part of man’s stock with he expects to afford him revenue. When economists refer to capital, they refer to one of the four major factors of production. Economic capital means physical assets such as tools, plants, and equipment, which allow a firm to increase work productivity. The second school of thought is based on the opinion of Hobson, Sombart, Weber, Mitchell Innes, Fetter and Schumpeter. Capital is defined as a fund of money invested by a person or firm in some enterprises. In such a manner, capital reflects the monetary value of both tangible and intangible assets owned by individuals or firms, which can be used as resources to produce goods or services for commodity exchange. Lipsey (1993) defined financial capital as funds to finance a firm. The funds are invested in a company to acquire assets expected to generate economic benefits for individuals or companies. Alternatively, financial capital contributes to the wealth of the individuals or companies.

We follow the second definition of capital, specifically from a financial perspective. Capital refers to the monetary fund used to finance operating activities and the growth of a firm. Business managers use the funds to acquire necessary fixed assets and elements to run a business to meet both short-term and long-term business goals. In the short run, companies aim to earn profits and a positive net income growth rate. In the long run, businesses focus on sustainable internal growth rates and the increase in owners’ wealth.

Based on the result of investment, we classify capital into two groups: working capital and fixed capital. Working capital refers to the necessary level of investment in current assets to ensure smooth operations while balancing liquidity and financial performance. Working capital can be defined as the excess of current assets over current liabilities (García-Teruel & Martínez-Solano, 2007; Mun & Jang, 2015; Mardones, 2022). This is the net definition of working capital. Another way to define working capital is from the gross viewpoint. Working capital means total monetary fund invested in current assets. This definition ignores the role of payables in determining the needs for working capital and considers the production period and



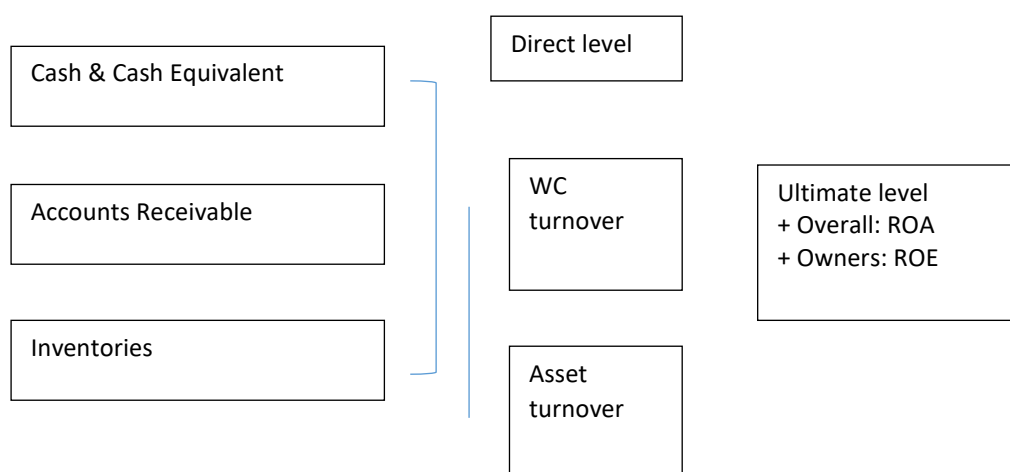
selling period. This paper follows the second definition of working capital: the total monetary fund for cash and cash equivalent reserve, receivables and inventories.

We only focus on the monetary value of operating assets. It is relevant for manufacturing and processing companies because physical assets determine the production capacity and business growth. Besides physical assets, a firm can invest funds in financial assets such as bonds and stocks with an expectation of capital gains. However, we do not mention financial assets in this paper for two reasons. First, the seafood enterprises are manufacturers and processors whose core business is producing, processing, and distributing seafood products in exchange for economic benefits. Second, the percentage of financial assets in total value of assets is small compared to the physical assets.

In terms of capital efficiency, we follow the Resource - Based Theory (RBT) and define capital efficiency as being effective at minimum capital without losing operational effectiveness. RBT began to be an influential theory in management in 1980s with the framework for organization performance and competitive advantage. The RBT identifies the critical resources that allow a firm to compete with peer firms in the same industry successfully and to be able to enjoy outperformance. Resources can be internal and external, tangible and intangible, physical, human and organizational resources. To a specific and narrow extent, capital can be grouped into physical resources and partly contributes to the sustainable competitive advantage of a firm.

Capital efficiency can be assessed at the direct level if the output is produced directly from capital use. It can also be measured at the ultimate level after considering the ultimate outcome of a capital use process. We use turnover to measure the direct capital efficiency and rate of return to measure the ultimate capital efficiency.

In summary, the conceptual framework of our study is illustrated in the following graph:



*(Source: Authors' synthesis and construction)*

### 3. DATA AND METHODOLOGY

#### 3.1. Models of the study

To examine which factors contribute to the working capital efficiency, we run a regression model as follows:

$$WCturnover = \beta_0 + \beta_1 * ART + \beta_2 * InT + \beta_3 * MP + \beta_4 * NWC + \epsilon \quad (1)$$

The ratio between net revenue and the capital employed reflects the total capital efficiency. The following equation shows the measure:

$$\begin{aligned} AssetTurn &= \frac{Net\ Revenue}{Total\ Capital} = \frac{Net\ Revenue}{Current\ Assets} * \frac{Current\ Assets}{Total\ Capital} \\ &= WC\ turnover * CA\ investment \end{aligned}$$

To examine the effects of WC turnover and Current Asset Investment to Asset Turnover, we run the following regression model:

$$AssetTurn = \beta_0 + \beta_1 * WCturnover + \beta_2 * CA + \epsilon \quad (2)$$

To investigate the determinants of ROA, the following regression model is run:

$$ROA = \beta_0 + \beta_1 * MP + \beta_2 * Hd + \beta_3 * WCturnover + \beta_4 * EBITM + \beta_5 * CA + \beta_6 * CR + \epsilon \quad (3)$$

To investigate which factors contributing to ROE of the seafood companies, the following regression model was run:

$$ROE = \beta_0 + \beta_1 * Size + \beta_2 * Hd + \beta_3 * AssetTurn + \beta_4 * ROS + \beta_5 * CA + \beta_6 * CR + \beta_7 * COGS + \epsilon \quad (4)$$

The following table explains the variables in the above model:

**Table 1. Explanation of variables in the empirical models**

Variable	Meaning	Measure
WCturnover	This indicator reflects the direct efficiency of using working capital	WCturnover = Net Sales/Average Working Capital
AssetTurn	This indicator measures the direct efficiency of using total capital	AssetTurn = Net Sales/Average total assets
ROA	This indicator measures the ultimate efficiency of using total capital	ROA = Net Income/Average total assets
ROE	This indicator measures the ultimate efficiency of using capital funded by owners.	ROE = Net Income/Average Equity
ART	This indicator measures the turnover of accounts receivable	ART = Net Sales/Average Account Receivable
InT	This indicator measures the turnover of inventory	InT = Cost of Goods Sold/Average Inventory
MP	This indicator reflects the market position of a company	MP = ln (Sales)
NWC	This indicator reflects the financing model of a company	NWC = Long-term sources of finance - Non-current assets
CA	This indicator reflects the allocation of capital	CA = Current Assets/Total assets
Hd	This indicator reflects the way a company finances its capital	Hd = Liabilities/Total Assets
EBITM	This indicator measures the basic earning power of total capital	EBITM = EBIT/Total assets
CR	This indicator reflects the ability to repay the short-term debt using its current assets	CR = Current Assets/Current Liabilities
ROS	This indicator measures the return on the direct outcome (sales) of using capital.	ROS = Net Income/Net Sales
COGS	This indicator reflects the economy of using capital	COGS = Cost of Goods Sold/Net Sales

### 3.2. Data of the study

This study uses secondary data from the consolidated financial statements of 10 listed seafood companies in Vietnam. At the end of 2017, there were 19 listed companies in the seafood industry. However, the seafood industry is profoundly changing due to external and internal forces. Some companies cannot handle the decline of the whole industry since 2017; other companies have delisted their stocks. Therefore, the sample consists of 10 listed companies, which have enough data from 2011 to 2021.

## 4. EMPIRICAL RESULTS

### 4.1. Factors affecting the direct capital efficiency

We estimate the factors contributing to the working capital efficiency using the equation (1). The original model has the problem of heteroskedasticity; therefore, we use Robust Standard Errors to reestimate the model. The final result is shown in the following table:

**Table 2. Result of model (1) using Robust Standard Errors**

	Coefficient	Std. Err.	t	P>t	Upper	Lower
ART	0.0838775	0.013	6.41	0.000	0.0579	0.1098
lnT	0.2190774	0.043	5.01	0.000	0.1323	0.3058
MP	0.2193831	0.0599	3.66	0.000	0.1004	0.3383
NWC	-3.48e-07	1.02e-07	-3.40	0.001	-5.50e-07	-1.453-07
_cons	-2.543145	0.7810	-3.26	0.002	-4.0917	-0.9945

Model (1) can explain 65.75% of the total variance of the dependent variable. Four factors show statistically significant impacts on Working Capital efficiency. Account Receivable Turnover, Inventory turnover, and Market Power show a positive significant impact on the WC efficiency. The financing model, in contrast, hurts WC efficiency. Specifically, a company with a higher NWC will have lower WC efficiency and vice versa. The aggressive financing model boosts the WC's efficiency; however, the company becomes strongly dependent on the short-term sources of finance.

To identify influential factors of direct efficiency of total capital, we run Model (2). The following table shows the estimates of model (2):

**Table 3. Result of model (2) using Robust Standard Errors**

	Coefficient	Std. Err.	t	P>t
WCturnover	0.720	0.01576	45.81	0.000
CA	1.695	0.1145	14.81	0.000
_cons	-1.229	0.0752	-16.32	0.000

$$F(2,107) = 1569.95, Prob > F = 0.0000, R-squared = 0.9830$$

Model (2) affirms the critical role of working capital in the direct efficiency of the total capital of seafood companies. Both turnover and CA positively impact AssetTurn at a p-value <1%. When the seafood companies increase WC turnover by 1 round, the Asset Turnover increases by 0.72 rounds. Similarly, companies with a higher percentage of Current Assets

can improve their total capital efficiency. 1% increase in Current Assets will increase Asset Turnover by 1.695 rounds. Alternatively, current assets are essential to enhance the short-term performance of the seafood industry.

#### 4.2. Factors affecting the ultimate capital efficiency

To estimate the impact of proxy variables on the ultimate efficiency of using total and equity capital, we run the regression models (3) and (4). Table 4 shows the factors affecting ROA of the seafood companies:

**Table 4: Result of Model (3) using Robust Standard Errors**

ROA	Coefficient	Std. Err.	t	P>t
MP	0.0163	0.00358	4.56	0.000
Hd	-0.13945	0.02922	-4.77	0.000
WCturnover	0.01591	0.00568	2.88	0.006
EBITM	0.53070	0.1197	4.43	0.000
CA	0.16292	0.04206	3.87	0.000
CR	-0.00212	0.001643	-1.49	0.199
_cons	-0.27024	0.06020	-4.49	0.000

**Model information:  $F(6,103)=16.41$ ;  $Prob>F = 0.0000$ ;  $R\text{-squared} = 0.6028$**

The above model shows the influence of six factors on ROA. Only Current Ratio, which measures the companies' liquidity, does not show a significant impact. The other variables can explain about 60.28% of the seafood companies' ROA variance. The debt ratio shows a negative influence. That means the more debt used, the lower the ROA. Currently, seafood companies use more debt than equity. The average debt ratio is 0.54, with a standard deviation of 0.23. The highest debt ratio is 0.967. Regarding debt maturity, short-term debts dominate long-term debts, with a mean value of 0.356 and a maximum value of 0.733. The seafood companies heavily depend on short-term sources of finance. This financing choice is consistent with the seafood companies' investment structure, which emphasizes Current Assets. The negative effect of the Debt ratio may be explained by the short-term's significant interest payment and the seafood companies' low business results.

Market Power, WC efficiency, EBIT margin, and Current Asset percentage make a significant positive impact on ROA. Companies with substantial market power enjoy higher returns on assets and vice versa. That means big companies in the seafood industry can utilize economies of scale as well as scope. Moreover, big companies maintain higher EBIT margins by cutting attained costs, positively impacting ROA. Current Assets continue showing the importance of the final efficiency of total capital. Companies with higher CA percentages can enhance their ROA. This result can be explained partly by the circulation of current assets and by the business characteristics of the seafood companies in Vietnam. Most of the companies in the sample are processors and raw material exporters; therefore, working capital plays a vital role in their operations.

To investigate which factors contribute to ROE of the seafood companies, we run the model (4). The following table reports the estimates of model (4):

**Table 5: Result of Model (3) using Robust Standard Errors**

ROE	Coefficient	Std. Err.	t	P>t
Size	0.01587	0.023265	0.68	0.497
Hd	0.229079	0.25575	0.90	0.373
AssetTurn	0.16082	0.075499	2.13	0.036
ROS	4.3738	1.8023	2.43	0.017
CA	-0.06037	0.29841	-0.20	0.84
CR	0.01941	0.013158	1.48	0.143
CGOS	-1.292298	0.97699	-1.32	0.189
_cons	0.44753	0.68687	0.65	0.516

It could be seen that Asset Turnover and ROS have a significant influence on ROE. Other variables do not show statistically significant effects. When the seafood companies can improve their asset turnover by 1 round, their ROE increases by 0.16%. ROS contributes significantly to the variance of ROE. For a 1% increase in ROS, ROE can go up by 4.378%. No statistically significant effects can be seen for Hd and Current Asset percentage.

We also run the second Model with Equity Multiplier as follows:

**Table 6: Result of Model (3) using Robust Standard Errors**

ROE	Coefficient	Std. Err.	t	P>t
Size	-0.0010724	0.01816	-0.06	0.953
EM	-0.05308	0.017871	-2.97	0.004
AssetTurn	0.15469	0.064249	2.41	0.018
ROS	2.158119	0.99085	2.18	0.032
CA	0.0104496	0.221165	0.05	0.962
CR	-0.00096	0.005118	-0.17	0.862
CGOS	-1.57057	0.925342	-1.70	0.093
_cons	1.3257	0.81976	1.62	0.109

In this model, we compute the financial leverage as an independent variable instead of using the raw debt ratio. Equity Multiplier negatively impacts ROE at the p-value <1%. This result again confirms the negative effect of using debt financing in the seafood companies. As shown in the study on determinants of ROA, using more debt can deteriorate the efficiency of total capital. A similar finding could be seen in the case of ROE. Besides Asset Turnover and ROS, Cost management significantly negatively impacts ROE at p-value <10%. For a manufacturing industry, direct cost management is critical to operational efficiency and equity efficiency. That means seafood companies with efficient cost management can improve their ROE.

## 5. DISCUSSION AND POLICY IMPLICATION

Based on the empirical models, we could come to a conclusion about factors affecting the capital efficiency of listed companies in the seafood industry as follows:

*First*, Current Assets play a vital role in the total capital of the seafood-listed companies. Direct capital efficiency is influenced strongly by the percentage of investment in current assets and Working Capital Efficiency.

*Second*, accounts receivable and Inventories account for a large proportion of Working Capital. The efficiency of accounts Receivable and Inventories positively impacts the direct capital efficiency of these companies. Companies with an aggressive financing model have higher WC turnover and ROA.

*Third*, Debt ratio has negative effect on ROA and ROE of these companies. This result is consistent with previous studies on the performance of the listed seafood companies. The seafood industry is in a phase of decline; the net margin of the seafood industry has dropped gradually over the last decade. Therefore, using more debt reduces the benefits for shareholders.

*Fourth*, Cost management is critical to the ROA and ROE of these companies. The companies with lower direct costs percentage will have higher gross profit margin and EBIT margin, which brings higher ROA and ROE.

The empirical results provide insight into the significant factors of the capital efficiency of the seafood companies. These estimates can be used as a basis for policy implication. We propose some solutions to boosting the performance of the Vietnamese seafood industry as follows:

*First*, seafood enterprises must strengthen cost management to improve their profit margin. Overcoming the increase in internal costs to increase competitiveness in the domestic and international markets is a prerequisite for the long-term competitiveness of seafood enterprises in the marketplace. It is necessary to spend more on collaborating with scientists in the industry to have the best choices about seed, feed, farming, catching, processing and preservation processes. Seafood enterprises need to reduce costs by applying technological improvements in fishing, aquaculture and seafood processing to avoid losses in production and business. Innovation to improve production management is a crucial solution with a positive long-term effect. Among these, selecting and training good human resources is a top task. Regarding selling and distribution expenses, seafood enterprises need to take good care of traditional customers, keeping the market without spending much on advertising. In addition, seafood processors and exporters must comply with market regulations to avoid business risks.

*Second*, seafood enterprises need to rearrange their sources of finance. It could be seen from the empirical result of the model (4) that debt financing reduces the efficiency of owners' capital. The seafood enterprises currently depend heavily on debt financing, which hurts the return on equity if the assets in place can not bring sufficient returns. The negative impact of NWC on the WC turnover also indicated the need for more efficiency in using debt. Therefore, seafood enterprises need to adjust their capital structure and financing model. One way to improve the capital scale is to strategic alliance along the supply chain of seafood products. Vertical integration in the seafood supply chain allows each member to save the processing costs at mediate stages. Horizontal integration benefits each enterprise in cost saving through economy of scope. Vietnamese seafood enterprises must establish strategic partnerships with international importers to improve capital capacity. Big companies can issue common shares to raise external equity for long-term technology and modern machinery investments. However, seafood companies must carefully consider the market context and reaction when choosing this financing method.

*Third*, accelerating the merger and acquisition in the seafood industry to form some leading firms in the seafood supply chain. The most typical example is the case of Hung Vuong Group. With the ambition to take 25-30% of the total export turnover of the seafood industry,



Hung Vuong has invested heavily in fish farming areas to be self-sufficient in supplying catfish raw materials for seafood processing factories. HVG acquired Viet Dan aqua feed factory with a capacity of hundreds of thousands of tons per year; buy shares of Sao Ta Food Joint Stock Company (FMC) to become a strategic shareholder; purchase shares of Ben Tre Fisheries (FBT) from SCIC; and at the same time increase its ownership in An Giang Seafood Import and Export Joint Stock Company (AGF) to 51% to boost exports to Europe and the US.

*Fourth*, the seafood enterprises must also implement the model linking with farming households to reduce initial investment costs and stabilize raw material prices and sources. Currently, fish in the population has run out, and the Vietnamese seafood exporters must find other sources, such as imports to have enough materials. Processing companies need more processing materials, which account for about 30-40% of product costs. In this context, large-scale, substantial financial resources and developing farming areas to be active in sources of raw materials are essential for the sustainable growth of the seafood industry. Some good practices include Minh Phu JSC and Vinh Hoan Group. Minh Phu Fisheries has been experimenting with shrimp farming with new technology since 2006, recently continued to invest 3.9 billion VND in Minh Phu Aquamekong Aquaculture Technical Services Co., Ltd., to hold 48.7% capital of this company and create a closed loop from breeding - rearing - exporting. Vinh Hoan Seafood has also invested in farming areas to complete the supply chain since 2007. This company has also been active in about 70% of raw materials for export processing. However, the investment to form the farming areas and close the value chain requires tremendous capital, which can be possible only for large corporations.

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# FINANCIAL POLICIES TOWARDS A GREEN ECONOMY: INTERNATIONAL EXPERIENCE AND LESSONS FOR VIETNAM

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**Abstract:** *A green economy is an economy that improves the quality of life for everyone within the ecological limits of the planet. To achieve this goal, countries have implemented various economic and social policies to promote a green economy. Among them, financial policies are considered the most effective economic tool for advancing a green economy. Vietnam has implemented several financial policies aimed at promoting a green economy, but during the implementation process, these policies have also revealed some limitations. This article analyzes the experiences of other countries in using financial policies to promote a green economy, and provides recommendations to improve financial policies in order to accelerate Vietnam's economic greening process.*

**Keywords:** *financial policies, green economy, green bonds, green credit;*

## 1. INTRODUCTION:

Since the global economic and financial crisis, the world economy has faced numerous challenges, including geopolitical tensions, increasing climate change impacts, and pandemics that have threatened the global economy. Therefore, both developed and developing countries are gradually transitioning to a green economy to achieve recovery, preserve ecosystems, mitigate the impacts of climate change, eradicate poverty, and foster sustainable economic growth. Different countries have adopted various strategies and objectives for a green economy, and financial policies are considered the most effective economic tool for achieving a green economy.

In 2012, the Prime Minister issued the “National Green Growth Strategy for the period 2011-2020, with a vision to 2050,” which emphasized that green growth relies on changing the growth model, restructuring the economy to leverage comparative advantages, enhancing efficiency and competitiveness through advanced technology, developing modern infrastructure, efficiently utilizing natural resources, reducing greenhouse gas emissions, addressing climate change, reducing poverty, and driving sustainable economic growth. The Resolution of the 13th National Party Congress also emphasized the protection of the living environment and the health of the people as the top priority, and called for the elimination of environmentally harmful projects, ensuring the quality of the living environment, preserving biodiversity and ecosystems, building a green, circular, and environmentally friendly economy. These strategies have recognized sustainable development as an ongoing requirement in the country's development process, promoting a harmonious and balanced combination of economic development, social development, and resource protection, environmental preservation, national defense, security, and social order.

Vietnam has implemented several financial policies aimed at promoting a green economy. However, during the implementation process, these policies have revealed some limitations,

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such as inadequate tax rates and fees imposed on environmentally polluting activities, insufficient penalties for environmental pollution, and a lack of comprehensive environmental tax lists. Therefore, Vietnam needs to make some adjustments to its financial policies to promote the greening of the economy.

In other countries, financial policies, especially tax and fee policies, have been issued and implemented to change the behavior of organizations, individuals, and businesses, and raise awareness of environmental protection in investment, production, and consumption. Additionally, many countries have allocated budgets for environmental protection objectives or utilized financial market instruments such as green stocks, green credits, and carbon credit markets to promote a green economy. The implementation of financial policies in these countries has achieved certain successes in promoting a green economy, as seen in South Korea, the EU, China, and Japan.

This article analyzes the experiences of other countries in using financial policies to promote a green economy, and provides recommendations to improve financial policies in order to accelerate Vietnam's economic greening process.

## **2. RESEARCH OVERVIEW:**

Research on financial policy tools for a green economy has shown that these tools are crucial and have a significant impact on the success of the green economy transition. Through a synthesis of previous research analyses, it can be observed that countries and scientists have recognized the importance of a green economy early on. Financial policies are considered the most effective tool for implementing the "polluter pays" principle.

Among the financial policy tools, environmental taxes are regarded as the most effective and cost-efficient tool for reducing CO<sub>2</sub> emissions (Ruud A. De Mooij, 2012). Green taxes are often more difficult to evade because the tax revenue is collected from a limited number of taxpayers and is based on stable tax bases (such as energy, goods, or services) (Reyer Gerlagh, 2016). Environmental taxes, along with fuel taxes and carbon pricing, are widely recognized as effective and cost-efficient policy tools for reducing CO<sub>2</sub> emissions (Ruud A. De Mooij, 2012). Green taxes can bring economic, fiscal, social, and environmental benefits and have a positive impact on growth. Both taxes and carbon trading bring economic, fiscal, climate, environmental, and social benefits (Ruud A. De Mooij, 2012).

Expenditure policies targeting a green economy have been implemented in many countries. Spending on a green economy allows for the calculation of costs related to negative environmental externalities in income generation and public expenditure, such as environmental taxes, public spending, or harmful subsidy reforms (OECD, 2014). Various approaches to expenditure policies targeting a green economy have been used in countries, particularly since the global economic and financial crisis of 2008-2009 (Barbier and Markandya, 2013). The revenues from environmental taxes can be allocated to a fund or specific objectives, such as sustainable development projects in areas like energy, transportation, construction, tourism, fisheries, industry, and agriculture. These policies have an impact on the economy (Doreen Fedrigo-Fazio and Patrick, 2012).

Additionally, other financial policies such as green credits, green stocks, and carbon credit markets have also been widely used by countries. China is considered one of the countries that

has made significant policy changes to promote green credits (Wang et al., 2014). Green credits provide low-interest loans and favorable interest rates to researchers, producers of pollution control devices, and any businesses or organizations involved in ecological protection, development of new energy, or green production and ecological agriculture (BoydRoy, 2012). The issuance of green stocks helps attract substantial capital in society to support environmentally friendly projects that fulfill social responsibility objectives and contribute to sustainable development (Barnes, 2019). Green bonds are an important financial instrument as they allow financial innovation for sustainable investment by institutional investors such as pension funds, insurance companies, mutual funds, and sovereign wealth funds. In some cases, green bonds help increase investment in infrastructure from investment institutions by improving the liquidity of infrastructure (Della Croce and Yermo, 2013).

In Vietnam, there have been numerous scientific studies on the green economy, emphasizing the need for Vietnam to transition to a green economy. Hà Huy Ngọc and Bùi Văn Tuấn (2017) pointed out that since the global financial crisis in 2008, greening the economy has become a global trend, and they provided reasons why Vietnam should follow this trend. To successfully transition to a green economy, supportive policy frameworks, particularly financial measures and national policy reforms, international cooperation through trade, aid, market development, capacity building, and necessary steps to mobilize finance for the transition are essential (Nguyễn Hải Yến, Nguyễn Thị Quỳnh Hương, Hoàng Xuân Huy, 2017). Some studies are related to public investment policy, public finance for green procurement, and infrastructure development. These studies suggest that in order to transition to a green economy, Vietnam needs to increase budgetary allocations for environmental protection efforts (Lê Quang Thuận, 2017). The utilization of budgets for environmental protection in Vietnam has lacked coordination, consistency, and the role of state management agencies in environmental protection, which should ensure that state budgets are focused on the right targets and necessary content (Xuân Trường, 2021).

### **3. RESEARCH METHODOLOGY**

This study utilizes a qualitative approach to examine the evidence based on the nature, characteristics, and role of financial policies and the characteristics of a green economy in order to provide insights into the relationship between financial policies and the green economy. The primary qualitative analysis methods used in this research are process tracking, descriptive inference, and situational analysis. In the process tracking method, the author conducts the search, selection, and analysis of evidence regarding the research subject. This evidence consists of causal observations - processes, or in other words, observable expressions of the research subject and related factors. Specifically, this involves analyzing the experiences of countries in using financial policies for the green economy, analyzing the current status of green economy implementation in Vietnam to identify the difficulties and advantages of Vietnam in developing a green economy, and providing recommendations to improve financial policies to accelerate the green transition of Vietnam's economy. These observations may contain underlying causal relationships. From one observation to another, through these observations, the author will conduct an analysis to clarify the hypothesis regarding the impact of financial policies on the green economy. This process will be carried out simultaneously with the methods of inference,

description, and situational analysis. To ensure the quality of the qualitative analysis, in the process of inference and description, statistical data as well as specific situations related to the relationship between financial policies and the green economy in Vietnam will be utilized based on criteria that ensure non-bias, effectiveness, and consistency through representative and highly similar samples. The selected data and contrasting situations are chosen to highlight the trends and prominent features in the relationship between financial policies and the green transition of the economy. The situational analysis primarily focuses on two aspects: temporal and spatial comparisons. Furthermore, the main situations are analyzed to understand the content of each financial policy in order to gain a deeper understanding of the role of financial policies in the green economy. Based on a theoretical and practical overview, it is evident that to accelerate the green transition of Vietnam's economy, support from government financial policies is crucial.

#### 4. RESULTS AND DISCUSSION

Green economy is considered an important topic and a strong trend in most countries, ranging from developing to developed nations. Financial policies aimed at the green economy, through tools such as revenue policies (taxes, fees), state budget expenditure policies, and financial market policies, can reduce economic distortions and harness market forces to achieve green economy objectives.

*Firstly, international experiences in revenue policies targeting the green economy:*

In Japan, carbon taxes are imposed on imported or domestically extracted fossil fuels such as crude oil, natural gas, and coal. The carbon tax rates vary depending on the type of fuel and the amount of CO<sub>2</sub> emitted. Initially, the tax was calculated at one-third of 289 yen per ton of CO<sub>2</sub>, and then gradually increased every five years, reaching the full tax rate of 289 yen per ton of CO<sub>2</sub> in April 2016. To limit the use of fossil energy and promote the use of renewable energy, Japan introduced a tax project called "Feed-in-tariffs" on July 1, 2012. Economically, Japan's carbon taxes have increased tax revenue from \$500 million in 2012 to \$2.18 billion in 2015. In terms of the environment, carbon taxes have an impact on greenhouse gas emissions reduction, although the impact is still relatively small (Lee, 2017).

In China, according to the regulations of the Resource Tax Law, all units and individuals engaged in resource extraction within the territory of China and other sea areas under the jurisdiction of China, as resource taxpayers, are subject to resource taxes. Currently, China imposes emission taxes on 44 types of pollutants, with tax rates ranging from 1.2 Chinese yuan to 12 Chinese yuan. China has also implemented taxes on the purchase/use of motor vehicles. Individuals and organizations purchasing cars, electric vehicles, trailers, and motorcycles with engine capacities over 150cc within the territory of China are subject to motor vehicle taxes, with a tax rate of 10%. Economically, resource taxes and emission taxes have contributed to the promotion of solar energy production and consumption. In terms of the environment, the implementation of these tax policies in China has improved environmental quality by effectively addressing major environmental pollution sources (Jia-Le Zhang, Zhen-Ning Wang, 2021). However, to make the green economy-oriented tax policies in China effective, it is necessary to apply additional financial policies to minimize the negative impacts that these tax policies may create (Y. Wang, 2021).



South Korea introduced emission fees in 1983 (under the Clean Air Conservation Act), which apply to particulate matter, SO<sub>2</sub>, NH<sub>3</sub>, etc. To encourage scientific and technological activities for environmental protection and the green economy, South Korea allows corporate income tax deductions for pollution control equipment at a rate of 3% for imported equipment and 10% for domestically produced equipment. It also allows accelerated depreciation for new technologies at a rate of 30% for imported equipment and 50% for domestically produced equipment. As a result of implementing green economy-oriented tax policies, the ratio of green tax revenue to GDP in South Korea reached 14.1% in 2014, higher than the OECD average of 9.1% and ranking 4th among OECD countries with a high green tax revenue ratio. In terms of the environment, the urban population's exposure to air pollution has gradually decreased, especially in major cities. The energy consumption trend remains stable compared to the period before the introduction of taxes, but household energy consumption in South Korea is still relatively low, below the OECD average (only about 0.76 TOE/day/person) (Jichung Yang, 2013). However, the green economy-oriented taxes in South Korea are quite complex, especially energy taxes. This arises from the neglect of the "green" concept in the economy, or in other words, it is a transitional choice prioritizing economic development over the environment. Therefore, the applied tax policies need to be simplified, easily understood, and measurable.

*Secondly, international experiences in expenditure policies targeting the green economy:*

Japan is one of the leading countries in the OECD in terms of state budget expenditure for the green economy, with annual spending on science and technology accounting for approximately 8% of the total budget. Thanks to the expenditure policies for the green economy, technology production in Japan has been encouraged to shift from traditional environmental pollution control to non-traditional technologies related to the green economy (Lee, 2017).

In the period 2016-2020, China allocated 78.3 billion Chinese yuan to the water pollution prevention and control fund to support national efforts in preventing and controlling water pollution in key river basins, protecting the ecological environment of water sources, protecting groundwater, and addressing pollution issues. Expenditure policies targeting the green economy in China have positively influenced environmental activities, but the effectiveness of these expenditures is still relatively low in terms of the service efficiency of the fund (Y. Wang, 2021).

Since the enactment of the Renewable Energy Development Promotion Act in 1987, South Korea has allocated \$4.8 billion to the new energy and renewable energy industry. South Korea's budget allocation towards the green economy has not only stimulated private investment and exports in this sector but also had a positive impact on creating new jobs (Jichung Yang, 2013).

*Thirdly, international experiences in implementing other financial policies targeting the green economy:*

The European Union's emissions trading system (ETS) has been operational since 2005 and consists of four phases: Phase 1 from 2005-2007, Phase 2 from 2008-2012, Phase 3 from 2013-2020, and Phase 4 from 2021-2030. Through the three phases implemented, the EU's emissions trading system has included 50% of the EU's total greenhouse gas emissions in



trading, with an expanding geographical, sectoral, and gas coverage (Alons G., 2017).

The implementation of the voluntary emissions trading program in Japan was proposed by the Ministry of the Environment in September 2005 to support voluntary greenhouse gas reduction activities of businesses through subsidy policies and trading mechanisms. Japan's voluntary emissions trading program has involved 250 companies with 221 registered greenhouse gas reduction or absorption projects, with a total of 309,308 tons of CO<sub>2</sub> credits issued (Lee, 2017).

In October 2015, the Agricultural Bank of China issued \$1 billion in green bonds on the London market to raise funds for environmentally friendly projects. To develop the green bond market, China has also implemented specific preferential policies. Currently, China's green bond market has made rapid progress and demonstrated innovation in various financial products (Jia-Le Zhang, Zhen-Ning Wang, 2021).

In recent years, China has made significant policy changes to promote green credit. The People's Bank of China has collaborated with UNEP to build green banking development policies, considering them a key institutional arrangement for managing green credit operations (Jia-Le Zhang, Zhen-Ning Wang, 2021).

Since 2010, South Korea has consistently focused on the green economy, establishing a financial system targeting the green economy, with green credit development considered a key priority in the economic and social development strategy towards the green economy (S. Jasanoff, S.H. Kim, 2019).

## 5. POLICY RECOMMENDATIONS

Some recommendations to improve financial policies towards a green economy in Vietnam in the coming time are as follows:

### *Firstly, policy solutions towards green-oriented taxation*

Green taxation policies need to be supplemented and improved to incentivize entities to participate in and transition to activities in this model. The government should continue to review, amend, and supplement the existing tax and fee system, determine appropriate tax rates for taxable goods or those eligible for incentives to ensure consistency and transparency of tax incentives (including environmental protection tax, resource tax, special consumption tax, export and import taxes, environmental protection fees, etc.) to be suitable for the reality and comprehensive enough to ensure the successful implementation of the green economy objectives. Regarding environmental protection tax, it is necessary to consider amending and expanding the scope of taxable entities to cover all sources of environmental pollution. Environmental protection tax should target the most accurate polluters, the most polluting behaviors, and cover all pollution sources. A comprehensive review of tax incentives, giving more priority to green growth projects, environmental protection, and climate change adaptation is needed. For resource tax, certain high-value resources such as basalt and red coral should be included in the taxable resource category to restrict the easy exploitation of these resources, which may deplete resources and affect the sustainable development of the economy. For corporate income tax, the preferential tax regime for enterprises using environmental pollution control

measures and using clean materials, fuels, and materials in production should be expanded. For businesses operating in the field of clean energy exploitation such as solar energy, wind energy, a special incentive mechanism of tax exemption for a long period of 10 years should be applied to allow enterprises time to invest in infrastructure and stabilize the market for product consumption. After the tax exemption period, a low tax rate like 10% corporate income tax should be applied, similar to businesses operating in the fields of education/training, healthcare, and the environment.

The feasibility of implementing carbon taxes should be studied. To reduce CO<sub>2</sub> emissions, protect the environment, Vietnam needs to learn from other countries in the world in building carbon tax policies - taxes directly imposed on natural fuel combustion with CO<sub>2</sub> emissions. The essence of carbon taxes is to impose an additional price on emissions, which will help overcome the negative externalities of the market by requiring polluting entities to pay for environmentally harmful activities. The application of carbon taxes will contribute to achieving emission reduction goals, encouraging the use of low-carbon technologies, and improving environmental quality. Imposing carbon taxes on input fuels will encourage the search for emission-free or low-emission energy sources. However, to meet the overall environmental protection goal, carbon taxes should be based on the CO<sub>2</sub> emissions of the fuel, as this approach will have a strong and direct impact on improving the level of environmental pollution.

*Secondly, policy solutions towards green-oriented expenditure*

In recent years, although the annual budget for environmental protection has been allocated on a scale not less than 1% of the total state budget expenditure, this ratio is still low and only meets 50% of the demand for environmental protection expenditure. Therefore, it is necessary to increase regular budget expenditures for environmental protection tasks. Promote the rational and effective use of financial resources for environmental protection, ensuring that environmental protection expenditure tasks are associated with environmental protection responsibilities. Strongly implement the public-private partnership model, attract and effectively use preferential loans and development support from international financial institutions and governments for environmental protection, with a focus on investing in waste treatment technology, avoiding the generation of new pollution sites. Restructure expenditures from environmental protection fees and environmental protection taxes to invest directly in environmental protection work. Localities need to review and develop plans, construct waste treatment and landfill areas for domestic waste, industrial waste, and policies to attract private and foreign investment in environmental protection.

Additionally, green public procurement is one of the important methods to achieve the goals of transitioning to a green economy model. Therefore, it is necessary to change the approach from “encouraging” to “mandatory” green public procurement. In particular, a strong legal framework should be established, with clear guidelines for green public procurement procedures, delineating the roles and responsibilities of relevant parties in establishing procurement mechanisms and monitoring green public procurement. It is necessary to raise the awareness of society in general and the awareness of public sector officials in particular about the importance of green public procurement as well as to change the old perception

of green products. Conduct training courses to enhance the skills of specialized officials in evaluating green products and being able to use those products. Additionally, capacity building in technology is needed to effectively apply green products. Certain groups of green public products should be given priority for procurement by government agencies, such as construction services, tourism services that meet green economic standards in terms of energy use, raw materials, suitable ecological conditions, and climate change impacts. Motor vehicles purchased with public funds must meet emission standards, giving priority to vehicles using clean fuels. Labeled ecological products, energy-saving labels, and recyclable goods should be given priority.

*Thirdly, solutions for other financial policies towards a green economy*

International experience analysis shows that green bonds provide financial resources for countries to implement clean energy projects, reduce climate change impacts, and adapt to climate change. The most important solution for developing green bonds is to raise the awareness of businesses and citizens to create a foundation for the formation and development of green bonds. Specific regulations related to green bonds should be issued, clearly defining the criteria for determining green bonds, principles of issuance, and management of capital sources from green bonds. From there, it is necessary to concretize and specify for participating entities to easily grasp and comply with. In addition, transparency of information related to the issuance and use of funds from green bonds needs to be closely regulated as a basis for inspection and supervision by concerned entities.

Based on monitoring the objectives of the National Strategy for Green Growth and the National Action Plan for Green Growth, green credit growth needs to be promoted in the coming period. To effectively implement green credit programs, a synchronized plan is needed from mechanisms and policies to specific green credit programs, as well as incentives and enhanced capital and capacity to ensure that the credit system serves the green economy objectives and sustainable development; at the same time, coordination with relevant ministries and sectors in building mechanisms to promote green finance is necessary. A general set of criteria for environmental and social assessments needs to be developed and issued in line with international standards. In addition, a support mechanism for credit institutions to access long-term capital, preferential rates, in order to provide long-term green credit loans is needed. The government should also have solutions to support businesses and individuals to easily access green credit. Commercial banks need to actively study, develop, and issue a risk assessment system in the process of appraising green projects. Banks also need to monitor loan disbursements regularly, avoiding situations where loans are used for unintended purposes. One of the decisive factors for success is the human factor. Therefore, to successfully implement and have effective green credit, bank staff need to be trained to ensure the appraisal of green projects.

## **6. CONCLUSION**

To achieve the goal of transitioning to a green economy and fulfilling the commitment by 2030 of reducing greenhouse gas emissions by 8% compared to the business-as-usual scenario using domestic resources, which can be increased to 25% with international support, Vietnam needs to review, research, and develop appropriate socio-economic policies. Among them,

financial policy is the “key” that determines the success or failure of the economic growth transition process. This study has analyzed the experiences of countries in using financial policies towards a green economy. Based on that, it provides some recommendations to improve financial policies to accelerate Vietnam’s green economic transformation. The recommendations focus on revenue policies, expenditure policies, and other financial policies aimed at the green economy. In particular, key solutions like green tax policies need to be supplemented and improved to encourage participation and transition to this model. Increasing regular budget allocations for environmental protection and investing in green public procurement are important methods to achieve the goals of transitioning to a new growth model towards a green economy... The author expects that the research findings will be valuable for scientists, as well as policymakers and macroeconomic planners in Vietnam.

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# SOME SHORTCOMINGS OF LEGAL PROTECTION OF TAXPAYERS' RIGHTS IN VIETNAM AND RECOMMENDATIONS

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**Abstract:** *The definition of a “fiscal social contract” indicates that citizens are willing to pay taxes if, in return, they have the right to be represented in decision-making processes regarding the mobilization and use of public financial resources. Well aware of this issue, the Law on Tax Administration of 2019 in Vietnam officially recognized 14 rights of taxpayers, creating a solid legal basis to ensure the rights of taxpayers in a relationship where taxpayers are often at a disadvantage. However, the current law on tax administration still reveals some limitations affecting the rights of taxpayers. Within the scope of this article, the authors analyze the provisions of the tax administration law on protecting the rights of taxpayers, points out inadequacies as well as limitations, and proposes solutions for improvement.*

**Keywords:** *Taxpayer's rights, taxes, tax law, rights*

## 1. INTRODUCTION

Taxes come into existence and coexist with the emergence and persistence of the state, because they are for the state and by the state. Therefore, taxes are an essential resource that any state needs to survive and a tool to fulfill its functions. Therefore, from a legal perspective, taxes are defined as mandatory contributions that taxpayers are responsible for paying to the state according to the provisions of the law. However, in practice, there are many subjective and objective factors that lead organizations and individuals to not comply with regulations on tax payment obligations, which manifests through acts of tax evasion, tax avoidance behaviors, etc. This results in revenue losses, making the tax system unfair, and distorting the market competition. Fully aware of this problem, laws on tax administration in Vietnam have been continuously improved to enhance the protection of the rights of tax payers. However, besides the achievements, the current tax administration law still reveals a number of limitations that affect the rights of tax payers in general and the efficiency of tax collection and payment activities for the state budget in particular. Therefore, researching to improve tax administration laws to enhance the protection of taxpayers' rights is of significant important.

## 2. LITERATURE REVIEW AND PREVIOUS STUDIES

The issue of protecting the rights of taxpayers has become the subject of research by domestic and foreign researchers. Some notable authors and studies can be mentioned as follows:

- Ducan Bently (1998), “Taxpayers’ rights: an international perspective”, Revenue Law Journal, School of Law, Bond University. The work examines tax administration legislation from the taxpayer’s point of view, in which the concept of protecting the rights of taxpayers

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is derived from human rights and citizenship. The work is divided into two parts: Part one provides a definition of the rights of taxpayers, a classification of rights, and the scope and framework for implementing the rights of taxpayers. Part two includes twelve chapters analyzing the rights of tax payers in various countries around the world, such as Australia, Canada, Germany, Hungary, Japan, South Africa, Sweden, the Netherlands, etc. Across different countries, variations can be observed in tax management practices and differing perspectives on protecting taxpayer rights.

- Ducan Bentley (2007), “Taxpayers Rights: Theory, Orgin and Implementation” , Kluwer Law International. This work has emphasizes that the rights of taxpayers are a crucial aspect for establishing an effective taxation process. Therefore, constructing a model for taxpayers’ rights is the best way to manage taxation. The author provids a theoretical foundation and framework for taxpayers’ rights as the basis for designing tax administration laws, with a focus on specific rights such as defining the authority and responsibilities of tax management agencies, creating rules and procedures in tax management, tax payment methods, and dispute resolution in tax management.

- Australian Government (2016), “Review into the Taxpayers’s Charter and Taxpayer Protection”. The report assessed taxpayers’ rights under Australia tax laws and identifies the difficulties that taxpayers face when fulfilling their tax obligations. It is recommends the need for additional regulations to protect taxpayers’ rights.

- Lars P.Feld and Bruno S. Frey (2007), “ Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation”, Law & Policy, Vol.29.1.pp.102-120, 1/2007. This article analyzes the improvement of taxpayers’ tax compliance when considering tax payment behavior as a transactional contract. It highlights the importance of having appropriate incentives and regulatory measures. Taxpayers tend to engage in non-compliance behavior when tax laws are overly complex, unclear, or when incentives and penalties are insufficient or when audit frequencies are low. Taxpayers are more likely to voluntarily declare and pay taxes when they perceive clear results from tax payments. Furthermore, a friendly enforcement approach by tax authorities increases tax compliance. The article also discusses empirical studies in Switzerland and the United States on the impact of perceptions, incentives, penalties, and the results of tax revenue utilization..

In recent years, many Vietnamese researchers have also studied the topic of protecting taxpayers’ rights. However, some researches approach the issue of tax payment from an economic perspective and mainly aim to improve taxpayers’ compliance with tax laws. Therefore, the studies focus on analyzing and evaluating the theoretical and practical foundations for improving the tax management activities of the state to enhance taxpayers’ compliance. Therefore, although these studies also refer to determining the position of tax payers as customers of tax authorities and therefore the main tax collection management and tax payment management of tax payers to ensure appropriate tax compliance, they have not gone into depth and analyzed the aspect of protecting the rights of taxpayers and still recognize these as mandatory obligations that taxpayers must comply with. Consequently, the interests of taxpayers are not guaranteed. It can be seen through some of the following studies: Luu Ngoc

Tho (2013), "Tax management for large enterprises in Vietnam today", Doctoral Thesis in Economics, Academy of Finance; Nguyen Xuan Thanh (2014), "Enhancing the effectiveness of taxpayer auditing activities in Vietnam at present", Doctoral Thesis in Economics, Academy of Finance.

Furthermore, some in-depth focus on the protection of taxpayers' rights within the scope of researching individual rights of taxpayers or specific tax laws such as the Value-Added Tax Law, Personal Income Tax Law, and Corporate Income Tax Law. Therefore, these studies primarily propose solutions to improve specific tax types, lacking a comprehensive and systematic approach. It can be seen through some of the following studies: Nguyen Thi Lan Huong (2011), "Priority of taxpayers' interests when amending the Law on Personal Income Tax", *Journal of Legislative Research*, July 2011; Nguyen Thi Lan Huong (2013), "Ensuring Fairness and Adjusting Interest Relations in Amending the Corporate Income Tax Law", *Journal of Legislative Research*, April 2013; Nguyen Thi Hoai Thu (2013), "The right to access information of taxpayers", *Journal of Legal Sciences*, No.2, 2013; Hoang Thi Mong Trinh (2017), "Ensuring taxpayers' rights in deduction and refund of value-added tax", Master's thesis, Faculty of Law, Vietnam National University.

Moreover, some research works on taxation raise similar issues to the author, namely focusing on improving tax management laws to protect taxpayers' rights. Additionally, these works often rely on current legal texts that are no longer effective due to changes in tax laws. Therefore, some proposed legal improvements may no longer be relevant given the enactment of the Tax Administration Law 2019. In addition, in some studies, the causes and characteristics of protecting the rights of taxpayers have not been fully and systematically mentioned, so the recommendations can only solve a certain content of current law. It can be seen through a number of studies such as: Nguyen Thi Lan Huong (2013), "On the protection of taxpayers' rights in the the Tax Administration Law 2019", Vietnam National University, *Journal of Science*, No. 1, 2013; Nguyen Thi Bich Ngoc (2014), "Protecting the rights of taxpayers in Vietnamese law", Master thesis, Faculty of Law, Vietnam National University; Nguyen Thi Thanh Tu (2019), "Assessment of ensuring the rights of taxpayers in the current Vietnamese tax legal system and some recommendations", *Journal of Law Profession*, No. 4/2019; Nguyen Thi Thanh Tu (2020), "Developing forms of support to protect taxpayers' interests - Experience in some countries and policy recommendations for Vietnam", *Journal of Law and Practice*, No. 43/2020.

In general, the research efforts of scholars both domestically and internationally related to the legal aspects of protecting taxpayers' rights have somewhat contributed to enhancing the theoretical and practical framework of tax management in Vietnam. Some research works have, to some extent, highlighted the current situation and shortcomings of Vietnamese tax management laws concerning the protection of taxpayers' rights. However, there is still a research gap in providing a comprehensive, complete, and systematic study of taxpayers' rights and the legal protection of those rights. This gap becomes more evident in light of the changes in the effectiveness of tax laws, such as the Tax Administration Law 2019. Therefore, the author's research has significance in contributing to the improvement of tax laws and ensuring the protection of taxpayers' rights.

### 3. RESEARCH METHOD

In the article, the author applied the theory and methodology of dialectical materialism, historical materialism, systematic approach, statistical method, comparative method, etc. The article uses secondary data sources, mainly from reports and information originating from official sources of the State management agencies, scientific research works, books, textbooks, journals, e-information pages, etc.

### 4. RESEARCH CONTENT

Currently, Article 16 of the Tax Administration Law 2019 recognizes 14 rights of taxpayers, which can be classified into the following groups of rights:

#### **Firstly, regulations on the right to access information**

To ensure taxpayers' right to access information while institutionalizing the provisions of the 2013 Constitution on freedom of access to information, the Tax Administration Law 2019 recognizes that access to information from tax authorities is the right of the taxpayer. This right is specifically recorded in Article 1, 2, 3, 5, 7, 9, and 13 of Article 16 of the Tax Administration Law 2019. It can be seen that, compared to the Tax Administration Law 2006, as amended and supplemented in 2012, taxpayers' right to access information continues to be recognized and is further expanded in terms of both rights and specific recognition. In addition, tax authorities also expand access to information to meet tax administration requirements electronically. This simplifies tax administrative procedures such as allowing taxpayers to look up information, view and print all electronic documents that they have sent to the tax administration agency's electronic information portal, and request that tax authorities confirm the fulfillment of their tax payment obligations.

#### **Secondly, regulations on protecting the material interests of taxpayers**

As tax legislation is continuously being improved to increasingly recognize and protect the rights of taxpayers, the content related to the material interests of taxpayers has also been comprehensively, specifically, and progressively acknowledged. This group of rights includes:

##### *(i) The right to enjoy tax exemptions, reductions, incentives, and refunds*

The Tax Administration Law 2019, Clause 5, Article 16, clearly states that the taxpayer's right is to: "Enjoy tax incentives and tax refunds in accordance with the tax law; be informed of the deadline for resolving tax refunds, the amount of tax not refundable, and the legal basis for the non-refundable tax amount". Along with the Tax Administration Law, tax incentives, exemptions, reductions, and refunds are also clearly recognized in specific tax acts. For example, the Corporate Income Tax Law of 2013; the Law on Personal Income Tax of 2007 (and its amendments); the Law on Value Added Tax; the Law on Special Consumption Tax; and related guidelines. These regulations are of significant importance to protect the material interests of taxpayers.

##### *(ii) The right to extend tax payment*

Articles 62 and 63 of the Law on Tax Administration of 2019 specifically specify cases in which taxpayers are allowed to extend their tax payments. To concretize this policy, during the period from 2020 to 2021, in the face of difficulties caused by the COVID-19 pandemic,

the government issued decrees to extend the tax payment deadlines for taxpayers experiencing difficulties in paying taxes due to the impact of the COVID-19 pandemic. For example, Decree No. 109/2020/ND-CP on extending the deadline for paying excise tax on domestically manufactured or assembled cars in 2020; Decree 41/2020/ND-CP on extension of time limit for paying tax and land rent; Decree 52/2021/ND-CP on extending the deadline for payment of value-added tax, corporate income tax, personal income tax, and land rent in 2021, etc

*(iii) Regulations on the right to claim compensation*

The Law on Tax Administration of 2019 states the right to request compensation for damages in Clause 8, Article 16, according to which the taxpayer's right is: "To be compensated for damages caused by tax administration agencies and tax administration officials according to provisions of law"; Article 111 and 118, require compensation for damages during tax inspection and tax audit procedures if there is any damage. Furthermore, compensation for damages is regulated in the State Compensation Responsibility Law of 2017 and detailed guidance provided in Decree 68/2018/NĐ-CP. This provision is of significant importance to protect the material interests of taxpayers during tax authorities' execution of administrative orders and decisions that cause harm to taxpayers. It also imposes responsibility on tax authorities and officials to carry out their duties with diligence, accuracy, and care when performing tax management activities.

***Thirdly, Provisions on the protection of the right to receive support***

In Vietnam, supporting taxpayers is also one of the important rights recognized by The Tax Administration Law. Specifically, in Clause 1, Clause 3, Clause 13, and Clause 14 of Article 16 of the Law on Tax Administration of 2019 recognizes the right to support in two aspects. Firstly, it's the right to receive support and guidance in tax payment from tax authorities, and secondly, it's the right to receive support in fulfilling tax obligations from entities engaged in tax agency services and customs agency services.

Based on legal provisions, the tax sector has implemented numerous breakthrough measures in publicity and taxpayer support, especially during the period from 2021 to 2022. For instance, in 2021, amid social distancing measures in various localities, to enhance the effectiveness of publicity and taxpayer support, in addition to traditional publicity methods, the tax sector made efforts to innovate and apply information technology to support taxpayers electronically and online. This support includes addressing concerns through online platforms such as telephone hotlines, conducting online forums on the Tax Department's electronic portal, online support through 479 information channels of the entire Tax sector, posting videos and instructional documents on the Tax Department's website, and on social media platforms such as Zalo and Facebook<sup>1</sup>. Tax authorities have closely cooperated with media agencies and television stations to broadcast news and messages through newspapers, magazines, and programs like the "Taxes and Life"; "State taxes", etc. These measures play a significant role in disseminating information and providing support to taxpayers, helping them understand their obligations and how to fulfill them. They also assist taxpayers in accessing information to

<sup>1</sup> Nhat Minh, "86% of the questions sent through the online support channel have been resolved", access at the link: <https://thoibaotaichinhvietnam.vn/86-so-cau-hoi-gui-qua-kenh-ho-tro-truc-tuyen-da-duoc-giai-quyet-94712.html>

qualify for tax exemptions, reductions, incentives, and tax payment extensions as per Decree No. 52/2021/NĐ-CP.

As for the right to receive assistance in fulfilling tax obligations from tax agent service providers and customs agents, for more specific guidance on this right, the Tax Administration Law 2019 has devoted Chapter XII to record receiving tax and customs clearance service business organizations. At the same time, the Ministry of Finance has issued Circular No. 10/2021/TT-BTC to guide the management of tax service practice in order to ensure the capacity of tax agency service providers. For customs procedures, customs agents carry out activities in accordance with the provisions of the Vietnam Law Customs of 2014, and the Ministry of Finance also issued Circular No. 12/2015/TT-BTC detailing procedures for the issuance of certificates only customs declaration; order and procedures for recognition and operation of customs clearance agents (this circular was amended by Circular No. 22/2019/TT-BTC). These regulations have created a legal basis to develop a network of organizations to support taxpayers, ensure the development of these organizations, and go hand in hand with the tax authority in fulfilling its revenue collection obligations, while saving social costs and creating favorable conditions for taxpayers. As a result, the network of tax and customs agents is encouraged to expand and increase rapidly. If in 2010 there were only 41 tax agents across the country, by the end of 2017 there were 375 agents, by the middle of 2018 there were 452 agents<sup>1</sup>, and by 2020 there were about 720 tax agents eligible for practice registration (according to the General Department of Taxation, Tax Department announced on December 8, 2020). As of the end of 2019, there were about 1,000 customs brokers recognized by the General Department of Vietnam Customs as being eligible for operation, and there are about 1,800 customs agent employees who have been granted codes<sup>2</sup>. With the strong development of supporting entities, taxpayers can easily fulfill their tax obligations while minimizing risks in the tax declaration and payment process.

#### ***Fourthly, Provisions on protecting rights related to taxpayers' information***

In addition to the right to access tax information, taxpayers also need protection for rights related to their own information. Currently, the Tax Administration Law recognizes rights related to taxpayer information, including two fundamental aspects: the right to maintain the confidentiality of information and the right to request tax authorities to confirm the fulfillment of tax obligations.

First, concerning the right to maintain the confidentiality of information, the Tax Administration Law 2019 specifically recognizes it in Clause 4, Article 16, according to which the taxpayer's right is "the right to maintain the confidentiality of information, except for information required to be provided to competent state authorities or information publicly disclosed about taxes as prescribed by law". At the same time, the right to request tax administration agencies confirm the fulfillment of tax payment obligations is specified in Clause 9 and Article 16 of the Tax Administration Law 2019 and further detailed in Decree No.

<sup>1</sup> The General Department of Taxation, [www.gos.gov.vn](http://www.gos.gov.vn)

<sup>2</sup> Linh Dan (2019), "Increasing the Competitiveness of Goods Through Customs Services," access at the link: <https://vneconomy.vn/tang-suc-canh-tranh-cua-hang-hoa-qua-dich-vu-hai-quan.htm>



126/2020/ND-CP, which provides specific guidance on certain provisions of the Law on Tax Administration. Furthermore, this content is also specifically guided in Article 5 and Clause 1 of Circular No. 80/2022/TT-BTC, which provides guidance on the implementation of certain provisions of the tax administration law. These documents clearly acknowledge the right to request tax authorities to confirm the fulfillment of tax obligations, outlining the procedures, documentation requirements, timeframes, and confirmation forms for tax obligations.

**Fifthly, Provisions on protecting the rights of taxpayers to complain, litigate, and report**

Tax Administration Law of 2019 clearly states in Clause 10, Clause 12 of Article 16 that taxpayers have the right to: “complain and litigate administrative decisions and administrative violations related to their legal rights and interests”; “Report violations of the law by tax authorities and other organizations or individuals as prescribed by law.” Furthermore, Chapter XVI of the Law on Tax Administration of 2019 provides specific regulations on the exercise of the rights to complain, report, and litigate by taxpayers in Articles 147 and 148. Therefore, clear legal provisions in tax law serve as a legal basis and ensure that taxpayers can exercise their rights to complain, litigate, and report.

Although there are many positive points, the tax administration law still have several shortcomings that affect the protection of taxpayers’ rights. Specifically:

*Firstly, The current tax laws reveal some limitations concerning taxpayers’ right to access information:*

The extensive legal texts and frequent revisions create difficulties for taxpayers in accessing information. While tax authorities have made efforts to update documents on their websites, the public nature of these documents remains insufficient. Therefore, despite these efforts, there are cases where updates are not timely or complete, making it challenging to find the necessary documents. Additionally, the lack of regulations on the procedures and processes for exercising the right to request information access leads to inconsistencies in practice. In reality, many tax officials provide information as a form of assistance rather than a mandatory obligation, causing taxpayers not to exercise this right. Moreover, the absence of specific sanctions when authorities refuse to provide information upon request leaves taxpayers’ right to access information inadequately protected.

*Secondly, the law of tax administration still has many shortcomings in protecting the material interests of taxpayers.*

For instance, the application of tax incentives, exemptions, reductions, tax refunds, and tax extensions still faces many limitations. According to Decision No. 22/2020/QĐ-TTg dated August 10, 2020, of the Prime Minister (Decision 22), states that lessees of land are responsible for self-declaration and self-assessment of land rental taxes. However, there is a lack of mechanisms for inspecting and supervising the implementation of land rental reductions, allowing taxpayers to potentially exploit these policies inappropriately. Pursuant to the Resolution No. 116/2020/QH14 dated June 19, 2020, and Decree No. 114/2020/ND-CP dated September 25, 2020, detailing the implementation of Resolution No. 116/2020/QH14 of the National Assembly, there is no consensus on guidelines for the implementation of the “revenue” target; therefore, the tax authority only calculates the total revenue as a basis for



determining the beneficiaries of tax incentives, excluding the revenue from financial activities, making the application difficult.

Additionally, the law protecting taxpayers' rights to compensation for damages also revealed some shortcomings. For example, the Law on State Compensation Liability of 2017 and its guiding clearly specify the time frame for compensating individuals wrongly accused due to actions taken by government agencies. However, very few cases involving individuals who have been wrongly accused, prosecuted, or sentenced receive compensation within the stipulated time frame. This delay is primarily due to legal shortcomings. According to Article 47 of Law on State Compensation Liability of 2017, after reaching a negotiated settlement, the head of the compensation-resolving agency should issue a compensation resolution and hand it to the requesting party during the negotiation session. This resolution only takes effect 15 days after being handed to the requesting party. Nevertheless, compensation-resolving agencies often lack the necessary funds to make timely payments. Therefore, they must follow procedures to request funds from the Ministry of Finance before they can proceed with compensation payments. This process is time-consuming and does not specify a definite timeframe, ultimately affecting the protection of taxpayers' rights to compensation for damages.

*Thirdly, the law on tax administration has many shortcomings when it comes to protecting taxpayers' rights to support.*

In Vietnam, the taxpayer support system is not fully developed and does not effectively fulfill its role. Some shortcomings in the regulations include the lack of financial requirements for establishing tax agencies and customs agencies to ensure the quality of tax agency services. The activities of tax agencies and customs agencies do not differ significantly from those of regular legal advisory support organizations. Additionally, the responsibilities and obligations of tax agencies in providing tax consulting services to clients are not clearly defined, creating ambiguities based on authorization relationships. Furthermore, local tax advisory councils have been established in Vietnam with the goal of supporting both state management agencies and taxpayers. However, their effectiveness has not met expectations. These shortcomings affect taxpayers' trust in support organizations and hinder the expansion of this significant model in Vietnam.

*Fourthly, the law on tax administration has some limitations when it comes to protecting the rights related to taxpayers' information.*

Currently, tax laws do not provide clear regulations regarding the cases in which banks are obligated to provide information to tax authorities. Article 27 of the 2019 Tax Management Law and Sections 2 and 3 of Article 30 of Decree No. 126/2020/NĐ-CP stipulate the responsibilities of commercial banks to cooperate with tax authorities in providing information and enforcing administrative decisions related to tax management. This provision aligns with international practices<sup>1</sup> and contributes to transparency in tracking revenues and expenditures of individuals and entities, ensuring effective state management. However, Vietnamese tax management laws lack explicit provisions regarding the specific cases in which banks must furnish information to

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<sup>1</sup> Cam Tu: "Avoid abuse of right to access taxpayer information", access at the link: <https://vov.vn/kinh-te/tranh-lam-quyen-tiep-can-thong-tin-nguoi-nop-thue-845610.vov>

tax authorities. According to Section 2 of Article 30 of Decree No. 126/2020/NĐ-CP, the law merely states that banks must provide information regarding taxpayers' payment accounts to serve the purposes of inspections, audits, and determining tax obligations upon the request of the tax management authority or the head of the tax management authority. Consequently, this vague regulation may compromise the transparency of tax laws and potentially infringe upon the confidentiality of taxpayers' information. This could also lead to concerns from depositors at commercial banks who may not know when their information will be disclosed. In contrast, the nature of the relationship between depositors and banks is a civil one. Therefore, when entering into contracts, commercial banks should inform their customers about the circumstances in which their information will be automatically provided to third parties without requiring the depositors' consent. If the regulation remains overly general and serves purposes such as inspections, audits, or tax liability determination, it may lead to varying interpretations and potential violations of taxpayers' rights.

*Fifthly, the law protecting the right to complain, initiate lawsuits, and denounce taxpayers still reveals many shortcomings that prevent taxpayers from fully promoting this right.*

Furthermore, tax laws that protect the rights of taxpayers reveal several shortcomings, preventing taxpayers from fully exercising these rights. One of these shortcomings is the absence of specific regulations governing the procedures for handling complaints, petitions, and reports related to grievances and accusations. Currently, there are only procedures for processing petitions, lacking detailed provisions for disciplinary actions against individuals with authority to resolve accusations. This deficiency results in a low rate of resolution for complaint cases, with prolonged processing times that often extend for several years without satisfactory resolution. According to reports from the Ministry of Finance, during the period from July 1, 2016, to July 1, 2021, there was a significant influx of complaints, accusations, and petitions received by the Ministry, with numerous cases involving tax and customs matters, accounting for 70-80% of the total. However, the outcomes of handling these cases have shown a low resolution rate compared to the number of cases received. Some complaint and accusation cases have dragged on for years without adequate resolution<sup>1</sup>. The primary reasons behind this delay stem from various complexities in the handling process, often related to unclear or missing specific legal provisions. In these situations, tax authorities are required to seek input from various units under the Ministry of Finance and related government departments, resulting in significant delays. For instance, resolving complaints related to land matters often necessitates consultations with the Department of Natural Resources and Environment, while cases involving invoices from businesses involved in tax evasion require verification through multiple agencies and departments to ensure accuracy. Consequently, these procedures lead to prolonged processing times and consume significant amounts of time and resources.<sup>2</sup>

1 Ho Huong, Member of the National Assembly Le Hoang Anh: “Clarifying the reason why the complaint and denunciation receipt took a long time but the settlement has not been satisfactorily”, access at the link: <https://quochoi.vn/hoatdongdbqh/Pages/tin-hoat-dong-dai-bieu.aspx?ItemID=63954>

2 Nguyen Thi Ngoc, *Causes of complaints, denunciations, petitions, and complaints from citizens about the financial industry*. access at the link: [https://mof.gov.vn/webcenter/portal/thanhtrabtc/pages\\_r/chi-tiet-tin-thanh-tra-btc?dDocName=MOFUCM227140](https://mof.gov.vn/webcenter/portal/thanhtrabtc/pages_r/chi-tiet-tin-thanh-tra-btc?dDocName=MOFUCM227140)

## 5. SOME RECOMMENDATIONS TO IMPROVE THE LAW TO PROTECT THE RIGHTS OF TAXPAYERS

On the basis of analyzing a number of shortcomings in the law to protect taxpayers' rights, the authors propose some solutions to improve the law as follows:

*Firstly, for taxpayers' right to access information:* It is necessary to promptly enact regulations on the procedures for exercising the right to access information in the manner that ensures it is reasonable, feasible, and convenient for taxpayers. In addition, the tax administration law needs to clearly and specifically stipulate the obligations of tax administration agencies and tax administration officials, along with corresponding sanctions in case the competent person refuses to provide information or provides false or inaccurate information. Sanctions must ensure strictness, deterrence, and the prevention of violations. In addition, the tax law needs to have a clear and public delineation for taxpayers to know which sources of information they are allowed to access and which information is state secret to avoid tax officials making excuses for confidential information to refuse to provide information to taxpayers.

*Secondly, for the protection of taxpayers' material interests:* continue researching and promulgating specific guiding documents on the application of tax incentives, exemption and reduction, and tax extension. At the same time, with the inadequacies in the regulations on procedures for the implementation of tax incentives, exemptions, and reductions, it is necessary to amend in the direction of clearly documenting the policies and shortening the implementation time of administrative procedures, unifying regulations, and simplifying procedures to enjoy tax incentives, exemptions, and reductions in order to create conditions for Taxpayers to effectively apply this policy. In addition, continue to improve the Law on State Compensation Liability in 2017 to shorten the process of receiving compensation from tax authorities so that the wrongful person can receive compensation in time.

*Thirdly, for the right to be supported,* legal regulations should be continuously improved to enhance the quality of activities of support entities such as tax agents and customs agents. For instance, it may be necessary to require financial qualifications (stipulating minimum capital) for establishing tax agencies and customs agencies. Setting these financial qualifications is a measure to ensure the quality of tax agent services and, in cases where this assurance is compromised, the service provider should have the financial means to promptly compensate taxpayers for any resulting losses. Minimum capital requirements are already stipulated in some financial sectors, such as banking, securities underwriting, insurance, security services, and real estate businesses. Tax and customs agents provide financial-related services, so stipulating minimum capital requirements is essential and appropriate to maintain trust among users of these services. Furthermore, mechanisms for monitoring and promptly penalizing any violations in the misuse of professional certificates for tax-related procedures should be established to develop a network of taxpayer support, fostering trust among taxpayers when using these services. Additionally, policies should be enacted to develop a coherent and diverse range of taxpayer support models, including tax agents, customs agents, tax advisory councils at the commune and ward level, and a network of volunteer taxpayer helpers. Only through these measures can the protection of taxpayers' right to support be enhanced.

*Fourthly, for the right to be protected rights related to information:* the law needs to clearly define the subject and criteria for customers that banks must provide information to tax authorities. This will determine the methods and approval procedures of tax authorities when requesting customer information from commercial banks. If the law merely states that commercial banks have an obligation to provide information to tax authorities, it can easily lead to abuses of power and create concerns for customers, potentially affecting the business operations of banks.

*Fifthly, for the protection of taxpayers' rights to complain, initiate lawsuits, and denounce* It is necessary to continue to improve the provisions of the law in order to shorten the time and procedures to settle complaints and denunciations, and at the same time provide specific guidance on new regulations such as those on incentives, tax reduction, tax refund, tax extension, etc., so that taxpayers know clearly about their responsibilities, avoid improper application of the law, and avoid difficulties in exercising their right to complain, initiate lawsuits, and denunciations. In addition, it is possible to learn from the experiences of countries around the world such as the US, Australia, and Canada to establish independent organizations to settle taxpayers' complaints, such as IGT in Australia, TAS in the US, or OTO in Canada. These organizations work for the benefit of taxpayers and receive support from the Government, thereby providing free or low-cost services to taxpayers<sup>1</sup>. Since then, the protection of taxpayers' rights has been enhanced.

## CONCLUSION

Vietnam's tax administration law has been gradually improved to strengthen the guarantee of taxpayers' rights. In addition to the positive points, the tax administration law also reveals some limitations that make it challenging to exercise taxpayers' rights in practice. Therefore, it is necessary to continue to improve the tax administration law in the spirit of respecting the rights of taxpayers. This will contribute to improving the taxpayer's self-discipline and minimizing wrongful actions by individuals in tax and customs authorities. Based on this foundation, enhancing the effectiveness of tax collection activities will be achieved, ensuring a stable source of revenue for the state budget.

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# EXPORT CREDIT WITH THE GOAL OF ECONOMIC GROWTH

Dr. La Thi Lam<sup>1</sup>

*Abstract: Export is considered one of the driving forces for the economic growth of many countries in the world as well as in Vietnam. Over the past decade, Vietnam's export has achieved impressive achievements, which contributes to promoting economic growth, creating jobs, and stabilizing exchange rates. However, there have been several negative impacts such as the world financial crisis and the COVID-19 pandemic have made it difficult for export enterprises and caused many obstacles in accessing capital. The article focuses on analyzing the current status of exports, export credit in Vietnam in the period 2010-2022, and obstacles of export enterprises in accessing credit capital, thereby proposing some solutions to remove difficulties for exporters in accessing bank credit capital.*

*Keywords: Export credit; Exporting enterprises; Economic growth; Bank credit, Policy credit.*

## 1. INTRODUCTION

Sustainable economic growth is always the top goal of each country to develop comprehensive socio-economic development and improve people's living standards. There are many factors affecting economic growth and export is one of them. From the theoretical perspective, commodity export is considered a constituent of aggregate demand, which is why export has an impact on economic growth. In practice in many countries around the world, commodity export has a positive impact on economic growth as well as other macroeconomic goals, especially for countries that have advantages in exporting goods.

Over the past decade, Vietnam's export has achieved impressive achievements, from a country with a trade balance that often has a trade deficit to be continuously in surplus thanks to the increase in the scale of commodity export, thereby contributing to promoting economic growth, creating jobs and stabilizing exchange rates. Having these results must mention the role of credit capital for export enterprises, especially bank credit capital. Based on the guidelines and operating policies of the Government as well as the State Bank, the commercial banking system, as well as policy banks, have made great efforts in providing credit capital for exporters. However, negative impacts such as the world financial crisis and the COVID-19 pandemic have made it difficult for export enterprises and caused many obstacles in accessing capital. Therefore, to promote the export of commodities and create motivation for Vietnam's economic growth after the pandemic, it is necessary to have solutions to remove difficulties for exporters in accessing bank credit capital.

## 2. EXPORTS WITH VIETNAM'S ECONOMIC GROWTH IN THE PERIOD 2010-2022

In Vietnam, export is one of the three main factors (including export; investment, and consumption) that promote economic growth. Over the past decade, thanks to the active

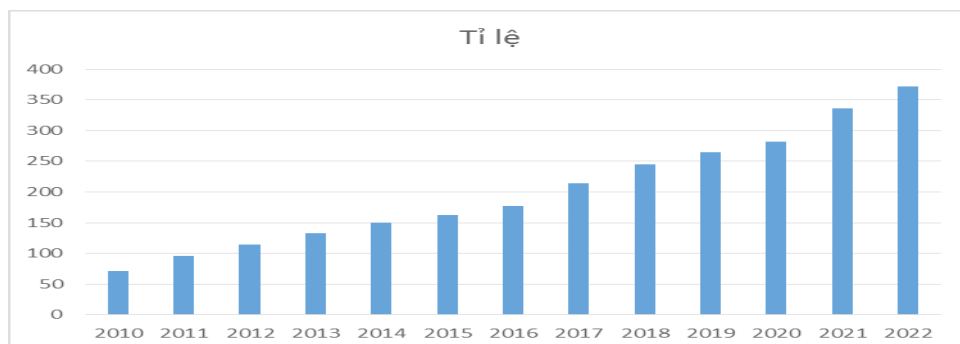
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support of the Government (through trade and public investment policies) and the banking system, along with the efforts of enterprises, Vietnam’s export has reached impressive results. According to the General Statistics Office, Vietnam’s total export turnover has increased from 72.24 billion USD in 2010 to 371.96 billion USD in 2022 (export turnover is more than 5 times after 12 years), at the same time, the scale has increased continuously in the period 2010-2022. [Figure 1]

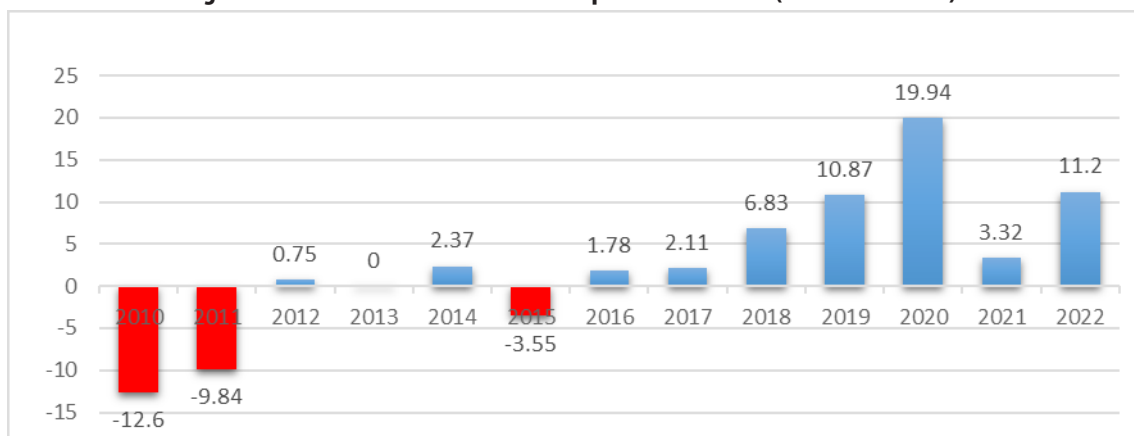
**Figure 1: Export turnover of Vietnam in the period 2010-2022 (Unit Billion USD)**



*Source: General Statistics Office*

Thanks to the increase in export scale, from 2012 to 2022, the trade balance in Vietnam has entered a period of trade surplus (except in 2015) after a long period of continuous trade deficit before [Figure 2], thereby contributing to promoting economic growth, creating jobs and stabilizing the exchange rate.

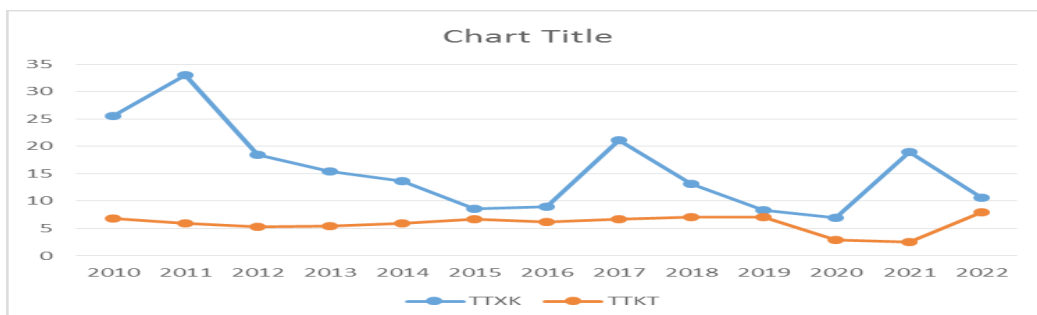
**Figure 2: Vietnam’s trade balance in the period 2010-2022 (Unit: Billion USD)**



*Source: General Statistics Office*

Although the scale of export continues to increase, in general, the export growth rate in the period 2010-2022 tends to decrease, except for 2017 and 2021 which witnessed a sharp increase after years of deep decline in growth rate. [Chart 3].

Figure 3: The rate of export and economic growth of Vietnam in the period 2010-2022 (Unit: %)



Source: General Statistics Office

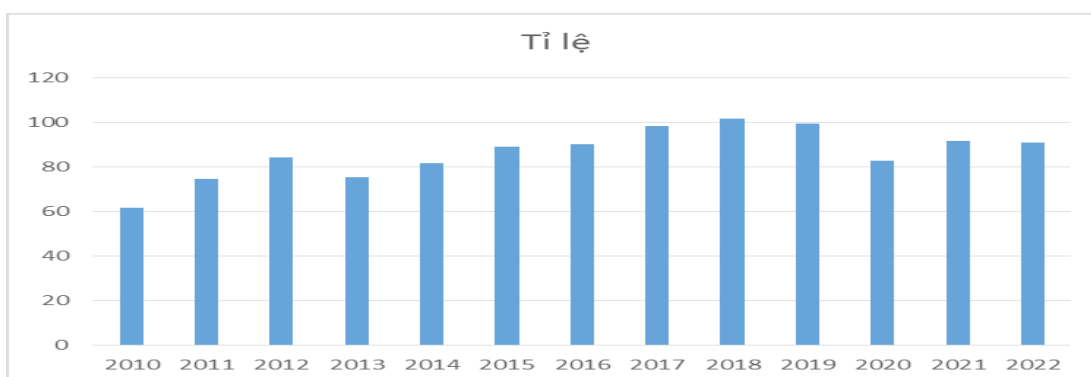
On average in the whole period 2010-2022, export growth averaged around 16%/year. In the period 2012-2015, export growth decreased more than in the previous period, which was caused by the impact of the financial crisis and the public debt crisis in Europe, therefore, the world economy has not yet fully recovered. Accordingly, export demand decreased, so the growth rate was low compared to previous years.

In the period 2016-2017, export growth rebounded thanks to the efforts in market opening, improvements in goods consuming promotion, and support for export enterprises of the Government and relevant Ministries.

In 2019 and 2020, due to the great impact of the COVID-19 pandemic, Vietnam’s export growth decreased compared to previous years, specifically, export growth in 2019 and 2020 reached 8.58% and 6.36% respectively. After most countries in the world had abandoned the lockdown of the economy, the export growth rate increased sharply in 2021 to 19.5%, then decreased to 10.6% in 2022. [6]

The increase in the scale of export has made a certain contribution to Vietnam’s economic growth. The ratio of export value to GDP is increasing, if this ratio in 2010 was only 61.7%, it has been above 90% in recent years, even reaching over 100% in some years (Chart 4). This shows that commodity export is playing an important role in the growth of Vietnam’s economy.

Figure 4: Export value/GDP ratio of Vietnam in the period 2010-2022 (Unit:%)



Source: Author

However, the evolution of Vietnam’s economic and export growth in the period 2010-2022 shows that economic growth is not always proportional to export growth, which is explained by the fact that in addition to exports, economic growth is also influenced by investment and consumption [Figure 3].

### 3. VIETNAM'S EXPORT CREDIT IN THE PERIOD 2010-2022

#### 3.1. Policy credit for export

Regarding policy credits for exports, the Government issued Decree No. 75/2011/ND-CP dated August 30, 2011, on investment credit and export credit of the State, for which the Ministry of Finance also issued Decree No. promulgate a Circular to guide. Accordingly, enterprises meeting the requirements under the Decree can borrow a maximum loan amount equal to 85% of the value of the signed export or import contract or the L/C value for loans before delivery or the value of the valid bill of exchange for lending after delivery, and at the same time, must ensure that the maximum loan amount for each foreign exporter or importer does not exceed 15% of the actual charter capital of Vietnam Development Bank (VDB). The loan term does not exceed 12 months. VDB is assigned to implement the Government's policy on investment and export credit (according to Decision No. 108/2006/QĐ-TTg dated May 19, 2006, of the Prime Minister). The source of capital for VDB to implement export credit and investment credit is from mobilizing and receiving capital from domestic and foreign organizations to implement the Government's policies on investment and export credit; in which, capital mobilization is mainly done by VDB in the form of government-guaranteed bond issuance. In the capital structure of VDB in recent years, capital mobilized from the issuance of government-guaranteed bonds regularly accounts for a very large proportion, commonly at over 90%. VDB is provided by the State budget to compensate for the difference in interest rates and management fees. After more than 6 years of implementation, VDB's loan sales with export reached more than VND 135,000 billion, of which in many years the actual loan sales exceeded the plan assigned by the Prime Minister. [Table 1]

**Table 1: Loan turnover and average loan balance from 2006 to 2016**

Unit: Billion VND

Year	Loan turnover	Average loan balance		
		Prime Minister assigned	VDB executed	Completion rate
2006	8.425	3.500	3.000	86%
2007	6.900	2.500	2.867	115%
2008	19.539	8.000	10.254	128%
2009	24.495	10.000	16.177	162%
2010	21.057	15.000	16.145	108%
2011	20.537	17.000	16.796	99%
2012	12.952	17.888	12.822	72%
2013	7.610	12.822	10.962	85%
2014	6.844	12.058	9.984	83%
2015	4.558	10.000	8.806	88%
2016	2.890	10.000	7.083	71%

*Source: Vietnam Development Bank*

VDB has helped enterprises reduce input costs, increase competitiveness, and take advantage of opportunities to expand and promote the export of Vietnamese goods in the international market, creating favorable conditions for businesses to maintain traditional markets and exploit new, potential markets. For some specific markets such as Iraq and Cuba,

while commercial banks have limited credit provision, VDB still clearly shows its role as a policy tool when it continues to support enterprises to export to this market and new ones in Africa as well as to enact export contracts, create prestige in economic cooperation and relations between Vietnam and other countries. However, in 2017, the Government directed VDB to stop lending for export to focus its resources one-credit. For many reasons, after Decree No. 32/2017/ND-CP was issued by the Government, from May 15, 2017, VDB no longer lends capital from the State, but only performs the task of lending e-credit capital and recovery of export credit loans [5].

### **3.2. Bank credit for exports**

With the function of being the credit intermediary of the economy, export is one of the credit-granting objects of commercial banks. However, only after issuing Circular 39/2016-TT-NHNN (now adjusted in Article 4 of Circular 06/2023/TT- NHNN effective from September 1, 2023), the export loan is officially one of the five priority areas for lending. Specifically, at Point 2, Article 3 of the Circular, credit institutions and customers agree on short-term lending interest rates in Vietnam dong, but not exceeding the maximum lending interest rate set by the Governor of the State Bank to meet a number of capital needs: *a) Serving the field of agricultural and rural development in accordance with the Government's regulations on credit policies for agricultural and rural development; b) Implement the export business plan according to the provisions of the Commercial Law and guiding documents of the Commercial Law; c) Serving the business of small and medium-sized enterprises according to the Government's regulations on support for the development of small and medium-sized enterprises; d) Develop supporting industries according to the Government's regulations on supporting industry development; e) Serving the business of enterprises applying high technology according to the provisions of the Law on High Technology and guiding documents of the Law on High Technology.*

If Circular 39/2016-TT-NHNN only states the capital needs with preferential interest rates, then in Article 4 of Circular 06/2023/TT- NHNN amending point 2, article 3 of Circular 39/2016/TT-NHNN, in addition to regulations on priority lending areas, also emphasized the condition of customers to be assessed by credit institutions as having a transparent and healthy financial situation. This shows that transparency and soundness of customers' financial situation are still considered the top criteria when implementing lending incentives for credit institutions.

Depending on the actual development of the economy, the Government has to give executive instructions to the system of credit institutions in supporting credit capital for the export of goods as well as other priority areas. Recently, to promote economic growth after COVID-19 pandemic, in dispatch 1156/CD-TTg dated December 12, 2022, on the supply of credit capital to the economy, Prime Minister Pham Minh Chinh requested demand to focus credit on priority areas, economic growth drivers (consumption, investment, export; construction of industrial zones, social housing, worker housing), quality improvement credit, ensuring the safety of the system of credit institutions, the national financial and monetary security.

Currently, according to Decree No. 31/2022/ND-CP and Circular No. 03/2022/TT-NHNN (*stipulating the interest rate support (2%) from the state budget for loans in Vietnam dong arising from lending activities of commercial banks to customers being enterprises,*

*cooperatives, and business households according to Resolution No. 43/2022/QH15 dated January 11, 2022, of the National Assembly and Resolution No. 11/NQ-CP dated January 30, 2022 of the Government*). Accordingly, although exporters are not directly supported, the potential export industries in Vietnam such as agriculture, forestry and fishery, processing industry,... object catalog can be supported.

Based on the operating policy of the Government as well as the State Bank, the commercial banking system has constantly taken measures to create favorable conditions for export enterprises to access loans. Especially, from 2021 up to now, commercial banks have continuously launched support packages for import-export enterprises in general and export enterprises in particular. For example, Vietinbank with the preferential package VietinBank Trade Up; Joint Stock Commercial Bank for Investment and Development of Vietnam – BIDV with the Trade Booming package; MSB Bank with the Easy Trade package.... Not only preferential loan interest rates, commercial banks also offer many preferential programs as well as design credit products suitable to the actual conditions of export enterprises, supporting procedures, and reducing payment transaction fees,... In addition, there are commercial banks that do not offer a particular credit package for export and import enterprises but they offer general support credit packages for businesses in general, emphasizing priority areas, including import and export. This shows that banks all recognize the importance of boosting credit growth and providing services to export enterprises. The support packages not only create a driving force for the development of export enterprises as well as the economy but also bring a significant source of income for the bank.

The issuance of TT39/2016/TT-NHNN together with the management of the Government and the efforts of the banking system has contributed to creating a driving force for the growth of export credit of the banking system. By the end of April 2021, credit to the export sector (excluding investment in corporate bonds) reached more than VND 281 trillion, an increase of about 3.5% compared to the end of 2020, accounting for nearly 3% total debt balance of the whole economy. By the end of the third quarter of 2022, export credit growth was at 6.5%, until December 25, 2022, the outstanding export credit balance was about over VND 350 trillion. According to the survey results on credit trends of credit institutions in the first quarter of 2023 from the Department of Forecasting and Statistics (The State Bank), the import-export business is one of the five lending sectors that the number of credit institutions assessing credit demand will increase the most in 2022. In June 2023, this sector is also forecast to increase credit demand, is one of the top 3 sectors (import and export holding the second position), and is the driving force for credit growth of the system.

#### **4. OBSTACLES OF EXPORT ENTERPRISES IN ACCESSING CREDIT CAPITAL**

In the past 10 years, although Vietnam's commodity export has still achieved certain achievements, it has contributed to improving the trade balance from a continuous trade deficit to a trade surplus. However, the export growth rate in the period 2010-2022 shows that Vietnam's export growth rate has continuously decreased (except for a few years of sudden spikes). This shows difficulties for commodity export due to the impact of the global financial crisis (2008) and the COVID-19 pandemic. Currently, the pandemic has been controlled,



but countries around the world have to face consequences such as inflation and a decline in economic growth. With the primary goal of fighting inflation, many countries implement tight monetary policy, which reduces the consumption demand of major trading partners, narrowing the export turnover of Vietnam's goods in recent times. Many businesses find it difficult to find orders, so even if commercial banks launch many preferential support packages, it is not enough to stimulate capital demand for export enterprises. In addition to this objective factor, export enterprises also face several obstacles in accessing bank credit, specifically:

*The lending interest rate is still considered high for export enterprise*

Although still considered a priority or preferential field in bank loans, due to the general influence of market interest rates, export lending interest rates are still assessed by exporters as one of the obstacles in accessing loans from banks. In the period 2012-2015, the scarcity of bank credit capital made the lending interest rate quite high. The common VND interest rate for agriculture, rural areas, and export is 14.5-16%/year, and the lowest is 13.5%/year which applies to corporate customers who commit to selling foreign currency to banks; USD lending interest rate: The common lending interest rate is at 6-7.5%/year for short term; 7.5-9%/year for medium and long term. Since the promulgation of Circular 39/TT-NHNN, export lending is one of the leading sectors where the maximum lending interest rate ceiling is imposed according to the regulations of the State Bank of Vietnam, helping export enterprises to receive loans at low-interest rates to encourage export. The maximum lending interest rate for priority sectors has been adjusted to 6.5% from July 2017 (Decision 1425/QD-NHNN), and the interest rate reduction continues in the next phase. From the third quarter of 2022 and most of the second quarter of 2023, the economic recovery led to an increase in capital demand, while the ability to mobilize capital is limited, therefore, it created pressure to increase the lending interest rate. The maximum short-term lending interest rate in VND of credit institutions for borrowers to meet their capital needs to serve a number of economic sectors and fields as prescribed in Circular No. 39/2016/TT-NHNN dated 30 May December 2016 increased from 4.5%/year to 5.5%/year (Decision No. 1813/QD-NHNN dated October 24, 2022.). According to the report of the State Bank, the average short-term lending interest rate in VND for priority sectors is currently about 4.6%/year, lower than the prescribed maximum short-term lending interest rate (5.5%/year), however, in reality, not all export businesses are eligible to borrow at preferential interest rates, instead, many still have to borrow at an interest rate of 9%-10% per year. Moreover, due to being heavily affected by the COVID-19 pandemic, the situation of the output market in 2022 has not yet improved much due to the influence of political factors and the narrowing of the large consumption market of Vietnam in the US and Europe. Therefore, with the current borrowing interest rate, it is still considered quite high compared to the business performance of export enterprises.

Along with the increase in VND interest rates, USD interest rates have also tended to increase recently. If from mid-2022 onwards, the interest rate on USD loans is only at 2.1-2.8%/year (depending on the bank), from the third quarter of 2022, many banks have announced and applied immediately after that to increase the USD loan interest rate to 3-3.3% and even to 4.5%, and are currently 4.2-4.9% in the context of the decline in production – export. [7]



*Many export enterprises do not meet the lending conditions of banks.*

Not only having difficulty with high interest rates, the biggest problem for many export enterprises is that it is difficult to meet the bank's loan conditions such as having to pay off old debts if they want to borrow new, requirements for collateral, proof of cash flow,... These requirements are completely reasonable from a bank's perspective because regardless of any priority areas, commercial banks still have to set the top goal of profit suitable to their risk appetite, especially in the context that commercial banks have to meet strict conditions in management by international practices and the requirements of the State Bank. However, export enterprises are heavily affected by the COVID-19 epidemic so it is difficult for them to recover quickly, especially in the context that the export market has not yet recovered. Moreover, the political situation in the world fluctuated, and high inflation disrupted the supply chain, so the consumption market of Vietnam's export goods was narrowed and many export enterprises fell into inventory. Due to the surplus, the cash flow of the business becomes more and more congested, making it difficult to convince the lending bank about its financial situation and ability to repay.

The policy of supporting 2% interest rate from the State budget (according to Decree No. 31/2022/ND-CP and Circular No. 03/2022/TT-NHNN to share difficulties with businesses) has not been highly effective, the cause is said to be that the customer is not eligible for support such as a business registration certificate; many businesses register for multi-industry business, so it is very difficult to separate documents to prove that the loan is used for interest-supported fields and industries; many businesses are afraid to comply with procedures related to inspection and audit after approaching the support or being cautious and apprehensive about commercial banks.

*Many export enterprises have difficulty applying for credit lines to serve the needs of storing and purchasing export goods.*

In recent years, credit room is still considered an effective tool in operating the monetary policy of the State Bank. The control of credit room for commercial banks in the direction of strictly controlling credit growth of banks is to control inflation and commercial banks also tightened their credit limit for customers. Exporters who have to stockpile seasonal goods to ensure large orders such as food, and seafood..., will face difficulties in credit capital flow to meet their business needs.

## **5. SOLUTIONS TO REMOVE DIFFICULTY FOR EXPORTERS IN ACCESSING BANK CREDIT CAPITAL**

The aforementioned obstacles are the cause of difficulties for export enterprises to get bank loans. Up to now, the export credit balance of the new banking system accounts for about 3% of the total loans - this ratio is not commensurate with the role and potential of export development with Vietnam's economic growth, especially when credit capital of the commercial banking system is the main source of capital for Vietnamese export enterprises. Therefore, to facilitate the increase of bank credit capital to create a driving force to promote export scale and economic growth in the coming time, several solutions are proposed to the Government, State Bank of Vietnam, and the system of commercial banks as follows:

*First: Solutions for commercial banks*

With a long-term customer strategy, commercial banks need to share difficulties with businesses in general and export enterprises in particular. First of all, consider cutting costs and

profits to reduce lending interest rates. The bank needs to review the effectiveness in opening branches, transaction offices, the level of digital transformation in the bank, and restructuring debt according to the guidance of the State Bank... to contribute to further reducing lending interest rates. In addition to lowering the lending interest rate, more importantly, commercial banks need to remove the loan conditions that make it difficult for businesses based on ensuring the operational goals of commercial banks. Instead of requiring real estate as collateral, banks may accept as collateral accounts receivable, raw materials, economic contracts, or purchase orders to support businesses. At the same time, consider raising the loan level on the value of collateral to meet the capital needs of exporting enterprises.

To reduce lending interest rates or loose loan conditions and increase credit limits for export businesses, commercial banks need to improve their customer rating classification system to create a basis for applying loan conditions and the suitable interest rate suitable for the risk appetite of the bank. Through the rating and evaluation system, if customers are potential, the bank can lend unsecured loans, increasing the rate for loans on the value of collateral or low-interest loans...

Strengthen the development of preferential loan packages for export enterprises according to each object as well as the borrowing purpose based on suitability with specific conditions in each period. In parallel with the loan incentives, commercial banks need to be transparent, advise and guide customers on export procedures, because export enterprises need the services provided by banks such as payment, guarantee, negotiation with recourse...

*Second: Solution for the State Bank*

The State Bank needs to quickly implement the spirit of Circular No. 02/2023/TT-NHNN (effective from April 24, 2023, regulating credit institutions, foreign bank branches rescheduling the repayment period and keeping the debt group unchanged to support customers with difficulties, in which, there are customers facing difficulties in production and business as prescribed in Decree No. 55/2015/ND-CP with a maximum restructuring period of 12 months, applicable to June 30, 2024) to the commercial banking system to remove difficulties for many enterprises in general and export enterprises in particular in terms of financial conditions when accessing loans from foreign banks.

The State Bank should continue to focus on managing the growth of credit balance with a reasonable structure to both achieve the goal of controlling inflation and meeting the credit capital demand for the economy to promote economic growth. Directing credit capital into production and business, priority areas, and growth drivers; Determine the credit growth limit by the actual situation. Besides imposing a ceiling on lending interest rates in VND for priority sectors, the State Bank should consider imposing a ceiling on lending interest rates in USD to help many export enterprises borrow in USD.

Along with reducing the operating interest rates to reduce the market lending interest rate and remove difficulties for export enterprises, the State Bank needs to strengthen inspection, supervision and require commercial banks to strictly implement commitments to reduce lending interest rates. Implement written commitments to reduce lending interest rates of banking associations.

*Third: Solutions for the Government and related ministries*

All incentives from commercial banks in supporting capital for export enterprises must be based on respect for the bank's business autonomy as well as space for operating the monetary policy of the State Bank. Therefore, in addition to the efforts of the banking system, there should be a supporting role of the Government as well as Ministries in meeting the capital needs of export enterprises in particular, and business enterprises in general. Establishing a national credit guarantee fund large enough to remove the bottlenecks in borrowing capital from businesses with banks is now essential. To solve the difficulties of export enterprises in finding consumption markets, the Ministries and authorities need to strengthen the dissemination of information about the market; strengthen support for enterprises in trade promotion activities and trade connections; strengthen support for enterprises to improve their competitiveness, production, and farming according to standards. For businesses and industry associations, it is necessary to actively research and find out market incentives (taxes, quotas ...), find out partners for cooperation, proactively improve competitiveness and the skills of origin management, input materials management,... to receive incentives.

## 6. CONCLUSION

*With the actual conditions of export enterprises today, bank credit is considered the main source of capital to meet production and business needs. These bottlenecks in accessing capital not only adversely affect the activities of export enterprises, but also affect the credit expansion of the banking system and promote economic growth. Therefore, removing from the State's mechanisms and policies as well as solutions from commercial banks to facilitate export promotion for enterprises is very crucial.*

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# VIETNAM ECONOMY SINCE JOINING NEW-GENERATION FREE TRADE AGREEMENTS AND SOME COMPLETE ORIENTATIONS

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**Abstract:** *In the context that our country is integrating the world economy, actively promoting participation in the networks of new-generation free trade agreements (FTAs) has contributed to promoting the strong and sustainable economy, creating many great opportunities for Vietnamese enterprises to participate in the new “playground”, contributing to bringing Vietnamese products closer to the world market. However, besides the positives, joining the new-generation of FTAs also brings many challenges to the Vietnamese economy. From there, the article focuses on analyzing and evaluating the current situation of Vietnam economy when joining new generation FTAs, pointing out challenges and opportunities as participating in these agreements and thereby offering some solutions to overcome.*

**Keywords:** *Opportunities, challenges, FTA, new generation, Vietnam economy.*

## 1. INTRODUCTION

In recent years, Vietnam has stepped up opening up, integrating into the world economy, and actively participating in the new generation FTA network. together, by 2022, Vietnam has joined and is negotiating 17 FTAs, of which 15 are in effect and are implementing commitments, and 02 are under negotiation. That has contributed significantly to helping Vietnam achieve many important achievements in economic development, expanding export markets, consolidating traditional markets, creating favorable opportunity conditions for Vietnamese businesses to have the to participate. participate in potential markets in the world, as well as helping Vietnamese consumers access a rich source of quality products at reasonable prices...

However, besides the positive aspects, joining the new generation FTAs also poses many challenges for the Vietnamese economy to face and overcome in order to develop and catch up with the integration trend of the world. Therefore, the study and assessment of the current situation of Vietnam’s economy when participating in new generation FTAs; At the same time, analyzing the opportunities and challenges of the Vietnamese economy, thereby giving some solutions and recommendations to improve the efficiency of the economy in the context of implementing new generation FTAs is very important and urgent in the current context.

## 2. THE CURRENT SITUATION OF VIETNAM’S ECONOMY WHEN JOINING NEW GENERATION FTAS

Currently, with the increasingly modern development trend, new trading methods and commercial services are also constantly being born. Accordingly, investment activities, business cooperation, technology transfer... among countries, manufacturers and investors are

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also actively promoted. This situation leads to the development and expansion of cooperation agreements between countries. In the past, traditional FTAs were basically just agreements between two or more countries or regions or territories with the goal of liberalizing trade in one or several groups of goods by reducing regulatory taxes, creating facilitate the exchange of goods, services and investment among members, in addition to continuing to maintain an independent tariff regime for imports from non-FTA countries. Currently, with the trend of international integration, new generation FTAs have expanded and are more comprehensive in many fields of investment activities, public procurement, competition policy, non-tariff measures, trade in services, intellectual property rights, dispute settlement mechanisms, labor, the environment, and even related issues of democracy, human rights or counter-terrorism... When they come into effect, these new generation FTAs will have a strong impact on the institutions of the parties involved. Joining the new generation FTAs will have many advantages and create clear advantages for the development of Vietnamese enterprises in the world market because the new generation FTAs will eliminate most of the tariffs for Vietnamese goods member countries with the deepest commitment is to cut taxes almost to 0% and can be applied to most tax lines. Especially with large FTAs such as the FTA between Vietnam and the European Union (EVFTA), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)... The European Union (EU), the United States, Japan... This is a great opportunity for Vietnamese products and goods to increase their price competitiveness in the world market, bring Vietnamese products to the world, and create advantages for Vietnamese businesses that can compete in the world market can step into the international playing field, thereby contributing to promoting economic development.

In the face of the situation that the global economy is being heavily affected by trade wars, conflicts between major countries and the conflict between Russia and Ukraine, which has a direct impact on slowing global economic growth and causing an increase in trade protectionism, adversely affecting Vietnam's open economy. In addition, the world economy is also suffering the strong impacts of the Covid-19 pandemic. The extremely complicated developments of the Covid-19 pandemic have disrupted socio-economic activities of most countries in the world, pushing the world economy to the brink of a serious recession. The growth of all countries decreased deeply, a series of businesses went bankrupt and exhausted. However, in the face of these crisis impacts, Vietnam's economy is one of a small group of economies that still succeeds in maintaining positive growth. To achieve that, largely thanks to the trend of international economic integration, actively participating in new generation FTAs. In 2020, exports reached 281 billion USD, up 6.5% compared to 2019, in which there is an important contribution of trade with newly signed FTA markets; 15 implemented FTAs allow Vietnam's exports to enjoy preferential tax rates when accessing markets in more than 50 countries, including most of the largest trading partners, accounting for over 70% of total export turnover password. Vietnam has signed many FTAs with countries around the world. Vietnam is also the only country that has FTAs with most of the 10 largest economies in the world, except the US, because the US withdrew from the CPTPP and currently between Vietnam and the US has signed a Bilateral Trade Agreement (BTA) in 2000. As of 2022, Vietnam has 15 FTAs in effect, including: ASEAN Free Trade Area (AFTA); ASEAN - China



FTA (ACFTA); ASEAN - Korea FTA (AKFTA); ASEAN - Japan Comprehensive Economic Partnership Agreement (AJCEP); Vietnam - Japan Economic Partnership Agreement (VJEPA); ASEAN - India FTA (AIFTA); ASEAN - Australia - New Zealand FTA (AANZFTA); Vietnam - Chile FTA (VCFTA); Vietnam - Korea FTA (VKFTA); FTA Agreement between Vietnam - Eurasian Economic Union (VN - EAEU FTA); CPTPP; FTA ASEAN and Hong Kong (China) (AHKFTA), EVFTA; Vietnam - UK FTA (UKVFTA); FTA ASEAN, China, Korea... (RCEP) and is negotiating 02 FTAs. In parallel with the negotiation to join the WTO, before 2010, Vietnam signed FTAs with leading trading partners in the region such as China, Japan, Korea... Accordingly, the FTAs were signed. All agreements concluded before 2010 are based on pre-established WTO principles, this does not create a new, breakthrough, and has not brought into full play the power of the FTA. Although it is also an FTA between major powers, before 2010, most of the FTAs only focused on Asian regional partners, not yet boldly reaching out to Europe and America. Faced with that reality, when entering the 2010-2020 period, Vietnam has advocated promoting the negotiation of FTAs with the world's leading economies such as the US, EU, Canada... in order to support the country's industrialization goals. Vietnam, reducing trade dependence on one region that extends to the whole world. The success of Vietnam's economy began to take a big step when it joined the CPTPP and EVFTA, which are considered new-generation FTAs, in line with the development trend of modern trade. These new generation FTAs have established new international trade standards and practices, which are highly expected to recover the growth engines for trade between member countries. The novelty of these FTAs is reflected in the high degree of liberalization in trade and investment, reform and progress beyond the framework of the WTO. Therefore, these agreements, in addition to providing Vietnam with many development opportunities in the world market and promoting economic development, also contribute significantly to promoting the process of reforming trade policies, trade policies, and trade agreements. environmental issues, domestic investment in accordance with international trade practices.

### **3. OPPORTUNITIES AND CHALLENGES FOR VIETNAM'S ECONOMY WHEN JOINING NEW GENERATION FTAS**

#### **3.1. Opportunity**

In the context that our country is promoting extensive international economic integration today, joining and signing FTAs has brought Vietnam many great opportunities. Through the expansion of export markets, contributing to elevating bilateral trade relations between Vietnam and world powers to new heights, creating conditions for Vietnamese enterprises to have the opportunity to overcome up in the global supply chain. Therefore, we need to understand and grasp the advantages that create and make good use of opportunities, thereby helping Vietnam's economy develop strongly. Some outstanding opportunities when Vietnam joins new generation FTAs are as follows.

*Firstly*, contributing to the economic recovery of Vietnam. The US-China trade war, the Russia-Ukraine conflict and the Covid-19 pandemic in recent years have had a negative impact on the global economy in general and the Vietnamese economy in particular. At the end of 2019, early 2020, when the Covid-19 epidemic began to break out in the world and Vietnam,



the economy had to focus on disease prevention and control, experts predicted that, economic growth in 2020 will not be able to achieve the set target. However, thanks to the fact that Vietnam put the EVFTA into effect, it contributed to preventing the risk of crisis of the Vietnamese economy at that time. The EVFTA has brought opportunities for Vietnamese businesses to expand and diversify the market, in other words, the EVFTA is a “lifesaver” for businesses that are falling into bankruptcy because they have to go bankrupt. “freezing” production and business activities for too long due to complicated developments of the epidemic. At the same time, the EVFTA also contributes greatly to promoting the recovery of Vietnam’s economy and helping to grow the developing economy on the post-Covid-19 recovery momentum. Research by the Ministry of Planning and Investment shows that the EVFTA helps Vietnam’s export turnover to the EU increase by 20% by 2020; projected to increase 42.7% in 2025 and 44.37% in 2030 compared to no agreement. At the same time, import turnover from the EU also increased, but at a lower rate than exports, specifically by 15.28% in 2020; expected to increase by 33.06% in 2025 and 36.7% in 2030<sup>8</sup>. In macro terms, EVFTA contributes to Vietnam’s GDP increase at an expected average rate of 2.18% - 3.25% (2019 - 2023); 4.57% - 5.30% (2024 - 2028) and 7.07% - 7.72% (2029 - 2033). In addition, joining the EVFTA also contributes to helping Vietnamese businesses and consumers access good and quality imported goods and materials from the EU market at a reasonable price.

*Secondly*, create conditions for Vietnam to change and improve policies and laws to be in line with international trade practices. New generation FTAs set out commitments much deeper and broader than WTO rules. However, these agreements have also proven to be of great value to them as they have helped Vietnam’s economy combat the negative effects of trade wars and the Covid-19 pandemic. such as creating conditions for the Vietnamese economy to gradually add value in the global supply chain. In addition, new generation FTAs always aim to build a fair, fair and transparent competitive environment by promoting member states to restructure and renew policies and legislation. laws of their own country such as institutional issues, conditions of the state apparatus, policy and law on intellectual property, issues of investment restrictions of foreign investors... towards transparency, more in line with international notifications. Thanks to these changes, it will contribute to helping Vietnamese products qualify closer to the world market, creating opportunities for Vietnamese businesses to participate in “difficult” markets such as the EU, the US...

*Finally*, help attract foreign direct investment (FDI) sources. New generation FTAs are all aimed at creating a fair and transparent competitive market, with commitments on fair treatment of domestic and foreign investors in business investment activities. such as successful business establishment, acquisition, merger, expansion, business, operation... Accordingly, it has created a great opportunity for foreign investors to invest in potential markets like Vietnam. That creates a source of FDI to develop the economy, and also helps Vietnam to access modern technologies and techniques, reduce the reduction of outdated technologies, and promote development. develop green technology, use renewable and environmentally friendly energy sources. Thanks to signed FTAs, Vietnam has attracted FDI from partners that have FTAs with Vietnam. Accordingly, among 139 countries and territories with valid investment projects in

Vietnam, the top economies are those with FTA relations with Vietnam such as: Korea (ranked first) with total registered capital. signed over 70.6 billion USD (accounting for 18.4% of total investment capital); Japan (ranked second) with nearly 60.3 billion USD (before 15.7% of total investment capital); followed by Singapore, China

### 3.2. Challenge

Besides the positive aspects, joining the new generation FTA also brings many big challenges that require Vietnam to face and boldly change to develop in accordance with the general trend of the world. Some challenges facing Vietnam's economy in the context of joining new generation FTAs are as follows:

*Firstly*, the gap standards from partners must be met when joining a new generation FTA. Joining new generation FTAs brings a lot of opportunities for Vietnamese businesses to access potential markets, but it also creates great competition pressure for investors. fair, selective and transparent competition. Accordingly, for the EVFTA, Vietnamese goods that want to enjoy preferential tariffs must meet the EU's dissection standards, such as a certain percentage of intra-regional content, limit, etc. processing or eliminating some banned substances in food... This is a huge unknown for Vietnam, because most of the raw materials for the production of goods are imported from China and other ASEAN countries. At the same time, the standards of European countries are very different and much more restrictive than those of Asian countries. In addition, at present, many domestic enterprises are not really interested in product development in the direction of focusing on improving quality, but only focusing on promoting the development of revenue and quantity of products made. That leads to the fact that Vietnamese goods do not have many famous brands and do not really meet the quality standards of the international market.

*Secondly*, the Vietnamese legal system is not consistent with international commercial practices. In line with the world's integration trend when participating in new generation FTAs, Vietnam must accept and comply with the rules of the international market. To do that, it is necessary to have an appropriate legal system and a healthy business environment. Only then can the advantages of the new generation FTA be fully exploited. However, at present, our country's legal system is not really consistent with the provisions of the new generation FTA. For example, Resolution No. 72/2018/QH14 of the National Assembly ratifying the CPTPP and related documents has shown that the Vietnamese legal system has many regulations that are not really compatible with the CPTPP. Specifically, regulations on trade unions, representative organizations of workers, on dialogue at work, collective bargaining, labor disputes or labor sector strikes; in the field of intellectual property are regulations related to the conditions of contract registration to be effective for third parties. Or Resolution No. 102/2020/QH14 of the National Assembly ratifying the FTA between the Socialist Republic of Vietnam and the European Union has also shown that the issues are not appropriate and need to be amended and supplemented to be suitable. with EVFTA regulations. Specifically, issues of investment liberalization, trade in services and e-commerce; in the field of intellectual property are regulations on protection of geographical indications, regulations on unfair

competition. It can be seen that, to implement the commitments of the new generation FTA, Vietnam can choose to directly apply or internalize the provisions of the FTA. But the reality is that the provisions of the new generation FTA to which Vietnam is a member have very few regulations that can be applied directly, so most of the regulations force us to internalize them through by amending, supplementing or banning actions of new legal documents. According to Resolution No. 102/2020/QH14 of the National Assembly, Vietnam needs to study and amend and supplement legal documents such as the Law on Intellectual Property, the Law on Health Insurance, the Law on Insurance Business, and the Law on Public group... This is a big challenge for Vietnam when it has to amend a series of legal documents and at the same time make other commitments to specific areas when joining the EVFTA.

*Finally*, the competitiveness of Vietnamese enterprises is still weak. The competitiveness of the Vietnamese economy in general and Vietnam's businesses and products in particular has improved significantly compared to the past, but it is still very weak compared to other countries in the region and the world. For leading enterprises, which are assessed to have high competitiveness, not many businesses are able to reach out to dominate regional and world markets. For state-owned enterprises, although they have created many conditions for their development, they have not been able to promote their leading role in the process of economic restructuring, innovation and development. develop development in the direction of dual digital transformation with environmental protection. In addition, in the domestic market, domestic enterprises also face a "wave" of imported goods with reasonable prices and good quality, which puts competitive pressure on manufacturing industries. domestically produced. In addition, at present, the structure of Vietnam's exports to markets that have signed FTAs has changed, reducing the proportion of raw materials and agro-forestry-fishery products, increasing the proportion of processed goods and regimes. create and build data. The important proportion of the whole group of processed and manufactured goods and construction materials increased from 62.9% in 2015 to 69.8% of the total turnover in 2020. However, we have focused too much on the Chinese market (exporting to the Chinese market with a value of 400 million USD, accounting for 27.3% of total export value) without diversifying market goods. Too much dependence on one market will cause great risks to the Vietnamese economy when that market cuts or halts imports. From that, it shows that the competitiveness and ability to use the global supply chain field of Vietnamese enterprises are not high, and Vietnamese products at the same time are not really qualified in terms of quality and price to meet the needs of consumers enough to compete with the products of other countries.

#### **4. SOME SOLUTIONS**

With the characteristics of being a developing country, capital to support businesses is limited, and infrastructure conditions are still weak. Therefore, to achieve the set goals, Vietnam needs to focus on specific goals to effectively address the key challenges in the implementation of new generation FTAs. In order to take advantage of existing opportunities and overcome some limitations and challenges, thereby aiming to promote economic recovery and development in a long-term and sustainable direction, it is necessary to continue to research and consider Take some of the following solutions:

*Firstly*, businesses need to focus on the quality of export products and fully grasp information about new generation FTAs. Accordingly, with strict requirements along with high standards from the EU, as well as other European countries, Vietnamese businesses must be proactive in understanding and fully grasping information, requirements, strict regulations on new generation FTAs, as well as import and export regulations of partner countries. At the same time, it is necessary to support businesses in accessing strict standards and regulations from new-generation FTAs through seminars, talks, reports, and guidance for businesses to Enterprises can understand, apply flexibly and honestly the regulations and be confident when entering into contracts with partners from strict markets. Besides, it is also necessary to diversify the import markets of production materials, focusing on product quality in accordance with standards from partner countries. Limit the mass production, should not only care about revenue, quantity but lead to substandard quality. Only in this way can Vietnamese goods and products reach the world, satisfy the quality standards of the international market, and build value in the global supply chain.

*Secondly*, it is necessary to continue to build and perfect the legal system and policies, to create a healthy and transparent business environment in order to well fulfill the commitments when joining the new generation FTAs. However, the reform of political institutions, the amendment and supplementation of current legal documents need to ensure uniformity, not create legal conflicts and conflicts with policies, effectively and stably maintain the investment and business environment, create a fair and transparent business environment, and limit the impact on the interests of newly operating enterprises, both domestic and foreign.

In addition, it is also necessary to strengthen the capacity of state management agencies, enforcement agencies, especially the navy and construction sites who have high professional capacity and are equipped with those skills. necessary information on new-generation FTA regulations, conditions, standards, international practices... Only then can we take advantage of the opportunities of new-generation FTAs, thereby promoting and enhancing the value of Vietnam's economy in the international market.

*Finally*, it is necessary to improve the competitiveness of Vietnamese enterprises in domestic and foreign markets. Accordingly, for the domestic market, the State needs to have policies to support domestic enterprises in key fields that are under competitive pressure by imported goods. At the same time, domestic enterprises also need to innovate production processes, focusing on important product quality, improving labor productivity, environmental issues, and limiting the import of raw materials from abroad. In addition, it is necessary to diversify Vietnam's export markets, not only collect corpses within regional countries, but need to reach out to potential markets in Europe. The regime of total export value is occupied too much by a certain country, because it will face great risks when the current economic and political situation in the world is falling into disrepair. Unfavorable stability, conflicts, and trade wars can greatly affect the Vietnamese economy.

## **5. CONCLUSION**

Over the past years, the world economy in general and Vietnam's economy in particular have faced a lot of negative effects from the trade war and the strong impact of the Covid-19

pandemic. However, thanks to the promotion of participation in and signing of new generation FTAs, typically with two outstanding agreements, namely the CPTPP in 2018, the EVFTA in 2019 has greatly contributed to revive the economy that is facing many difficulties. post-pandemic crisis, thereby promoting economic growth, creating opportunities for Vietnamese businesses and products to “enter” into “strict” markets such as the EU and the US. Besides those opportunities, joining the new generation FTAs also poses many big challenges for Vietnam... Therefore, the analysis and assessment of opportunities and challenges of Vietnam’s economy when joining the new generation FTA and giving appropriate solutions and recommendations to promote economic recovery and development. Vietnam’s economy in a long-term and sustainable direction is very important and urgent.

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# INFLATION CONTROL AFTER COVID-19 PASSION IN VIETNAM

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**Abstract:** *In this article, the authors refer to the basic issues of inflation and inflation control. Analyzing inflation movements in Vietnam in the period 2016 - 2022, especially the current status of inflation control in Vietnam before, during and after the covid-19 pandemic, clearly points out the limitations and causes in controlling inflation that make it difficult to control inflation. basis to propose some solutions to control inflation in Vietnam by 2030*

**Keywords:** *Inflation, Covid-19, Inflation control, inflation control*

## 1. INTRODUCTION

### 1.1. Reason

The Covid-19 epidemic from the end of 2019 until now, with its worldwide influence and unpredictable developments, has left significant consequences for the entire economy in general and especially small businesses and businesses. just said. The business activities of small and medium enterprises in Vietnam have become more difficult, and economic growth has decreased significantly compared to the pre-epidemic period. The Covid - 19 epidemic has both placed an urgent requirement and is also a driving force to promote monetary policy management at the Central Bank. It is extremely important to promote economic growth to restore the economy in the context of the pandemic.

The highlight of the world economy in 2022 is the trend of tightening monetary policy by central banks of countries to cope with high inflation. Although the supply chain has improved when most economies fully reopened after the Covid-19 pandemic, the conflict in Ukraine and China's Zero-Covid policy have created new cracks. This leads to a tendency to seek safe haven channels for investment assets, including the US dollar, along with capital flows and put pressure on exchange rates in developing and emerging countries. Vietnam's financial market is also affected by this trend, when interest rates and exchange rates fluctuate strongly in the last months of the year, putting pressure on monetary policy management, the State Bank constantly has to use other policy tools to regulate the market. Along with the decline of the stock market (especially the corporate bond market), the real estate market; liquidity of the financial market in Vietnam has become tighter, especially in the 3rd and 4th quarter of 2022.

In 2023, the international financial market is expected to face many difficulties and risks due to high prices and inflation. Central banks of other countries will continue to raise interest

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rates, possibly until the end of the second quarter of 2023. This policy may change with the bankruptcy of three US commercial banks and the forced consolidation of a large Swiss commercial bank in March 2023, along with increased risks in the global financial market. In Vietnam, inflation pressure remains while market liquidity is not really abundant, the State Bank of Vietnam operates a proactive and flexible monetary policy, closely coordinating with fiscal policy to lower interest rates. directed by the Government. Expectations of financial market liquidity will be less stressful, but risks are still high and need to be closely watched. Along with that, customer behavior has changed since the Covid-19 epidemic, accelerating the digital transformation of the financial system and the development of Fintech. However, the legal framework needs a more proactive and open approach to make the most of opportunities and overcome new challenges.

## 1.2. Research overview

There have been many research works, reference books, research articles on inflation, inflation control such as:

Scientific article by Thi Anh (2018) “Government’s policies and measures on inflation control, economic stability and growth” Labor Publishing House. This article has presented about inflation, controlling inflation when inflation is high in order to contribute to economic growth.

Scientific article by Nguyen Trong Co (2011) “Inflation in Vietnam” Journal of Accounting and Finance Research, the article studied the theoretical basis of inflation and macroeconomic stability; study the current situation of inflation, control inflation in order to stabilize the macroeconomy in the period 2009 - 2011 and propose some solutions to control inflation in Vietnam.

Economic Doctoral Thesis of Pham Thai Ha (2012), Inflation Control in Vietnam Today, Doctoral Thesis in Economics, Academy of Finance. In this thesis, the author has systematized the basic theories on inflation, inflation control and bad effects of inflation and deflation on the economy. Analyze the current situation of inflation control in Vietnam in the period 2000 - 2011 to propose solutions to control inflation for the period 2011 - 2015 and a vision to 2020.

Scientific article by Ha Minh Son et al (2023), “The issue of controlling inflation in Vietnam” The article has systematized on inflation, inflation control. Analyzing the current situation of inflation and controlling inflation in Vietnam in the period of 2015 - 2022, especially the current status of inflation control in Vietnam during this period, points out the limitations and causes in controlling inflation as a preliminary result. basis to propose some solutions to control inflation in Vietnam by 2030

Researches on inflation have been very successful in studying the theory of inflation and the practice of inflation control in Vietnam in certain periods. Moreover, previous works studied in the period of 2019 and earlier. Up to now, after the covid-19 pandemic, market developments and risks and competition have taken place strongly in Vietnam. Therefore, the scope of the author’s article research has no overlap with previous studies. This study inherits the successes and analyzes the inflation movement and inflation control of Vietnam in the period of 2015 - 2022, thereby proposing synchronous solutions to control inflation in Vietnam until 2030.

## 2. RESEARCH CONTENTS

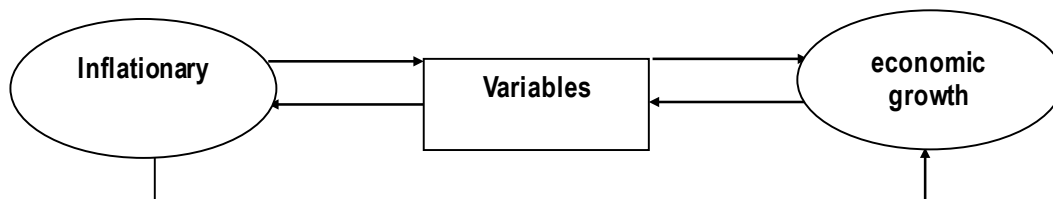
### 2.1. Theoretical research:

Inflation is the continuous increase in the general price level of goods and services over time and the loss of the value of a currency. When the general price level rises, a unit of currency buys fewer goods and services than in the past, so inflation reflects a decrease in purchasing power per unit of currency.

Stabilizing inflation at a reasonable level is an extremely important issue, because inflation is one of the macroeconomic indicators that assess the health of an economy, besides growth and unemployment. If inflation increases too much, it will affect investment and consumption activities in the economy, thereby affecting economic growth as well as ensuring people's lives. In contrast, when a state of deflation or deflation occurs, real interest rates rise, investment activities decline, banks stagnate capital, and economic growth stagnates. Therefore, inflation control is two-sided: on the one hand, inflation is not too high; on the other hand do not let the economy fall into deflation or deflation.

To clarify the relationship between inflation and growth is not simple because they have both direct and indirect relationships. Note that what we are interested in here is the direction from inflation to growth, not the other way around. Inflation will directly affect growth when money is seen as a direct input of production in the production function. Except for this channel, inflation will affect growth through other variables such as saving, investment, labor productivity... The process of this effect is depicted in Figure 1.

**Figure 1: Relationship between inflation and growth**



*Source: J.M. Keynes*

At this point it is necessary to identify the positive variables that are seen as channels or bridges from inflation to growth, all of which will be attached to two opposing approaches, the structural school and the economic school. neoclassical and will be discussed in the following section.

From the structuralist point of view, at any given time, there will always be some sectors that are underutilized, and the damage from low demand coexists with other sectors that are in excess demand. and prices are increasing. Imperfect information, lack of capital and management skills, policy mistakes and other factors make the elasticity of supply very small. Simultaneously, due to a decrease in the cohesive dollar, price increases in oversupplied areas are not offset by a fall in prices in oversupplied areas and thus cause a continuous upward movement (often but not fast) in the general price. If aggregate demand is fixed so low that prices are stable even in sectors with low elasticity, the cost is reduced output and reduced growth. So there will be an exchange between inflation and growth, a society that prioritizes growth will have to accept the inflation that goes with it.

In contrast to the structuralist school, the neoclassical school argues that inflation seems to be more harmful to growth. The price increase not only discourages investment but also hinders investment by eroding its real value. Inflation tends to distort the investment structure in favor of investing in rapidly profitable sectors such as speculation while discouraging long-term investment in heavy industry and research. Furthermore, inflation, accompanied by very sharp price fluctuations and inaccurate predictions of government countermeasures, increases uncertainty and makes planning more difficult. reduce both investment and return on investment. In extreme cases hyperinflation causes people to flee from money, disrupts the efficient supply of resources in the economy, exacerbates bottlenecks, alters distribution income and inhibit growth.

In addition, it is suggested that inflation can harm growth through its effect on the balance of payments. If domestic inflation is higher than the global inflation rate and the exchange rate is fixed or not fully floating, the price of imported goods will be cheaper than that of domestic goods, then domestic demand imports will increase, the cost of producing exports will increase, which will not be offset by an increase in world prices. As a result, the trade balance will weaken and the economy may face a shortage of foreign currency.

## **2.2. Reality**

### **2.2.1. Inflation situation 2015 - 2022**

The world economy in 2022 could not have a strong recovery momentum over the same period, contraction or slowdown has covered the globe, notably developed economies. Although countries continue to make efforts to recover from the covid-19 pandemic, the Russia-Ukraine conflict that began at the end of February 2022 and is still unresolved has put the global economy in new difficulties. .

Accordingly, escalating inflation, declining economy, threatened food and energy security... have raised concerns about the stagnation of inflation in the world economy at the end of the years. 70.

The global economy in the first quarter of 2023 as well as in leading economies had lower results than expected. That situation worsened in the second quarter of 2022 when the prolonged Russia-Ukraine war brought many consequences, the outbreak of disease in China forced the Government of this country to apply blockade measures in many provinces and cities. to pursue the policy of Zero - covid has exacerbated the supply chain disruption. The outlook for global economic growth in 2022 has been continuously revised down significantly lower than the forecast made at the beginning of the year. Economic growth tends to decrease in most economies, especially countries in the European region - which has been heavily affected by the Russia-Ukraine conflict. Besides, rising commodity prices have increased inflationary pressure, restraining demand in most economies.

In 2022, economies will gradually reopen, despite the complicated developments of the covid -19 epidemic and new diseases (such as monkeypox). The Russia-Ukraine conflict, which broke out from February to 2022 and lasted for a long time, has severely affected the

recovery of the supply chain, increased prices of many commodities on the world market, energy security, and food security. In many countries, including leading economies, are at stake. The trend of confrontational alliances - retaliation increased among some economic groups. Rising prices, especially food and energy prices, exacerbate poverty in low-income countries, even the livelihoods of many households in many developed economies. The Food and Agriculture Organization of the United Nations (FAO) constantly warns about the risk of global food insecurity. Accordingly, the world economy in 2022 has experienced many fluctuations and uncertainties

Over many different periods, Vietnam's inflation rate has changed differently over the years.

**Table 1: Vietnam's inflation in the period of 2015 - 2022**

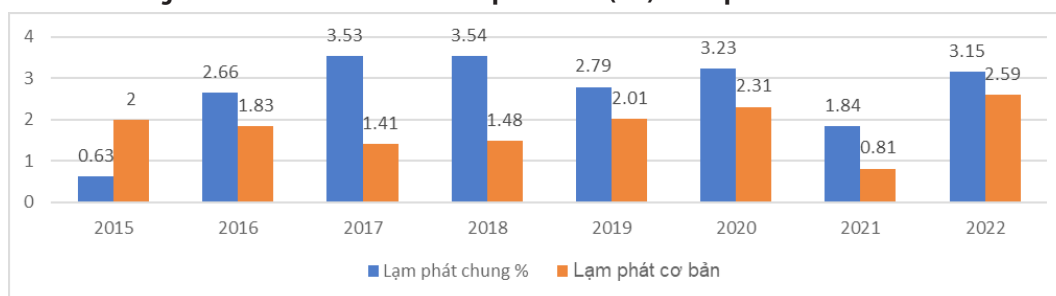
Unit: % over the same period

Inflationary	2015	2016	2017	2018	2019	2020	2021	2022
General inflation	0,63	2,66	3,53	3,54	2,79	3,23	1,84	3,15
Core inflation	2,00	1,83	1,41	1,48	2,01	2,31	0,81	2,59

Source: GSO

Looking at the table, we see that in 2015, the inflation rate reached a record low of 0.63%, in the period of 2015 - 2020, the economy was strictly regulated, so the inflation rate was always stable at below 4%. In 2021, despite being affected by the Russia-Ukraine conflict and global supply chain bottlenecks during the covid-19 pandemic, Vietnam's inflation is still well controlled. With an inflation rate of 1.84%, Vietnam is a "headwind" in the global trend of high inflation. In 2022, the inflation rate increased slightly at 3.21%. Vietnam is among the few countries with an average inflation rate of 4-6%.

**Figure 2: Growth rate of consumer price index (CPI) in the period of 2015 - 2022**



Source: GSO

## 2.2.2. Actual situation of inflation control 2015 - 2022

### 2.2.2.1. Before the covid-19 pandemic 2015-2019

In order to control inflation, in the period of 2015 - 2022, Vietnam will be flexible and cautious. After the inflation rate was pulled down to 4.1% in 2014 after 2011 when Vietnam's inflation rate peaked at 18.7% due to the impact of the ongoing financial crisis. However, in 2015, when the People's Bank of China suddenly devalued the renminbi along with the uneven development among countries around the world, leading to a series of currencies. Asia

discount. Oversupply and increasing geopolitical conflicts caused oil prices in the world to drop sharply. This, on the one hand, makes production costs cheaper, however, it gives rise to deflation in many places including Vietnam.

The period 2016 - 2019 is the period when the world economy has grown again, although each region has different fast and slow growth, there are a few major political events that occurred during this time such as the war. On the US-China trade website or Brexit, besides, the use of loose monetary policy for many years has caused the inflation rate to tend to increase in the past countries. In Vietnam, the State Bank of Vietnam operates an active and flexible monetary policy, combined with fiscal policy and other macroeconomic policies to control inflation according to the target set by the National Assembly. set at an average rate of 4%/year.

In the first half of 2018 when the supply of foreign currency was favorable against the downtrend of the USD, the Central Bank mainly supplied money to buy foreign currencies to increase foreign exchange reserves, co-issued bills to attract money to control money. bad. Therefore, the interest rate offered to buy valuable papers was reduced by 0.25%/year in 2018 and in 2019 the interest rate was reduced to only 4%/year, the interest rate of bills of exchange was adjusted down from 3.5%/year. 0%/year to only 2.25%/year, creating a supportive signal to stabilize the interest rate level of the market; At the same time, a volume of valuable papers was offered for sale to neutralize the amount of currency circulating in the economy, contributing to monetary stability and inflation control. By the end of 2018 when there were negative developments in the financial market such as the opposite movement between the US dollar and the yuan due to the impact of the US-China trade war, it put pressure on the exchange rate and, the objective of controlling the exchange rate was negative. To control inflation, the State Bank increased interest rates for the terms of the offer, extended the tenors of bills to 140 days, and maintained the liquidity of credit assets to avoid affecting interest rates.

And in October, the State Bank of Vietnam stopped offering T-bills when the demand for credit disbursement and payment increased. Besides, in order to regulate the liquidity of credit institutions and create favorable conditions for interest rate stability, the State Bank has reduced the OMO offer rate to 4.75%/year. Meanwhile, at the end of 2019, in view of the domestic and international macroeconomic situation, the Central Bank adjusted down 0.25%/year the operating interest rates. Specifically, the refinancing interest rate has been reduced to 6%/year, the rediscount interest rate is 4%/year, and the overnight lending rate in interbank electronic payment is 7%/year.

#### *2.2.2.2. During and after the covid-19 pandemic 2020 - 2022*

The covid-19 pandemic broke out in the context of a strong globalization process, so the economic consequences that the pandemic left on the globe were very heavy. The global economic recession in 2020 is the deepest in decades, leaving impacts on international trade and investment forcing countries to implement many measures to loosen both monetary and fiscal policies. . By 2021, as vaccines become more widely available, the effects of policy easing in previous years, along with rising commodity prices as production costs are pushed up from the disruption. The global supply chain has led to high inflation rates in all countries,



so countries have to tighten monetary policy to control inflation. Vietnam is no exception to this spiral and in that context, the State has also made moves to regulate the macro-economy in a flexible manner, using its tools to control inflation to proactively respond to inflation. with the covid-19 pandemic.

In the context of excess system available capital and inflation pressure from the end of 2019 mainly due to high pork prices continuing until the beginning of 2020, the Central Bank offered to sell State Bank bills. 3-month term with appropriate volume and interest rate in order to actively withdraw cash in circulation, contributing to controlling inflation, maintaining a reasonable system's available capital. Until March 2020, the State Bank of Vietnam actively stopped issuing bills and offered to buy valuable papers through open market operations with the interest rate gradually decreasing from 4%/year to 2.5%/year. from time to time to support liquidity for credit institutions, stabilize the money market, and proactively respond to the effects of COVID-19.

Like many other countries in the world, Vietnam also loosened monetary policy through 3 rounds of interest rate adjustments during the year, to support production, business and the economy against the risk of deflation due to inflation. the impact of the covid - 19 epidemic. Specifically, the refinancing interest rate decreased from 6% to 5% - 4.5% - 4%/year; the rediscount interest rate is reduced from 4%/year to 3.5% - 3% - 2.5%/year; overnight lending rates in interbank electronic payments decreased from 7%/year to 6% - 5.5% - 5%/year; at the same time, interest rates on demand deposits or terms of less than 1 month in Vietnam dong decreased from 0.8%/year to 0.5% - 0.2%/year and the interest rates of term deposits from 1 to less than 6 months reduced from 5% to only 4.75% - 4.5%/year. On that basis, by the end of 2020, the common deposit interest rate will be at 0.1 - 0.2%/year for demand deposits or less than 1 month; 3.2 - 3.9%/year for deposits from 1 to less than 6 months. The average lending interest rate decreased by 1%/year compared to the end of 2019; Lending interest rates are popular at 4.5%/year for short term. Lowering interest rates creates favorable conditions for businesses and credit institutions to have more opportunities to access loans, reduce loan costs, and at the same time promote investment, economic growth, increase CPI.

Contrary to the expectations when the State implements the loosening monetary policy, the inflation rate in 2021 will only reach 1.8%, lower than the target set by the National Assembly, a large gap. This comes in part from the influence of the State's fiscal policy in the context of the covid-19 pandemic.

Due to the negative impacts of the pandemic, the Government has implemented an expansionary fiscal policy to increase spending with the goal of prioritizing supply balance for the field of covid -19 pandemic prevention and control and support. people are affected by the Covid-19 pandemic. Specifically, the Government has introduced fiscal stimulus packages including tax and land rent reductions worth VND 180,000 billion, equivalent to 3% of GDP; accounting for 11.7% of budget revenue, 10.3% of budget expenditure and 88% of budget deficit. In addition, the cash payment for welfare is worth VND 62,000 billion, electricity price reduction is worth VND 11,000 billion and the delay of social insurance payment is worth



VND 9,500 billion. Thus, the overall size of Vietnam's fiscal stimulus package is equivalent to 4.3% of GDP, along with the delay in the roadmap to increase the price of medical services, causing the prices of essential goods and services to increase. such as electricity, water, food, etc. decreased sharply compared to previous years, contributing to reducing the inflation rate.

Regarding monetary policy, the State Bank continues to make offers to buy valuable papers through open market operations with a stable interest rate of 2.5%/year with the volume and time being adjusted appropriately to meet the needs of customers. meeting the payment needs of credit institutions and other entities in the economy, stabilizing the money market. From November 2021, in order to pursue the inflation growth target set for the year, the bid period has been adjusted up to 91 days. In addition, the State Bank has not made any changes to the regulations on interest rates and reserve ratios established in previous years. Based on that, the market interest rate is also adjusted to match the operating moves of the State Bank. Specifically, by the end of 2021, the average deposit interest rate will be at 0.1 - 0.2%/year for demand deposits or less than 1 month; 3.3 - 3.5%/year for deposits from 1 to under 6 months; 4.2 – 5.7%/year for deposits from 6 to 12 months. The average lending interest rate for new and old loans with outstanding balance is at 7.6-9.2%/year and 4.3%/year for short-term lending rates for some industries. Since then, compared to the previous year, the average deposit interest rate has decreased by 0.58%/year and the lending interest rate has decreased by 0.82%/year.

The proactive and flexible management of the Government, the National Assembly and the National Assembly Standing Committee has had many innovations accompanying, sharing, and promptly promulgating institutions; amend and supplement the institution; supervise and promulgate important policies for the Government to bring policies and laws to life. In which, for the first time, the National Assembly held an Extraordinary Session to promulgate 1 law to amend 9 laws; promulgate Resolution 43/2022/QH15 on fiscal and monetary policies to support the program of socio-economic recovery and development... quickly and in a timely manner.

The National Assembly also assigns the National Assembly Standing Committee to decide on special, special and special issues different from the Law during the time the National Assembly is not in session. In particular, the National Assembly Standing Committee was issued resolutions on reducing environmental protection tax on gasoline and grease, which contributed to reducing the increase in domestic gasoline prices due to the increase in world gasoline prices. that helps to curb inflation.

By the end of October 2022, the Standing Committee of the National Assembly has issued 10 resolutions as authorized by the National Assembly, there are issues that are different from the law, and there are issues not yet regulated by law, the Standing Committee of the National Assembly and Government to implement. There are issues proposed by the Government, the National Assembly Standing Committee has arranged an immediate meeting, even an evening meeting, online meeting to promptly promulgate. It is the close coordination between the National Assembly and the Government, the President of the National Assembly and the Prime Minister, between the National Assembly Standing Committee and the Government. "From

this approach, it can be a lesson to create a spillover to the locality to strengthen the close coordination between the People's Council and the People's Committee.”

The government has operated flexibly and proactively, creating remarkable results. The remarkable highlight is that economic growth reached over 8%, exceeding the set target of 6-6.5%; 14/15 targets met and exceeded; inflation is controlled; poverty reduction achievements are internationally recognized and appreciated.

In particular, institutional improvement and administrative reform are still considered an important strategic breakthrough. This work has always been accompanied by the National Assembly with the Government in the spirit of early and far. The National Assembly has issued Resolution 43/2022/QH15 on fiscal and monetary policies to support the Socio-economic Recovery and Development Program and other resolutions of the National Assembly Standing Committee. The Government has issued Resolution 11 on the implementation of Resolution 43/2022/QH15 and 17 other legal documents that have created a good legal framework for production and business activities.

### **2.3. Assessment of the current situation of inflation control in the period of 2015 - 2022**

With many efforts in controlling inflation in Vietnam over the past time, some results have been obtained: (i) Credit policy was adjusted in line with economic developments, contributing to controlling inflation; (ii) The State Bank has made very flexible adjustments to interest rates in monetary policy management, when new developments appear, interest rates closely follow the price index movements, supporting businesses in business conditions. The economy still faces many difficulties and strengthens the society's confidence in VND, deposit and lending interest rates have dropped sharply.

However, there are some limitations: (i) The very high monopoly factor in some key products causes difficulties in making policies and at the same time causes inflationary effects for the whole economy. economic; (ii) Informal costs on the road due to the incomplete transport and logistics system, lack of competition in some key commodities, causing transportation costs to be pushed up leading to the possibility of supply-side inflation occurs; (iii) The monetary policy governing body faces many difficulties in choosing a policy...

These limitations arise from a number of reasons: (i) The institution is not transparent as well as the lack of antitrust laws, (ii) The legal environment is not perfect, (iii) The selection of choose to use inflation control tools that have not been effective.

### **2.4. Proposed solutions:**

To overcome this situation, the article would like to propose some solutions to control inflation in Vietnam today:

*- Diversify the supply of raw materials and do not break the supply chain. In order to control inflation, it is necessary to ensure adequate supply of goods and avoid abnormal price increases. Strengthen market management; supply diversification, ensuring the supply of each group of materials in each industry regardless of a market or region in the context of the US and Europe applying many sanctions against Russia.*

*Not letting the disruption of the world supply chain affect Vietnam is considered a big challenge. The price increase is due to the supply of raw materials for the economy, not the pressure from the money supply to the economy. Therefore, there must be solutions to ensure enough supply, not to disrupt the supply chain so as not to create inflationary pressure. The economic recovery support package did not create a rush of money supply into the economy. The subsidy package to compensate interest for businesses also does not pump money into the economy.*

*- Continue to operate monetary policy proactively, flexibly, closely coordinate with fiscal policy and other macroeconomic policies. In order to control inflation according to the target, it is necessary to implement closely combined monetary and fiscal policies. Ensure timely supply of credit capital to the economy but not be subjective with inflation risks. Monetary policy must closely follow macroeconomic developments and disbursement packages to come up with practical solutions.*

Strengthen inspection and supervision of market prices to promptly handle violations of speculation and price manipulation. Continue to prioritize the implementation of flexible, safe and prudent monetary policy. Concentrating credit for production, business and priority areas, creating favorable conditions for people and businesses to access credit. Accelerate restructuring of weak credit institutions associated with bad debt settlement.

- Abolish unreasonable regulations, create a fair and open business environment. Continue to remove difficulties and obstacles in mechanisms, policies and administrative procedures to promote aggregate supply and reduce inflation pressure. Eliminate unreasonable regulations to cut input costs for businesses, create a fair and open business environment.

Well organize the national distribution system, reduce unreasonable intermediaries causing damage to producers and consumers to society. Improve the investment - business environment; focus on developing the digital economy; improve productivity, quality and efficiency of the economy, thereby reducing inflationary pressure. Strengthen inspection and supervision of market price activities, especially for essential goods, services, medical supplies, etc. to ensure price stability.

Boosting production capacity of important input materials such as iron and steel, building materials, animal feed, giving priority to supply to the domestic market over the export market. Take proactive measures to stabilize prices, prevent unreasonable price increases.

- Well perform the propaganda work, avoiding the psychological impact of expectations. Effectively implement communication activities in order to provide timely, accurate and clear information about the Government's direction and management policies and solutions, eliminate false information about market prices, and prevent psychological inflation caused by misinformation.

Strengthen market inspection and inspection, prevent hoarding, inflate prices, avoid taking advantage of petrol prices to raise prices of goods unreasonably. Do a good job of propaganda. Practice thrift, minimize the impact of world prices. Closely monitor world price and inflation movements to promptly warn about the risk of causing inflation in Vietnam. Strengthen

communication activities to provide timely and transparent information, avoid adverse effects on consumer psychology, and stabilize inflation expectations.

### **3. CONCLUSION**

With active flexibility in the implementation of monetary and fiscal policies, with reasonable solutions of the Government, it has minimized negative impacts of the external environment, maintaining the target of inflation control. has been set. However, there are still limitations in the State's operations that require further improvement in the future to improve inflation control to achieve the highest efficiency.

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# FINANCIAL SOLUTIONS FOR SUSTAINABLE DIGITAL TRANSFORMATION AT COMMERCIAL BANKS OF VIET NAM

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*Abstract: Digital transformation is a phrase that is no longer new to any field today. As the lifeblood of the Economy, the banking industry has a far-reaching impact on all other industries through its activities of taking deposits, providing credit and payment services. Therefore, the banking industry has been selected by the Government to be the pioneer in applying 4.0 technologies to internal operations and developing digital products and services to customers. Digital transformation is a long process and requires a lot of resources, especially financial resources. However, we must also frankly admit that not all invests in digital transformation to be successful and bring sustainable value to the bank and others in the economy currently and in the future. In this article, the author studies financial solutions for sustainable digital transformation at commercial banks of Viet Nam. The article is organized in 3 parts: (i) Part 1: Providing a theoretical basis for financial solutions for sustainable digital transformation at commercial banks; (ii) Part 2: Reality of financial solutions for digital transformation at commercial banks of Viet Nam; (iii) Part 3: Finalizing financial solutions for sustainable digital transformation at commercial banks of Viet Nam.*

*Key words: Digital transformation, sustainability, financial solutions, Commercial banks of Viet Nam.*

## 1. INTRODUCTION

Digital transformation is taking place extremely strong in all fields and the banking industry is no exception. In the current era of deep economic integration, digital transformation is no longer an option but a mandatory requirement for each bank to survive. With the motto of putting customers at the heart of all development and to bring them the best digital experiences, banks in the world and even in Vietnam have been investing a lot of resources in the research and implementation of technologies such as artificial intelligence (AI), blockchain technology (Blockchain), Big Data, Computing Cloud... to automate internal processes and modernize banking services. From a positive perspective, it is undeniable that the opportunities and benefits from digital transformation bring to both banks and customers. But looking at it from another perspective, banks have also been facing many challenges in digital transformation, especially when the transformation does not bring the expected results, causing waste money, time and human resources of the bank. Therefore, effective and sustainable digital transformation is a difficult problem for bank administrators in both present and future. In the framework of this article, the author proposes financial solutions for sustainable digital transformation in commercial banks of Vietnam.

## 2. LITERATURE REVIEW

### 2.1. Concept of sustainable digital transformation at commercial banks

In theory, sustainability is understood as a guarantee for the “now”, but not damaging “the future” (ADB). This concept is related to three aspects: economic, environmental and social

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responsibility. Sustainable development must ensure effective economic development, a fair society and a protected and preserved environment (Wikipedia). Therefore, in the banking sector, sustainable development is defined that bank not only brings benefits for shareholders but also balancing the interests of the economy and minimizing any harm to the society and natural environment (Dr. Phuong Bui Khac Hoai, 2021).

Digital transformation is the rewiring of an organization, with the goal of creating value by continuously deploying tech at scale (McKinsey, 2023).

Base on above definitions, the author points out that sustainable digital transformation is the process by which commercial banks apply technology in banking operations and culture, thereby creating economic value for bank owners without damaging the environment and still ensure social responsibilities with other entities (authorities, employees, customers, suppliers,...) in the economy.

## **2.2. Concept of financial solutions for sustainable digital transformation at commercial banks**

Finance is understood as economic relations in the form of value, associated with raising and using monetary funds of Business (Dr. Xuan Le Thi, 2011). Monetary funds or business capital usually includes: equity capital and loans (short and long - term).

Therefore, the author introduces the concept of financial solutions for sustainable digital transformation at commercial banks as follows: options or methods of fundraising and using banking capital in digital transformation to bring economical benefits for bank but not harm to the environment and society in the present and future.

## **3. METHODOLOGY**

Theoretical research methods: Collect relevant reputable domestic and foreign sources, thereby serving as a foundation for building a theoretical basis and analyzing the research problems.

Non-empirical research method: Based on the assessment and judgment of experts to serve as a basis for assessing the current situation and proposing solutions.

## **4. RESEARCH RESULTS**

### **4.1. Reality of digital transformation investment at commercial banks of Viet Nam**

According to the survey results in September 2020 by the State Bank, 95% of banks have been or are planning to develop a digital transformation strategy, of which 39% have approved a digital transformation strategy or integrated it in business development/IT strategy; 42% of banks are building a digital transformation strategy. In the digital transformation strategy, the majority (88%) of banks have chosen to digitally convert both customer communication channels (front-end) and internal operations (back-end) or digitize the whole thing; A few banks (6%) plan to digitize customer communication channels (front-end only). According to statistics of the State Bank of Vietnam, by October 2022, the banking industry has invested more than 15,000 billion VND in digital transformation activities and has made Vietnam one of



the leading digital banking application countries (growth rate of 40%/year in digital payments over the past 3-4 years).

To implement the digital transformation strategy, in general, banks have invested funds in the following digital aspects: (i) Developing new technologies (AI, Big Data, Robotic Process Automation, Blockchain, ...) and upgrading providing maintenance of current technology infrastructure; (ii) Research and test new utility features of Digital Banking Service; (iii) Development of digital channels and digital partners; (iv) Establishing a unit specialized in digital transformation such as establishing a Digital Banking Center, Data and Analytics Center or Research Center for technology solutions such as: Vietcombank BIDV, MB, Vpbank, Tpbank to attracting and training digital human resources; (v) Risk management related to digital transformation including: complaint settlement, loss handling, communication... Depending on the size and business strategy, each bank will have different investment levels for digital transformation and the order of priority to invest in digital aspects. In fact, it is also difficult for each bank to estimate how much capital it will invest in digital transformation because it is usually when it arises and actual implementation that a relative figure is obtained, but not necessarily an exact one. According to estimates, the average cost of resource investment in digital transformation activities accounts for 20-30% of the total investment and operation costs of the bank (Master Huan Tran Linh, October 2022).

Regarding the technology aspect - the aspect that plays a key role in digital transformation, at the seminar on Digital Transformation of the Banking industry, Dr. Hoe Pham Xuan - former Deputy Director of the Institute of Banking Strategy, State Bank of Vietnam said that commercial banks are not easy to get investment money for information technology (IT) because this investment is very large. According to the survey, nearly 50% of banks spend 3% of IT investment costs, the remaining 13% of banks invest about 13% of IT costs. A budget of 13% for IT is not a small number. Specifically, some banks, as of the beginning of 2022, the IT investment of Military Commercial Joint Stock Bank (MB) is about 60-70 million USD/year, Techcombank is about 90-100 million USD/year and Vietcombank about 120 - 130 million USD/year.

The budget for digital transformation in banks usually comes from the following sources: (i) Equity; (ii) The development investment fund has been set aside according to the unanimous opinions at the Annual General Meeting of Shareholders; (iii) Financial reserve fund has been required according to regulations; (iv) Undistributed profits; (v) Fixed Asset Depreciation Fund. Which money source the bank uses for digital transformation, how much money to invest, which technology to invest in, for how long... all must be approved by the competent authorities in the bank, the highest being General Meeting of Shareholders. In addition, regarding the creation and use of capital for digital transformation, banks must also comply with legal provisions such as the Law on Credit Institutions, Decree No. 35/2007/ND-CP dated March 08, 2007 on electronic transactions in banking activities, Decision No. 810/QĐ-NHNN dated May 11, 2021 of the Governor of the State Bank of Vietnam promulgating the Plan on digital transformation of the banking sector by 2025, with orientation to 2030... and the principles of each bank's separate financial regulations.

#### 4.2. Evaluating the current situation of digital transformation investment at commercial banks of Viet Nam from three perspectives: economic, environmental and social standards

	Benefits of economic	Social responsibilities	Environmental Impacts
Positive points	<ul style="list-style-type: none"> <li>- Helping the bank to improve labor efficiency and save operating costs by investing a variety of technologies such as AI, RPA, Bigdata, Machine Learning in modernizing and automating some internal business processes;</li> <li>- Minimizing manual errors, preventing internal fraud, individual benefits in business processing and credit approval, thereby reducing bad debt for the bank;</li> <li>- Increase CASA due to bank invests in developing digital banking services and attracts more customers to open accounts and use digital banking utilities.</li> <li>- Increase the attractiveness of bank's trademark through digital marketing and providing digital banking services, thereby attracting domestic and foreign investors.</li> </ul>	<ul style="list-style-type: none"> <li>- Promoting the Government's financial inclusion strategy because thanks to electronic identification technology (Ekyc), Opening a bank account has become very easy for everyone.</li> <li>- Bringing the best digital experiences to customers (fast, convenient, economical, safe) when they transact through digital banking services with "Zero fee" and at any time, any where.</li> </ul>	<ul style="list-style-type: none"> <li>- Reducing the need of using stationery (writing paper, ink, ...) in the bank due to a number of manual work processing become automated and digitized.</li> <li>- Limiting dust from vehicles due to customer transactions are gradually moving to digital channels.</li> </ul>
Limitations	<ul style="list-style-type: none"> <li>- The investment cost for technological infrastructure is very expensive, especially in the early stages of digital conversion, affecting the effective indicators of the bank such as ROA, ROE (Kriebel, J., &amp; Debener, J. (2019)</li> <li>- Some banks invest in designing Core Banking Systems (CBS) have not been close to the business model or invested at expensive costs but does not use all the features or limit the ability to integrate new technology.</li> <li>- It is unable to calculate or not develop the calculation criteria, measure the revenue from digital banking services.</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing frauds through cyberspace such as stealing user account information, fake bank website, fake brand messages;</li> <li>- Causing negative reactions to some shareholders because bank pays dividends by stock instead of money;</li> <li>- It is possible to increase layoff rate for some positions in the bank.</li> </ul>	<ul style="list-style-type: none"> <li>- The exploitation of mineral resources to produce electronic components has many negative impacts on the environment, including resource degradation, soil and water pollution, and biodiversity disturbance;</li> <li>- Increasing the electronic waste is a new threat to the environment;</li> </ul>

#### 4.3. Causes of limitations in digital transformation investment at commercial banks of Viet Nam

**Firstly**, due to the characteristics and complexity compared to other industries and businesses, the digital transformation in the banking system is a process that requires great investment in cost, time and grey matter, can not be done easily in one or two years. In order to carry out the process of digital transformation, banks had to spend a lot finance and recruit, training employees, the cost of construction and handling of errors occurred during the process of digital transformation. Therefore, during the partial digital transformation phase, it can be

seen that the business results are better, but due to the large trade -off cost, the profitability from the digital transformation is not clear in this period, also known as the paradox profit (Huong Nguyen Thi Lan - 2023).

**Secondly**, some banks hired the design team and invested a large amount of money in CBS with a lot of expectations such as: CBS will become the center of the information system in the bank, helping to standardize the process in bank, promoting internal management effectively; diversing digital banking services's utilites; implement accurately in transactions and minimize errors; improving management of documents, records and databases. However, in reality, many banks have to destroy their own old CBS to build a new CBS because the old CBS has became backward, no longer suitable for the current business and limiting the integrated capacity of new digital technologies. In addition to the waste of investment capital, it also affects the general business activities of banks, especially in the transition phase from the old Core system to the new Core. The technology changes day by day, and what is sure that, when CBS has just come into operation after a long time of preparation will be the best for the bank or will it gradually become an old CBS version?

**Thirdly**, in the context of most utilities supplied through digital banking services is relatively similar among most banks and they charge customers no fee for having services. Customers are free to register, free maintenance and free almost all utilities used on digital banking services while the cost of investment for this digital banking technology is not small, so revenue of this service is very difficult to calculate.

**Fourth**, digital conversion helps banks provide 24/7 service quickly, conveniently and save to customers. However, that is why high -tech criminals take advantage to commit frauds and appropriation of customers' property. The cause may come from both banks and customers. The bank has not been able to measure all the sophisticated fraudurances while customers or users have not completely raised their awareness and vigilance when participating in the digital ecosystem provided by banks and partners.

**Fifth**, in the current period (especially after Covid 19 pandemic), commercial banks need to retain profits to re - invest in business activities, implement strategies including digital conversion, guarantee the capital adequacy ratio meets Basel II, Basel III standards and supports other entities in the economy. Therefore, many banks have paid dividends by stocks to shareholders instead of paying in cash and this leads to negative reactions from some shareholders, especially small shareholders.

**Sixth**, digital transformation in the banking industry will lead to the disappearance of some work positions such as tellers, operators, call centers, etc. Some job positions that are repeated but requires speed, continuous operation time and high accuracy will be replaced by Robot or application in the future.

**Seventh**, transforming numbers requires a large amount of physical hardware. All of these material products need resources and energy throughout their life cycle. The banking sector is a field that has an extensive impact on other entities in the economy, so the bank digital

conversion means related others also correspondent with digital conversion and customers also change both perceptions and behaviors. Therefore, digital transformation takes place on a large scale requiring more and more supportive technology in terms of quantity and quality. This will lead to a negative impact on the environment when people exploit natural resources such as Germanium, Silicon ... to produce semiconductors, microchips, electronic components ... is the structure of hardware of devices such as phones, computers, transmission lines, ...

**Eighth**, as analyzed, invested in digital conversion technology, is not always the exact investment of the bank and it is approximately difficult to be accurate when the technology is always very high updated. New technology was born to replace the old technology, which means increasing technology waste. This source of electronic waste when being thrown indiscriminately into the environment or improperly treated can cause water and climate pollution, affecting human health and ecosystems.

## 5. CONCLUSION

Although digital transformation is a prerequisite for the existence of each bank in the current and upcoming period, but the bank need to consider the sufficiency of financial capacity, the capacity of current technological infrastructure and human resources ability. Digital transformation need to be sustainable, bringing value to the bank and society in the long run. From a number of limitations stated in section 4.3, the author proposes a number of financial solutions and recommendations for sustainable digital transformation at commercial banks of Viet Nam.

### 5.1. Financial solutions for sustainable digital transformation at commercial banks of Viet Nam

**Firstly**, *investing in Fintech company*. This is a solution to help the bank take advantage of technology from companies specializing in this field to develop digital banking services and modernize internal processes without spending a large amount of investment capital to building technology infrastructure system from the beginning. As analyzed above, technology is outdated, new at the moment but does not mean that it will be new at a different time in the future. If investing and replacing such technology, it will cause a significant waste of capital for the bank.

**Secondly**, *improving the efficiency of investment in technology and minimizing electronic waste to the environment*. Banks need: (i) Spending budget suitably to invest new technologies, not wasteful; (ii) Before making decision to invest, carefully evaluating new technologies and ensuring it match with business practices in avoiding the case of rampant investment, following the trend but not bringing the expected results; (iii) Actively study similar technology solutions from other technology companies with affordable cost.

**Thirdly**, *developing model of financial indicators to evaluate the efficiency of digital banking services*. As analyzed, the banks now do not charge customer when they use digital banking services, so in order to measure the economic benefits of this service, the bank needs to have certain measurement criteria, such as: Customer growth rate using digital banking services compared to the CASA increase rate of customers using digital banking services;

New customer growth rate due to the introduction from existing customers is using digital banking services; Credit growth rate, open new account growth rate, credit card issuance rate ... on digital banking services compared to these ratios in traditional forms. From these criteria, the bank calculates specific economic benefits, from which it is possible to partly evaluate the effectiveness of the capital to invest in digital conversion.

**Fourth**, *it is necessary to increase budget on developing courses about digital transformation for officials such as artificial intelligence knowledge, machine learning, data science, Agile working method, customers behavior and psychology analysis.* In addition, the bank also needs a special bonus and salary for important positions directly related to digital transformation such as IT department, data analysis, behavioral analysis ... to attract talents. This solution aims to help bank to recruit and own appropriate human resources, ensuring the personnel ability is ready to adapt to digital transformation, avoiding the labor redundant of Robotic replaced job positions in the future.

**Fifth**, *increasing investment in detecting the risk arising through cyberspace instead of passive defense.* Banks need to proactively monitor, supervise, and early warn of security risks, promptly detect intrusions and attacks on information systems, promptly handle vulnerabilities of IT system to minimize risks. In addition to regularly investing in upgrading the existing information security system, the bank also needs approving budget to deploy digital communication campaigns to enhance customers' awareness of information security when using digital banking services. At the same time, when risks occur, the bank also needs to consider the responsibility of sharing lost with customers to ensure the rights and trust of customers.

## **5.2. Recommendations for sustainable digital transformation at commercial banks of Viet Nam**

**Firstly**, *it is recommended that the State Bank and the Ministry of Finance develop a financial mechanism for raising capital and using capital in digital transformation in banks.* Currently, there is no clear financial mechanism for when banks lack investment capital for digital transformation, they will mobilize from any source and in what manner, which is allowed by the State. At the same time, when the bank has capital, how can the bank invest in digital transformation, such as: how much is the maximum investment in IT assets, what is the maximum percentage of investment in Fintechs ... to ensure the bank's capital adequacy ratio (because according to the formula for calculating capital adequacy ratio (CAR), IT assets (in the category of machinery and equipment) are all on the list of invested assets with a risk weight of 50-100%). Especially in case of State commercial banks, there is no financial mechanism guiding the mobilization of capital from the State and how to use that capital in digital transformation to ensure efficiency and preserving capital.

**Secondly**, *the State needs increasing the investment in upgrading technological infrastructure and accelerating the handling of transactions failed through NAPAS.* In fact, commercial banks recorded many cases where customers pay online with domestic cards via the faulty NAPAS gate, the customer transferred quickly 24/7 accounts deducted but the recipient did not receive money immediately, customers unsuccessful withdrawal at other bank ATMs, customers who are slow to receive transaction control results ... One of the reasons for



this situation is due to the capacity of the technological system and processing complaints of payment intermediaries are limited. With such errors, the quality of digital banking services is seriously affected while the error is not completely due to the subjectivity of the commercial bank. With the task of always improving the quality of digital banking services, commercial banks are really very hard in resolving the time limit for complaints and checking this type. Therefore, commercial banks really need the state's join hands in investing in upgrading the national payment system more modern and more efficient to ensure smooth system, limit maintenance and minimize the errors during customer transactions.

*Thirdly, the Government continues to encourage the banking industry to maintain the orientation and strategy of green credit development by integrating environmentally friendly evaluation criteria when supplying and approving online loans. This action aims to avoid financial supply for projects and operations is not sustainable.*

*Fourthly, the State Bank should soon issue Sandbox testing mechanism for financial technologies that will be applied in the banking sector.* Banks eligible to join Sandbox will have a separate record manager to provide support in the development and implementation of testing. Sandbox testing is expected to have a clear goal and a clear positive impact on consumers. Sandbox is conducted on a small scale, within a limited time, with a limited number of consumers. Sandbox allows banks to access professional knowledge and a set of tools to support testing. The tools that the bank will need to depend on the nature of the technology and the purpose of the test. Banks must be authorized or registered with management (State Bank) to consider granting test permits, unless the State Bank applies certain exemptions. Digital technology sandboxes often include an online platform aimed at development proposals in the early stages, where banks can access data sets for testing and building solutions. Having a test mechanism will help the bank not lose the opportunity to deploy new technologies as well as avoiding slow down the digital transformation process in the banking industry. Moreover, Sandbox helps the bank have a relative view of the prospect when applying intended financial technology in practice, thereby helping the bank partly reduce investment costs when after the test process that bank do not see that technology is effective.

*Fifth, the State should soon complete the database on population and have a mechanism to guide commercial banks on mining and integrating these data into the bank's information system.* At the same time, it is recommended that the Legislature need to develop a separated Law about protecting the personal data-sharing right on the Internet, so that the bank has a legal basis to create and develop products as well as protect the legitimate benefits of customers. Currently, regulations of sharing personal data are scattered in different Constitutions, Laws, Circular Decrees and there is no unified Law document about the right of sharing personal data. If this Law is promulgated, it will benefit both customers and banks. Customers will feel more secure when making transactions through digital banking channels and the bank also has a legal basis for using customer information in developing digital banking services.

*Sixth, Universities in the field of banking and finance should focus on developing training programs on digital bank, digital banking services, new trends in technology in banks,*



*how to work as Agile, Design Thinking* ...In addition, Universities need to focus on training analysis skill of customer's psychological and behavior for students next to current traditional specialized subjects. This is aimed to provide quality human resources, adapting and fitting with the requirements from digital transformation of the banking industry in the future. Extract author Brett King in Bank 4.0, the future of the digital era, the bank will be everywhere, no time limit, no space limit and then, the recruitment needs of the bank will be experts to understand about digital banking technology and data science experts, psychological knowledge, digital experience of customers.

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# A REASONABLE RATE FOR COPPER MINING TO ENSURE SUSTAINABLE DEVELOPMENT IN VIET NAM

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*Summary: Copper is an Exhaustible Resource (ER). Vietnam has some copper mines, of which the largest mine being exploited is Sinh Quyen (Lao Cai). Due to special characteristics of ER, one main question must be answered: what is the optimal mining rate that can enhance a sustainable usage of copper? If it is extracted too much for rapid business growth, the interests of future generations will be harmed, and vice versa. The objective of the paper is to calculate the most reasonable mining rate that can protect copper resources as well as contribute to the sustainable development (SD) of copper in Vietnam.*

*Keywords: rate, mining, copper, sustainable development*

## I. RATIONALE OF THE STUDY

Copper is not only a rare mineral but also a ductile metal with very high electrical and thermal conductivity, so copper is widely used in life and production, especially in the production of electrical equipment (electric motors, wires, etc.) Thanks to its much higher electrical conductivity compared to aluminum, copper has been replacing aluminum in the production of electronic chips (IC).

Despite high demand for copper, it is one of the rare minerals. There are many different forecasts about depletion timeline of copper in the world. In 2014, USGS (United States Geological Survey), basing on the world's copper reserves with high certainty of 870 million tons, with an output of 18 million tons/year, assumed that the depletion timeline of copper would be 45 years (1.3 billion tons of existing copper as resources with a very low level of certainty has not been taken into account). The author of this paper approaches the issue through an approximate method, basing on the reserves and volume of copper mined in 10 countries having the largest copper reserves as well as the copper mining output in these countries. According to [8], top 10 copper producing countries in the world are: Chile, China, Peru, USA, Australia, Russia, Zambia, the Democratic Republic of the Congo and Mexico, which have a total reserve of 539 million tons of copper. With a mining output of 13.08 million tons/year, the copper depletion timeline would be 41 years.

## II. INTRODUCTION

### 2.1. Price characteristics of mineral resources (ER)

To formulate the price of ER, an objective function can be established as follows (1) [2]:

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$$\sum_{t=0}^T [P_t y_t - C(y_t, \ddot{x}_t)] (1 + \rho)^{-t} \rightarrow \text{Max} \ddot{x} \quad (1)$$

Within (1):

$P_t$  : Price of ER when extracted at time t

t : Extraction time (t = 0, T)

$y_t$  : Quantity of ER being extracted at time t (T/year)

C : Cost of ER extraction

$x_0$  : Initial stock of ER supply

$x_T$  : Stock of ER at the end of extraction period T

$x_t$  : Stock of ER supply at time t

Constraints of equation (1) are:

$$\begin{aligned} &+ \ddot{x}_0 = \overline{\ddot{x}}_0 \\ &+ \mathbf{X}_T = \overline{\mathbf{X}}_T \\ &+ \sum_{t=0}^{T-1} y_t = \sum_{t=0}^{T-1} (\ddot{x}_t - \ddot{x}_{t+1}) \end{aligned}$$

Within (1), noting that:

+  $P_t y_t$ : Price of ER at time t.

+ C ( $y_t, x_t$ ): Cost of ER extraction at time t.

Depending on  $y_t$  (Quantity of ER being extracted at time t) and  $x_t$  (Stock of ER supply at time t).

+ Paying special attention to the above constraints. These constraints represent the characteristics of ER.

Solving the above problem, we have the following result:

$$P_t = MC + \mu(1 + \rho)^t. \quad (2)$$

Within (2):

$P_t$ : Price of ER at time t  $\left( MC = \frac{\partial C}{\partial t} \right)$

MC: Marginal cost

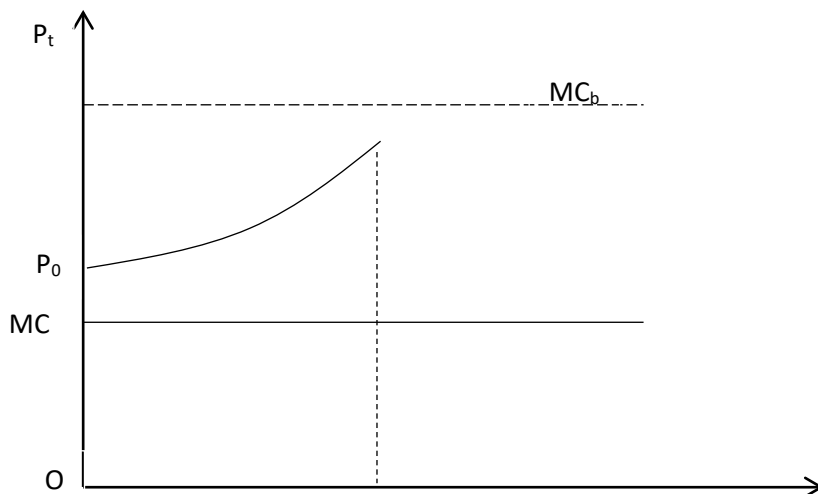
$\mu(1 + \rho)^t$ : Undiscounted costs, in which:

$\mu$  : Lagrange multiplier (the problem was solved using Lagrange method)

$\rho$  : Discount rate (interest rate).

From (2), it can be seen that:  $P_t$  (price of ER) is an exponential function of time (t). In other words,  $P_t$  will increase a lot if extraction time of ER is pushed back to the future.

Price of ER is depicted in diagram 2.1:



**Diagram 2.1. Patterns of ER prices over time**

*Source: Le Thi Huong (1999). Environmental economics.*

*Statistical Publishing House.*

According to diagram 2.1,  $P_t$  increases by the power of t;  $P_t$  only stops at  $MC_b$ ;  $MC_b$  is the marginal cost of the substitute resource for ER (backstop resources).

**2.2. Copper reserves in Vietnam**

Exploratory search results show that copper minerals are distributed in 12 provinces of Vietnam, which is presented in Table 2.1.

**Table 2.1. Copper reserves and resources in Vietnam**

*Unit: tons*

No.	Province	Total reserves and resources	Reserves	Resources	Estimated resources
(1)	(2)	(3)	(4)	(5)	(6)
1	Lao Cai	845.672,06	355.189,74	462.482,32	28.000,00
2	Yen Bai	321.432,72	21.014,56	108.241,16	192.177,00
3	Son La	305.405,48	35.664,00	134.345,45	135.396,00
4	Lai Chau	4.968,45	3.233,19	1.325,00	410,00
5	Bac Giang	2.497,38	0,00	2.102,75	394,62
6	Hoa Binh	2.683,00	2.203,00	480,00	0,00
7	Dien Bien	9.832,00	6.198,00	0,00	3.634,00
8	Thanh Hoa	7.361,39	0,00	1.132,52	6.228,87

9	Thai Nguyen	198.168,00	0,00	153.813,00	44.355,00
10	Cao Bang	62.872,10	0,00	58.841,10	3.941,00
11	Bac Can	1.080,00	0,00	1.080,00	0,00
12	Quang Nam	112.500,00	17.500,00	60.000,00	35.000,00
S		1.874.382,29	441.002,49	983.843,31	449.536,49

Source: Doan Thi Bich Huong (12/2020), *Domestic copper production and consumption in the period of 2015 - 2020*, ViMLUKI.VN

### III. ANALYTICAL PROBLEMS OF COPPER MINING IN VIETNAM

#### 3.1. Price of mineral resources:

The analytical problem of mining copper is related to the price of mineral resources or exhaustible resources (ER).

Mineral resources are exhaustible resources (ER), which have two characteristics: exhaustible and non-renewable. Due to these two characteristics, prices of ER possess some unique features compared to the ones of other resources. To determine the price of ER, an objective function can be established as follows (1) [3]:

$$\sum_{t=0}^T [P_t y_t - C(y_t, \ddot{x}_t)] (1 + \rho)^{-t} \rightarrow \text{Max} \quad (1)$$

This is the formula used to evaluate mineral mining investment projects.

#### 3.2. Analytical problem of copper mining in Vietnam

As a type of ER, copper price also has the characteristics of ER prices mentioned above. According to Diagram 2.1, one ton of copper mined today ( $t=0$ ) is priced at  $P_0$ , but the same quantity of copper mined at  $t_1$  will be priced at  $P_{t_1} = P_0 + m_t (1 + \rho)^{t_1}$ , which is  $m_t (1 + \rho)^{t_1}$  higher than  $P_0$ . In other words, if today's generation mines 1 ton of copper, the future generation (at time  $t_1$ ) will have to sacrifice (lose) a benefit of  $m_t (1 + \rho)^{t_1}$ . We can see a conflict of interest between generations: The more copper is exploited by today's generation to meet economic growth goals; the more benefits future generations will have to sacrifice. On the contrary, in order to minimize the burden on future generations, copper must be exploited at a slower rate. However, this will result in slow economic growth.

To resolve the above conflict, it is necessary for copper mining to develop in such a way that can balance and harmonize the interests of today's and future generations.

### IV. RESULTS OF THE STUDY

#### 4.1. The concept of sustainable development (SD)

From the 70s of the last century, people began to pay attention to sustainable development. There are several widely accepted concepts of sustainable development. Sustainable development is defined as: "healthy development, in which the development of one individual does not damage the interests of other individuals, the development of individuals does not

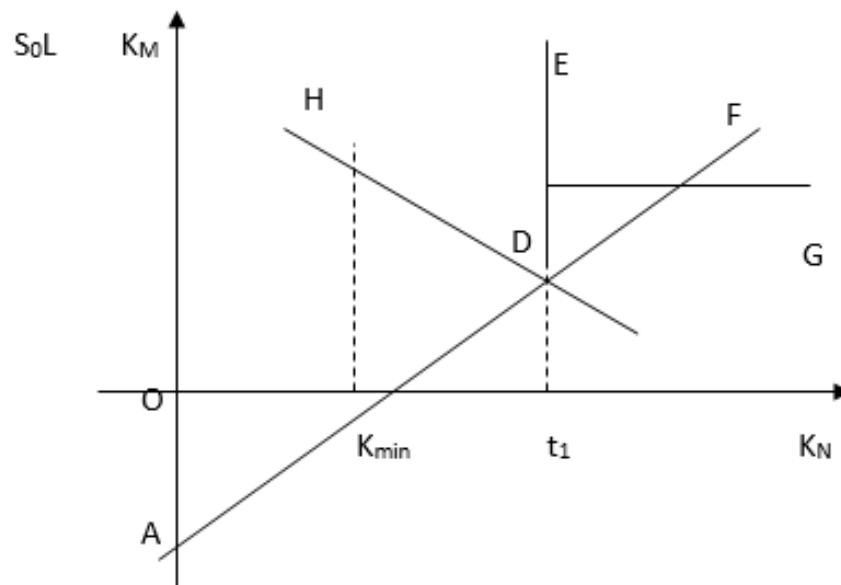


damage the interests of the community, the development of one human community does not damage the interests of other communities, *the development of today's generation does not compromise the interests of future generations*, and human development does not threaten or degrade the survival of other species on the planet.”

Another concept proposed by two Canadian environmentalists, Jacob and Sadler, is: “Sustainable development is a harmonious integration of three pillars: economic, social, environmental pillars.”

#### 4.2. Vietnam is in the low sustainable development period

Sustainable development of an economy goes through two periods: low sustainable development and high sustainable development. These two periods can be modeled as in Diagram 4.1.



**Diagram 4.1. Two periods of sustainable development**

*Source: Nguyen Thi Thuy Huong (2018). What is a reasonable extraction rate for coal under low sustainable development in Viet Nam? The 4th International Conference, Hanoi University of Mining and Geology*

Such that:

$S_0L$ : Standard of Living

$K_M$ : Human-induced capital

$K_N$ : Natural capital

O: Minimum living standards

A: Poverty or difficult living situations

$K_{min}$ : Minimum capital storage to secure the minimum living standards

The low sustainable development period is calculated until  $t_1$ , from  $t_1$  the economy moves to high sustainable development period. The characteristics of low sustainable development period are: In order to ensure the economic growth, people have to exchange  $K_N$  for  $K_M$  and improve standards of living  $S_0L$ . At high sustainable development period, both  $K_N$  and  $K_M$  are extracted in the direction of DE (D is called the economic take-off point).

Like other developing countries, Vietnam is in the low sustainable development period, with rich mineral resources (coal, petroleum, bauxite, copper, etc.) Vietnam is also exchanging these minerals ( $K_N$ ) for  $K_M$ . When will the low sustainable development in Vietnam end? According to the analysis of PWC (Price Water house Coopers), one of the four largest auditing companies in the world, Vietnam's GDP in 2015 was 204 billion USD. But if GDP was converted to  $GDP_{PPP}$  (GDP based on Purchasing Power Parity),  $GDP_{PPP}$  in 2015 would be 597 billion USD, ranking 32<sup>nd</sup> in the global economy. With the average annual growth rate of 5% (in reality, the average annual growth rate has been 6% in recent years, except for those in 2020 and 2021, which were affected by Covid pandemic), Vietnam's  $GDP_{PPP}$  in 2050 would be about 3,180 billion USD, which would make Vietnam's economy to stand among the world's top 20 economies. So, it can be assumed that by 2050 Vietnam's low sustainable development period would end.

#### 4.3. The depletion indicator of ER

As an exhaustible resource (ER), each type of mineral resource has a depletion indicator (T is the number of years that a mineral reserve is fully exploited.) Depletion indicator can be calculated using the following formula (3):

$$T = \frac{Q}{S} = \frac{Q}{S} \text{ (year)} \quad (3)$$

Within (3):

T: Depletion indicator (year)

Q: The total quantity of a resource reserve (ton)

S: Annual quantity of ER being extracted (ton/year)

The depletion indicator can be calculated based on the entire reserves of each mineral of a country, or based on a part of the entire reserve, depending on the analytical problem.

#### 4.4. The formula to determine the relationship between depletion indicator (T) and extraction rate (a)

In 2018, basing on the mathematical relationship between the depletion indicator (T) and mineral extraction rate (a), the author established the relationship of these two indicators [3] using the following formula (formula 4).

$$T = \frac{\ln \left[ \frac{Q}{S_0} (\ln(1 + \alpha) + 1) \right]}{\ln(1 + \alpha)} \text{ year} \quad (4)$$

Within (4):

T: Depletion indicator (year)

Q: The total quantity of a resource reserve (ton)

$S_0$ : Initial quantity of ER being extracted in base year (ton/year)

a: Mineral extraction rate (%)

(4) will be used to adjust the rate of mineral extraction (a) of mineral resources before it is fully exploited. This is the rate of mineral extraction toward sustainable development.

#### 4.5. Solving the problem

The problem will be solved by applying formula (4) in copper mining in Vietnam.

With total reserves and resources of 1,874,388 tons of copper (metal) distributed in 12 provinces (Table 2.1), Vietnam has only exploited copper in Lao Cai (Sinh Quyen mine). According to the mining project, there are 2 phases with a total investment of 3,000 billion VND. Phase 1 started in 2006 with an output of 1.2 million tons of ore per year. Phase 2 started from 2020, the output would be double. Sinh Quyen mine has a reserve of 56 million tons of copper, with copper content of 0.95%. The conditions for solving the problem applying formula (4) are as follows:

- Vietnam will fully exploit Sinh Quyen mine in the low sustainable development period by 2050. If the base time is 2020, low sustainable development would end in 2050, then T is 30 years.

- After 15 years of exploitation (from 2006 to 2020) with an output of 1.2 million tons/year, Sinh Quyen mine exploited about 18 million tons of ore. With a reserve of 56 million tons, the remaining ore to be exploited after 2020 would be:  $Q = 56 - 18 = 38$  million tons.

- If 2020 is taken as the base time, then  $S_0 = 1.2$  million tons.

- In the period of 2020 - 2050, if copper is exploited only at Sinh Quyen mine, the remaining copper lifetime in Vietnam (after subtracting the amount of copper exploited at Sinh Quyen mine) is 1,874,382 tons (including both reserves and resources). This remaining amount will be „saved“ for exploitation after 2050 in the high sustainable development period.

Formula (4) is rewritten with the above parameters as follows:

$$\frac{\text{Ln}\left[\frac{38}{1.2} \cdot \text{Ln}(1+\alpha)+1\right]}{\text{Ln}(1+\alpha)} = 30$$

Solving the problem, we have the result  $a = 0.005$  (0.5%). So, the growth rate of copper mining output in Vietnam from 2021 to 2050 for sustainable development is 0.5%/year.

#### 4.6. Results of the study

With the proposed rate of 0.5%/year, the mining output of copper in Vietnam still increases but very slowly. Table 4.1 is a comparison of annual mining output at the proposed rate and mining output at phase 2 of Vietnam's copper mining project. Column 4 of table 4.1 shows that the mining output at phase 2 of the project is much higher than the proposed output, in other words, copper is being exploited too fast, which is not consistent with sustainable development.

**Table 4.1. Vietnam's copper mining output from 2020 at the proposed rate (0.5%/year) and projected rate**

Year	Output at the proposed rate 0.5%/year (tons of ore)	Output at projected rate, phase 2 of Vietnam's copper mining project (tons of ore)	Comparison of phase 2 output and proposed output (%)
(1)	(2)	(3)	(4)
2020	1.200.000	2.450.000	204,1
2021	1.206.000	2.450.000	203,1
2022	1.212.030	2.450.000	202,1
2023	1.218.090	2.450.000	201,1
2024	1.224.180	2.450.000	200,1
2025	1.230.240	2.450.000	199,1
....	.....	.....	.....

Source: Own study

## V. CONCLUSION

The author's proposed mining rate mentioned above will help copper mining in Vietnam develop towards sustainable development.

For the sustainable development of copper mining, Vietnam also needs to pay attention to environmental protection. Mining and processing copper releases large amount of sulfuric acid ( $H_2SO_4$ ), which is harmful to the environment, but if there is a collection and treatment plan, this waste can bring in high economic value.

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# EXPERIENCES ON THE USE OF FISCAL POLICY AND MONETARY POLICY BY SOME COUNTRIES TO COPE WITH THE COVID-19 PANDEMIC IN SUPPORT OF EMPLOYMENT. SOME RECOMMENDATIONS FOR VIETNAM.

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**Abstract:** Covid-19 pandemic has impacted all countries in the world. These countries have so far experienced eight major epidemic waves, affecting all aspects of the country's socio-economic life. Many nations used the tools of fiscal policies (budget spending, taxes, estimates and financial support) and monetary policies (interest rate policy, credit limit, exchange rate, currency swap) to respond to the pandemic. This could stimulate consumers' needs, investment, import and export. The study specifically focuses on researching the experience of other countries such as The United Kingdom, Denmark, India in using fiscal policies and monetary policies. Some recommendations for Vietnam are offered to deal with the epidemic as well as smooth fluctuations of the economy.

**Key words:** Covid-19, fiscal policy, monetary policy, employment

**Tóm tắt:** Covid-19 tác động đến tất cả các nước trên thế giới, tính đến nay có quốc gia đã trải qua 8 làn sóng dịch chính, ảnh hưởng đến mọi mặt đời sống kinh tế xã hội của đất nước. Các nước đều sử dụng các công cụ của chính sách tài khoá (chi ngân sách, thuế, dự toán và hỗ trợ tài chính) và chính sách tiền tệ (chính sách lãi suất, hạn mức tín dụng, tỷ giá, hoán đổi tiền tệ) ứng phó với đại dịch để kích cầu tiêu dùng, đầu tư và xuất nhập khẩu. Bài viết tập trung vào nghiên cứu kinh nghiệm sử dụng chính sách tài khoá và chính sách tiền tệ của một số nước như Vương quốc Anh, Đan Mạch, Ấn Độ và đưa ra một số khuyến nghị cho Việt Nam trong ứng phó với đại dịch Covid 19 và các biến động khó lường khác của nền kinh tế.

**Từ khoá:** Covid-19, giải quyết việc làm, chính sách tài khoá, chính sách tiền tệ.

## 1. INTRODUCTION

All socio-economic activities of every country have been seriously impacted by the Covid-19, including production, the circulation of goods, labour, employment and the employee's income.

In many countries, governments have been struggling with the choices between the benefits of economic development and ensuring the safety of their people through the disease control measures. Although these countries have implemented many solutions to dealing with the pandemic over the past three years, which have established the new normal, the pandemic also causes many challenges for them in making monetary and fiscal policies.

There are not only a bunch of studies on labor and employment in the context of the covid-19 pandemic; but also a wide range of labor and employment policies of many countries responding to the epidemic. Therefore, the experiences of countries in the world have partly brought Vietnam valuable lessons in choosing an appropriate response to labor and employment issues in the context of the new normal.

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## 2. LITERATURE REVIEW

***The development of the pandemic and its impact on employment:*** The IMF report (2022) pointed out data related to the evolution of the pandemic in the UK and how to respond when the country had to coexist with this epidemic. Research by Andrew Powell et al (2022) outlined the impact of the Covid-19 epidemic on the UK labour market after releasing of lockdown. The employment rate has increased again, especially in the private economic sector. The complete lifting of restrictions was intended to promote economic growth recovery, according to Covid digest (2022). The Danish government had signed a grant to support the COVID-19 response in Africa (WHO, 2020). OECD (2020) stated that Denmark's common national policy for economy, cooperation and development. Darius Ornston's book (2021) revealed that Denmark's policy response to Covid-19 through a range of measures such as the adoption of epidemiological legislation, the strategy for living with the epidemic, the application of vaccine passports, gender controllers and solutions to support the economic crisis. The WHO (2021) pointed out that India's relationship with countries in epidemic prevention is mobilizing all resources, especially help with vaccines from other countries. In addition, the report also evaluated QUAD's vaccine production initiative to discuss and make specific recommendations regarding funding for vaccine production and distribution.

***Research on fiscal and monetary policy to respond to the pandemic:*** Taking these concepts under the view of Brewer, M & Gardiner (2020), the study mentioned that the universal credit policy and social security policy also achieved certain results, but still had not found a way out of the covid-crisis. Research by Broning, S and Associates (2022) proposed a number of financial support policies for the system of micro, small and medium enterprises (MSME), policies to support vulnerable people in the housing service market and household consumption. This could be intended to restore consumer confidence and promote economic recovery after the pandemic. It could be justified that the Danish government proactively supported people in paying wages based on working hours to compensate companies that have fired a prescribed number of workers; amending the law on sick pay for workers at high risk due to the impact of covid -19; housing assistance; The government supports MSMEs through loans and financial support (WHO, 2020). According to PTI (2020, 2021), the Indian government implemented a wide range of financial solutions such as: relief packages, stimulus packages, supporting vulnerable immigrant workers, and implementing interest rate reduction policies to stimulate growth. India also implemented macroeconomic policy tools such as taxes, spending, foreign trade, exchange rates, and interest rates to restore the economy after the outbreak.

Studies have shown the impact of the Covid-19 on the economy, labour and employment; Meanwhile, it could be clear that some governments used macroeconomic policy tools to limit the impact of the pandemic on the socioeconomic status of the country. This research would comprehensively discuss the experience of using fiscal policy and monetary policy to respond to the pandemic to support employment for vulnerable people in the labour market. Moreover, some recommendations for Vietnam are proposed.



### 3. RESEARCH METHODS AND APPROACHES

**Approaches:** In fiscal policy, the inside lags are long. In contrast, the inside lags of monetary policy are shorter. The flexible combination of these two policies in response to the covid-19 pandemic would contribute to improving the operational efficiency of policies targeted at stimulating aggregate demand, promoting economic growth, and supporting employment. Therefore, the experience of adjusting fiscal and monetary policies of some countries in response to the Covid-19 pandemic to support jobs for labour is considered as an approach.

**Research methods:** Based on the methodology of dialectical materialism and historical materialism, the study has used qualitative research methods through the process of collecting secondary data from reliable domestic and international sources. Statistical methods, synthesis, comparison and analysis are also used flexibly to clarify research issues.

### 4. CONTENT AND RESULTS OF THE STUDY

#### 4.1. Impact of covid-19 pandemic on labor situation and employment

According to the ILO (2021), the covid-19 pandemic has impacted countries around the world differently and unevenly, increasing social inequalities and exacerbating employment deficits. The following impacts on labor and employment can be mentioned:

- It is the cause leading to the bankruptcy of small and medium enterprises, especially micro enterprises, causing negative consequences to the income and employment of employees. Most are businesses in the tourism, trade, manufacturing and construction industries.

- The informal labor sector has a high risk of unemployment. Job loss affects income to be reduced because it is less likely to receive social protection. The situation has been growing more seriously as it is piled on blunder.

- The phenomenon of gender inequality has occurred; Women face a greater risk of job loss than men. According to the ILO report (2021), the employment of women in 2020 decreased by 5% while that of men only decreased by 3.9%.

- Migrant workers struggled to seek a job by the disruption of the global supply chain, changes in contracts, changes in income, and lack of access to social welfare.

- The pandemic has increased social inequality across different groups. Some highly skilled workers who have got benefits from changing labor patterns (like working from home) would have opportunities to find better jobs. Meanwhile manual labourer sound unwell qualified to get another job quickly. This would put a toll on those unemployed and their families.

Working online has also changed the line between work and personal life. Social distancing has brought family members together; however, the increased pressure to care for children has a significant impact on employment and income of workers.

Jingyi et al. (2021) indicates that the youth are the most vulnerable group of workers in the labor market. Fresh graduates are not only find it difficult to find jobs in the context of scarce market but also easily dismissed. Young workers may have their education disrupted by the

pandemic, increasing the risk of current unemployment and limiting their ability to seek for a job in the future.

ILO (2021) has demonstrated that the labor market crisis caused by the covid-19 pandemic is still persistent; Job recovery would accelerate once the pandemic is under control; however, it would be hard to make up for the damage until the end of 2023.

#### **4.2. Some specific experiences of countries around the world in using monetary and fiscal policies to support employment management.**

##### **4.2.1. Experiences from the U.K**

The United Kingdom was one of the nations seriously affected by the Covid-19 pandemic. Andrew Powell (2022) showed that the impact of the epidemic on employment was often uneven across different age groups. The age group over 65 decreased by up to 8%, followed by the age group 16-25 at 3%, and the age group 25-64 decreased slightly at 1%. Besides, the private sector was affected more than the public sector. From March 2020 to December 2021, the private sector decreased by 2.1% while the public sector increased by 4.7%. In response, the British government has taken flexible adjustment measures to minimize the impact on labor and jobs, maintain and stabilize the economy.

#### **Fiscal policy**

*First*, it was about Community Support Policies: The UK has implemented a social policy since the first implementation of the blockade on March 23, 2020, with the following policies:

*Job retention policy for employees affected by Covid 19:* (1) UK Customs and Taxation has paid 80% of wages for workers laid off due to covid; From March to May 2020, employees was entitled to up to £2,500 per month. The policy ran until the end of October 2020, however the government sponsorship payout dropped to 60% in October to £1,875. (2) The Government approved a package to support job creation and economic recovery in July 2020 such as: supporting for each employee who quited at companies by 1,000 pounds until the end of January 2021; stipulating that workers at risk of long-term unemployment were paid at least 25 hours per week; increasing resources for labours to improve their skills and re-enter the labor market; supporting £130 and £182 for family members of low-income workers who have to self-isolate and are unable to work.

*The policy on income supporting for self-employed people:* supporting profit up to 80% up to £2,500.

*Allowances for people with disabilities, health care workers, people who had covid-19:* through the “Employment and Support Allowance” (ESA – income replacement benefit for people not healthy enough to work), personal independent payment (PIP – disability and health care benefits), health worker benefits (CA- benefits for healthcare workers working a minimum of 35 hours per week) and sickness benefits (SSP- benefits paid to employees who earn more than £120 per week on average but take sick leave for at least four consecutive days).

*Second*, It was about the business supporting program which was implemented through fiscal policy, specifically:

(1) *Loan policy for businesses with business interruption due to covid-19*: The government provided interest rate support for loans to small and medium businesses up to £5 million for the first six months and extended to larger loans of up to £300 million for large businesses from 20 April 2020. Guarantees for loans up to £50,000 for small and medium businesses to restore production and business; defer VAT. The scheme was launched within a year, disbursing a total of £352 billion and was subsequently replaced by the Recovery Loan Scheme (RLS).

(2) *Tax deferral policy*: The Tax and Customs Authority allowed self-employed businesses and groups an extra period of time to pay their tax bills without the statutory penalty for late tax; In addition, this policy also allowed businesses to defer tax payment until the end of 2020 and continue until June 2021 on the amount of VAT they owe quarterly.

(3) *Policy to reduce corporate tax*: tax reduction for all businesses operating in the field of retail, restaurant services, hotels, resorts for one year; Eligible pubs were also eligible for this policy.

(4) *Some policies on income support and employment for employees affected by covid 19*: the government banned cancellation of tenancy due to non-payment of rent within 3 months to the end of June 2020, this program was renewed several times and extended until the end of March 25, 2022; In addition, the Government also supported a program to encourage people to use services at restaurants, such as a 50% discount on food and non-alcoholic beverages for dining at registered restaurants.

## MONETARY POLICY

*First*, the Bank of England introduced four measures to support businesses affected by the covid-19 pandemic, specifically:

(1) Reducing the basic interest rate from 0.75% to 0.25% and then to 0.1%; Implement low-cost credit extension for small and medium-sized businesses.

(2) Trade credit insurance for commercial transactions between businesses through the program “Corporate Credit Reinsurance”, implementation period of 9 months totaling £10 billion.

(3) Implementing a package of support for companies that drive innovation and development with a value of £1 billion.

(4) Providing assistance to low-income countries through the “IMF Poverty Reduction and Growth Fund” with a total value of £2.2 billion.

*Second*, the People’s Credit Program: The UK Government announced a £7 billion credit supplement package for the social security system on March 20, 2020. From April 6, 2020, social security regulations increase the standard rate to £20 per week for a period of 12 months.

This program was directed at self-employed workers who were impacted by the pandemic when their income was below a certain level (self-employment earnings are equivalent to 35 hours of work at the national minimum wage). As of March 2020, the number of people applying for “All-People Credit” has reached 3.7 million people and increased to 5.7 million people in October 2020.

#### 4.2.2. Experiences from Denmark

Before covid-19 broke out, Denmark was a country with a low unemployment rate. In February 2020, the unemployment rate was 3.7%, which increased to 5.64% in May 2020, which was the highest level since 2012. Small and medium-sized enterprises entered a state of production shutdown and mass bankruptcy, which significantly affected the employment of workers. Faced with that situation, the Danish government implemented a bunch of specific measures to support workers as follows:

##### **Fiscal policy**

*Policy on Employee Support:* (1) paying 90% of hourly wages and 75% of wages to employees receiving monthly wages due to the impact of the covid 19 epidemic. (2) Implementing a new salary system with the aim of compensating companies that laid off at least 30% of employees or more than 50 employees. According to Torben M. Andersen (2022), the compensation is in two levels: 75% for white-collar workers, 90% for blue-collar workers, but the maximum level was not more than 30,000 DKK/month; companies committed not to permanently lay off employees when participating in this program and had a support policy when companies received workers back. (3) Amendment to the law on sick pay for workers at high risk of severe symptoms of covid-19. To avoid the risk of exposure to covid-19 in the workplace, this legislation allowed high-risk patients to stay home and this sick leave would still be paid. (4) The government paid unemployment benefits for the days when workers did not go to work due to companies cutting part or all of their employees according to the Government's employment coordination plan.

*Consumer support policy:* The Danish government implemented a wide range of measures to support consumers to increase their disposable income due to the impact of covid-19, specifically: (1) they received a one-time tax-free payment of DKK 1,000; (2) returned the property tax overpaid by consumers due to the new tax policy with approximately 800,000 home owners and a total value of DKK 13 billion; (3) continued to implement the lower property value tax provisions until the new tax regulation is implemented.

*Policies to support enterprises:* (1) The Government supported paying wages to employees; the government committed to spend up to 75% of workers' wages so that businesses did not fire them, with a maximum of 3,288 USD/person; This commitment lasted for 3 months with the condition that workers had to work from home to limit the spread of disease. (2) The policy of deferring tax payment for businesses was implemented: The Government in 2020 postponed the payment of VAT for businesses worth 276 billion DKK; in 2021, tax payments to companies of up to DKK 57 billion and deferred until January 2022. (3) Interest-free lending policy for VAT payment with a total value of DKK 258 billion from April 2020 (IMF, 2020). (4) the government supported the tourism industry through a stimulus package worth 1.65 billion DKK or 262 million USD (according to OECD,2020); A number of targeted programs were assisted, especially the salary scheme for vulnerable companies, from May 19, 2021. (5) The government provided direct economic support from the budget to businesses affected during the blockade to prevent the spread of the pandemic with a total value of 60 billion DKK.

## Monetary policy

*Credit guarantee policy:* at the beginning of April 2020, the Danish Ministry of Economy and Business approved a credit guarantee package worth 8.5 billion DKK equivalent to 1.23 billion USD through the Danish Export Credit Company to support domestic export companies and small and medium enterprises facing difficulties due to the pandemic; 80% of the support package is guaranteed for exporting companies and was valid until October 1, 2020 (OECD, 2020).

*Adjustment of the exchange rate system:* Since the Danish krone was pegged to the Euro, in order to avoid liquidity problems in the financial system and limit bank lending, the Bank of Denmark implemented a number of specific measures such as: (1) Implementing bilateral swap agreement between the Fed and the National Bank of Denmark up to a size of USD 30 billion; (2) EUR swap between the European Central Bank and the National Bank of Denmark with a liquidity of up to EUR 24 billion.

### 4.2.3. Experiences from India

India was country heavily affected by the Covid-19 pandemic. On April 14, 2021, the number of covid 19 infections in this country was 13,871,321 people with 172,115 deaths. However, according to data from two medical journals Lancet and Science, these numbers were even larger so far. The Indian government flexibly used fiscal policy and monetary policy to respond to the impact of the covid 19 pandemic, supporting employment for workers.

## Fiscal policy

*- Supporting vulnerable people:* On March 26, 2020, India's Finance Minister announced a relief package for women, migrant workers and the marginalized implemented by the government through a consumer stimulus package worth \$22.5 billion, equivalent to 0.8% of GDP in the form of cash and in-kind subsidies. Results: (1) 800 million poor people received 5kg of rice or noodles for free and 1kg of lentils per month; (2) Increasing the minimum wage from 182 to 202 Rupees per day, benefiting about 50 million families bringing their income to 2,000 Rupees/month. (3) Poor women, the elderly and the vulnerable receive an additional Rs 1,000 for the next three months. Thus, about 30 million workers benefit. (4) The Ujjwala program benefited 80 million households under the program of providing free gas cylinders for three months; supporting small and medium enterprises with less than 100 employees and 90% of enterprises with incomes below Rs 15,000/month in all industries/fields/enterprises/organizations, bringing benefits to 400,000 organizations and 8 million employees; (5) Local construction workers in the states/territories could use a welfare fund worth Rs 310 billion equivalent to USD 4.3 billion, the number of beneficiaries from this program is up to 35 million workers; (6) Union Cabinet on 8/7/2020 approved the proposal to expand free food distribution to 810 million people for 5 months from July to November 2020.

*- Support package for a self-strengthening India worth Rupees 20 trillion*

Towards the Aatmanirbhar Bharat movement (for a resilient India), on May 12, 2020, Prime Minister Narendra Modi announced an economic stimulus package worth Rs 20 trillion, equivalent to \$ 270 billion (about 10% of GDP). The support package helped businesses



improve their operations. After one month, 30% of businesses were operating at 70% capacity. India implements income tax refund policy, up to 36% of respondents answered that they have begun to receive tax refund from the Government.

- *Festive season consumer stimulus package worth Rs 467 billion:*

Due to nationwide blockade measures, social consumption decreased by about 24.5% compared to the same period last year. Therefore, in September 2020, the Government of India approved an economic stimulus package of Rs 467 billion focusing on cash payments to government employees and interest-free loans to states with the aim of stimulating consumption during the holiday season and increasing capital production in the hope of increasing GDP by 0.5%.

- *Economic stimulus package called “self-reliant 3.0” worth 2,650 billion Rupees equivalent to 35 billion USD:* India’s Finance Minister announced an economic stimulus package worth Rs 2,650 billion on November 12, 2021 to combat the recession and boost economic development caused by the covid pandemic, including: (1) tax reduction for some home sales, credit guarantees for small businesses, job creation incentives; (2) fertilizer subsidies to supplement agricultural development, capital for infrastructure development; (3) R&D funding of Rs 9 billion; (4) promoting export-related projects through EXIM bank with a value of Rs 30 billion; (5) financial support for projects in the fields of transportation, electricity and mechanical engineering, armoring. This stimulus package India had hoped to boost economic growth by about 0.5% of GDP in the fiscal year.

- *Exemption and reduction of customs duties on imported vaccines of 10% to support domestic production of vaccines produced by Serum Institute of India and Bharat Biotech.* Meanwhile, the Government has allowed to extend the foreign trade policy for the period 2015-2020 to September 30, 2021 with tax incentives such as “Tax Free Import License”, so that exporters can import a certain amount of capital goods at zero tax rate to upgrade technology.

### **Monetary policy**

The Reserve Bank of India made a series of decisions in response to the pandemic to stabilize incomes and increase jobs for labours, showing:

- On April 1, 2020, the Reserve Bank of India (RBI) helped to meet the short-term liquidity needs of the state government;

- On April 3, 2020, RBI adjusted trading hours for different markets to optimize resources and ensure safety for bankers;

- The Reserve Bank of India (RBI) on March 27, 2021 decided to reduce the repo rate and the reverse repo rate by 70 and 90 basis points, respectively, to 4.4% and 4%; announced liquidity measures to adjust Rs 3.7 trillion (equivalent to 1.8% of GDP) through three measures: (1) long-term repo operations; (2) a 100 basis point reduction in the cash reserve ratio. In early February 2021 the cash reserve ratio was waived for all retail loans for the purpose of reducing loan costs; At the same time, the RBI launched a relief for borrowers and lenders, allowing



companies to get a three-month deferral; (3) The Securities and Exchange Commission of India has temporarily relaxed regulations regarding bankruptcy criteria.

- RBI announced a liquidity package of Rs 500 billion on 5/5/2021 with 3 contents: (1) supporting vaccine manufacturers, medical equipment suppliers, hospitals and patients in the fight against covid-19; (2) loan restructuring for individuals and small businesses; (3) assisting the lender in overcoming bad debt and extending the debt for the borrower.

#### **4.3. Policy recommendations for Vietnam**

Through the experience of using fiscal and monetary policies of some of the above countries to promote growth and create jobs for workers, some policy recommendations for Vietnam can be drawn as follows:

*First*, Fiscal policy was used appropriately through the following tools: budget expenditure, tax, estimation and financial support to stimulate economic demand, increase production and business activities and promote growth, specifically:

- Government adopted Financial Assistance instrument with transfer payments to stimulate consumption. Reliefs for the underprivileged in the labor market such as the poor, disabled, women through subsidies either in cash or in kind; health and welfare support for poor households and people with low incomes; supporting the cost of renting houses for the poor and migrant workers; expanding the form of free food supply for the poor and the homeless; supporting vaccines for inhabitants to ensure production safety and avoid supply chain disruptions in the context of a prolonged epidemic.

- The government approved financial support with transfer payments to stimulate consumption and production such as: the extension of income tax payment period; small businesses would receive a reduced penalty for late tax payments; deferring or reducing taxes for businesses in difficulty; tax exemption for businesses with special difficulties; providing solutions to support and provide capital for small and medium enterprises to help them overcome the crisis, avoid disruption of production, circulation and distribution supply chains.

*Second*, monetary policy needed to flexibly use interest rate tools, credit limits, and exchange rates to stimulate the economy to promote growth and stabilize employment, specifically:

- Through the interest rate tool, supporting both borrowers and lenders; extending the repayment period.

- Restructuring loans, especially focusing on small and medium enterprises. There were solutions to help banks and credit institutions limit bad debts;

- Extension of debt for companies and enterprises for a certain period; flexible management of credit lines to promote consumption, investment and import and export demand.

- Flexible management and adjustment of the exchange rate system to ensure a smooth import-export system, avoid disruption of the world's supply chain with Vietnam, and well control fee-push inflation.

- The State Bank of Vietnam needed to coordinate closely with other central banks to implement currency swap agreements in order to open up cash flows and increase liquidity for the banking system.

- Supporting FDI enterprises, retaining operating enterprises and introducing policies to facilitate foreign enterprises to move to Vietnam.

## 5. CONCLUSIONS

Countries affected by the covid-19 pandemic used fiscal and monetary policy to stimulate the economy. However, the covid 19 epidemic in each country had different levels and policy lags were different. Therefore, all countries used appropriate fiscal policy and flexible monetary policy that varied depending on the level of the epidemic and the resources of the economy. Synchronously coordinate these two policies to maximize the operational efficiency of each policy, contributing to promoting economic growth and solving employment problems for workers, ensuring social security and helping the vulnerable before the impact of the Covid-19 pandemic. At the same time, it gave policy recommendations to help Vietnam proactively prevent the epidemic and other unpredictable shocks to the economy.

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# BUSINESS EFFICIENCY OF BANKQUE POUR LE COMMERCE EXTERIEUR LAO PUBLIC (BCEL)

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**Abstract:** Banks are one of the most important financial intermediaries, the system of banks has the function of attracting and concentrating small capital sources in the society into large capital sources to meet development investment needs of the economy. Commercial banks not only perform the monetary business function but also act as a channel to transfer from financial policy to the economy. Therefore, the business efficiency and stability of the banking system are important to the socio-economic development. In Lao PDR, although there have been continuous progress, in general, Lao commercial banks are still mainly small in scale, with not really strong financial capacity and so far there have not been any scientific researches study, especially in the form of a doctoral thesis on the business performance of commercial banks in Laos.

**Key words:** Business, Efficiency, Bank

## 1. INTRODUCTION

So far, there haven't been scientific studies, especially in the form of a doctoral thesis on the business efficiency of commercial banks in Laos as well as Bankque Pour Le Commerce Exterieur Lao Public (BCEL) in Laos. As the mainstay of commercial banks in Laos, Lao Foreign Trade Bank needs to come up with solutions to improve business efficiency, thereby increasing its competitiveness, position, and meeting regional and world standards. Gender during operations. Stemming from the above practice, the author chooses: "Business efficiency of Bankque Pour Le Commerce Exterieur Lao Public" as the research topic of doctoral thesis in finance - banking. The study of the business efficiency of the Bankque Pour Le Commerce Exterieur Lao Public is necessary to provide orientations and solutions to improve the business efficiency of the Bankque Pour Le Commerce Exterieur Lao Public, contributing to improving the bank's competitiveness. As well as strengthen the commercial banking system in Laos.

## 2. OBJECTIVE

The specific objective of this paper are:

1. Systematize the theory of business efficiency and improve the business efficiency of commercial banks.
2. Analyze and evaluate the current state of business operations and business efficiency, factors affecting the business efficiency of Bankque Pour Le Commerce Exterieur Lao Public in the period of 2018 - 2022.
3. Propose recommendations and solutions to improve business efficiency of Bankque Pour Le Commerce Exterieur Lao Public until 2030 and vision to 2035

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## 2. REVIEW OF THE PREVIOUS STUDIES

The concept of efficiency has many perspectives, viewed from different angles. Typically as:

The Lao dictionary says: “Effectiveness is the completion, the result” means that the effect is simply the result achieved and the completion of a certain job.

The Vietnamese dictionary says that “effectiveness is true results.

In the English-Vietnamese dictionary of econometrics, statistics, and econometrics by Nguyen Khac Minh, efficiency is defined as: “the correlation between inputs of scarce factors and outputs of goods and services”. This definition assumes that efficiency is a measure of how successful commercial banks are in allocating usable inputs and the outputs they produce to achieve their goals. However, the correlation between outputs and inputs is expressed in two ways, so that the effect - which reflects that correlation - will also be understood in two ways. The first correlation between outputs and inputs is to minimize inputs to achieve a given output, which in this case leads to technical efficiency. The second correlation is to minimize inputs to maximize output, and according to this correlation efficiency is called economic efficiency.

Ngo Dinh Giao “General Business Administration Textbook in Enterprises” says: “The economic efficiency of an economic phenomenon (or process) is an economic category that reflects the level of use of resources (human resources, financial resources, material resources, capital) to achieve a defined goal”, it represents the correlation between the results obtained and the entire cost spent to achieve that result, reflect the quality of that economic activity”.

Le Thi Thuy (2020) with her doctoral thesis “Business efficiency of Vietnam Investment and Development Joint Stock Commercial Banks” said: Business efficiency of commercial banks is a manifestation of the relationship between economic performance and bank costs. This relationship can be reflected in absolute criteria (in depth, width); or reflected through relative indicators (in space and time) between economic results and costs of commercial banks.

Ta Thi Kim Dung (2016) with doctoral thesis “Improving business efficiency of Vietnam Technological and Commercial Joint Stock Bank” applying research methods such as: statistical analysis, analysis systems, expert methods, survey methods, forecasting methods, interpretive and inductive methods. The author analyzes and evaluates the business performance of Vietnam Technological and Commercial Joint Stock Bank, compares it with rival banks in the same region, highlights the advantages and disadvantages, as well as clearly identifies the causes. cause of that limitation.

Nguyen Thu Ha (2019) with doctoral thesis “Business performance efficiency of Military Joint Stock Commercial Bank” thesis introduces the concept of efficiency and effectiveness of business operations of the bank. commercial banks, clarifying the content of business performance, reflecting indicators as well as factors affecting the business performance of commercial banks.

On the other hand, the business performance of commercial banks is evaluated according to two groups of indicators: absolute efficiency indicators and relative efficiency indicators.

If absolute efficiency is the economic result after excluding costs, then relative efficiency is calculated as the ratio between economic results and costs. In other words, the two performance groups give researchers different perspectives on business performance. However, the criteria for evaluating the absolute efficiency of banks will encounter difficulties when researching many banks of different sizes. In addition, relative efficiency indicators can be expressed in static or dynamic form (marginal form), so it will be more convenient for research on banking efficiency over space and time of many banks have different sizes.

Besides, business efficiency can be divided into technical efficiency and economic efficiency. When commercial banks aim to minimize inputs and maximize outputs, it is called technical efficiency. In case a commercial bank wants to achieve a certain planned output with a minimum amount of input, at this time the commercial bank is aiming for economic efficiency.

It can be seen that the concept of efficiency has not yet been unified. In different fields, from different angles, efficiency will be mentioned and viewed differently. Typically in the case of commercial banks, business efficiency can be reflected through two perspectives: the bank's, the socio-economic, and the customers. From a banking perspective, business efficiency is understood as using the best input factors (such as human resources, financial resources, and material resources) to achieve maximum output (profit) and profitability increased competitiveness. On the contrary, from the customer's perspective, business efficiency is reflected in the quality of products and services that the bank provides on the market. On the other hand, from a socio-economic perspective, business efficiency is reflected through the relationship between bank credit growth and socio-economic development or through employment issues.

According to the English dictionary, Cambridge Dictionaries: "Effectiveness is the success or achievement of the results you desire". This concept reflects the simple effect of achieving what is desired from a personal perspective.

According to the Macmillan Dictionary and Cambridge Dictionaries: "Efficiency is the ability to do good work and to produce good results by making the most productive use of time, money, and available resources". This concept uses both resources and time to reflect efficiency. All activities (or processes) are directed by actors towards different efficiency goals such as environmental efficiency, economic efficiency. Economic, social efficiency, resources, people..., short-term efficiency, long-term effect. From the above concepts, it can be understood: "Effectiveness is the use of the least resources to achieve certain goal".

According to P. Samuelson and W. Nordhaus (Economics Textbook, extracted from Vietnamese translation (1991) "Production efficiency occurs when society cannot increase the output of a series of goods without cutting other good quantities. An economy is efficient above its production possibilities". The essence of this view refers to the aspect of efficient allocation of resources. The allocation and use of productive resources on the production possibility frontier will make the economy highly efficient.

Some authors argue that economic efficiency is determined by the proportional relationship between the increase of two output quantities and costs. These views refer only to the effect of the incremental, not the total, of participation in the economic process.



Some argue that economic efficiency is determined by the difference between the results achieved and the costs incurred to get that result. An example of this view is the author Manfred Kuhn (Textbook of Public Economics, translated by Nguyen Thi Hien and others), according to him: “Efficiency is determined by taking the results as a unit. value minus business costs”. This is the view adopted by many economists and business administrators about the efficiency of economic processes.

Banking industry is very dominant sector in the economy because the development of the sector promotes economic growth (Levin, 1997). The role of banking system in financing the economy requires banking system to operate efficiently. Efficient banking system means it can provide service financing at lower cost. Shen, Liao and Weyman-Jones (2009), Sufian (2010) share similar view on the importance of bank efficiency.

Efficiency is a very important concept in economics as a measure of success in resource allocation. Efficiency is the ratio between the amount of resources or costs that must be sacrificed to achieve the result of an activity. Efficiency is the best comparison between the input (input) and output (result between the profit sources used). With other words, the efficiency of the optimal results are achieved with the use of limited resources.

In a general sense, an efficient company is a production enterprise in producing goods or services quickly, smoothly and with a minimum waste of resources. In conjunction with industry organizations, the term efficiency associated with the most productive way to utilize the resources are scarce. In this case, in general there are two types of efficiency, technical efficiency and economic efficiency.

Economic efficiency arises when the input used in such a way that the level of output produced with lower cost than others. Increased efficiency occurs when the existing output or output level produced by a lower cost. Unlike engineering or technological efficiency, economic efficiency allows comparing the different production processes. Competition is usually considered by economists to encourage individual firms or economic agents in pursuit of efficiency. Increase the efficiency of business possibilities to survive and succeed, as well as the use of scare resources as well as possible.

The concept of economic efficiency measured in in-kind units of the two men is the productivity of labor, machinery and equipment and the efficiency of material consumption, while the value-based efficiency is the efficiency of cost management activities.

In summary, studies on business efficiency mainly refer to the financial performance of business owners. Social efficiency is only considered in terms of economic development for the country, environmental protection, but not to mention social security issues such as employment, personal income and income contribution for the state to achieve other goals.

In general, the effect viewed from different perspectives will have different interpretations. Regardless of the meaning, business efficiency mostly reflects the relationship between results and the costs spent to achieve those results. However, in the process of evaluating the business performance of commercial banks, analysis of business capital, asset management capacity,

and intermediary activities to enjoy commercial commissions is also necessary. Besides, the problem between income and expenses also greatly affects the business performance of enterprises.

### **3. RESEARCH METHODOLOGY**

The paper combines qualitative and quantitative methods to evaluate business efficiency as well as analyze factors affecting business efficiency of Banque Pour le Commerce Exterieur Lao Public.

The paper uses statistical methods to collect data, financial reports, annual reports of BCEL and some large banks in Laos.

Research and data processing methods: The paper inherits the collection, synthesis, analysis, comparison and evaluation of previous research documents to provide a theoretical and practical basis for operational efficiency. At the same time, combine the comparative method to conduct comparative research on the current state of business performance of commercial banks over time.

### **4. RESEARCH RESULTS**

#### **Establishment**

Banque Pour Le Commerce Exterieur Lao Public (BCEL) was established in accordance with the Decision on Bank Establishment No. 129/BOL dated 01 November 1989 issued by the State Bank (The Bank of the Lao PDR today). At that time “Banque Pour Le Commerce Exterieur Lao” was the name of BCEL. The origin of BCEL, however, commenced in 1975 when Lao PDR was established. During 1975-1989, BCEL started from being a Division of the State Bank, in charge of international settlement, loans and foreign aid management. Responding to the new economic mechanism of the Party and the demands of businesses in new era, the government has agreed to transform BCEL into a full state-owned commercial bank on 1 November 1989 as per the said Decision of the State Bank.

The transformation has been the significant commencement of comprehensive banking business operation of BCEL, which has a variety of banking services such as deposit, loan, letter of credit, collection, and domestic and international settlement. This was the crucial condition that made BCEL developed gradually and became a strong state-owned commercial bank and achieved all criteria and conditions as the first commercial bank to be listed in Lao Stock Exchange. On 23 December 2010 BCEL accomplished IPO and renamed to Banque Pour Le Commerce Exterieur Lao Public according to the Enterprise Registration License No.0061/ERO dated on 10 January 2011 issued by the Department of Enterprise Registration and Management, Ministry of Industry and Commerce of the Lao PDR. The Ministry of Finance representing the Government held 80% of the total shares. On 15 July 2011, the Ministry of Finance sold 10% of the total ordinary shares to its strategic partner named Compagnie Financière de la BRED (COFIBRED) which is a subsidiary of BRED, the largest banking society in the Banque Populaire Group a French group of cooperative banks.

In 2017, BCEL succeeded the recapitalization by public offering and right offering to the existing shareholders in accordance with a permission granted by the Lao Securities Commission Office on 17 August 2017. This made BCEL increase its registered capital in the amount of 355.728.500.000 LAK (71.145.700 shares) according to the certificate from the Lao Securities Exchange No. 01/LSX, dated 15 September 2017. Accordingly, the BCEL's registered capital was increased from 682,88 to 1.038,62 billion LK.

In order to develop BCEL further, the government has offered more room for the general public and investors to jointly own BCEL by reducing the government shares in BCEL and offering to the public and the existing shareholders. On 11 October 2019 the Lao Securities Commission Office granted a permission for this offering. On 29 November 2019, the Lao Securities Commission Office issued certificate endorsing the offering completion of 10% of BCEL's holders.

### Register Capital

The registered capital of BCEL as at 31 December 2022 was 1.038.617 million Kips (1.038.617 million Kips as at 31 December 2021).

### Shareholder Structure

**The shareholders structure of BCEL as at 31 December 2022 was the following:**

Shareholders	Number of shares	Percentage
Government (represented by the Ministry of Finance)	124.634.021	60%
Strategic Partner (COFIBRED)	20.772.359	10%
Local Investors (including employees of BCEL) and Foreign Investors (*)	62.316.920	30%
<b>Total</b>	<b>207.723.300</b>	<b>100%</b>

(\*) Each individual person or entity is allowed to hold a maximum of 2% of the total shares.

### Principal Business

The principal activities of BCEL are to provide banking services including fund mobilization and deposit-taking for short-term, medium-term, and long-term from organizations and individuals. The bank also provides loans for short-term, medium-term, and long-term to business units and individuals based on the loan purposes and the capability of the bank in lending; foreign exchange transactions, international trade financial services, purchase discounts of trading instruments, bonds and other valuable documents and other banking services allowed by the Bank of the Lao PDR.

### Location and network

The Bank's Head Office is located at No.01, Pangkham Street, Ban XiengNheun, Chanthabouly District, Vientiane, Lao PDR. As of 31 December 2022, the Bank has 01 Head Office, 06 joint venture companies, 20 branches, 97 service units, and 11 exchange units all over the Lao PDR.

## Vision

BCEL has adopted a vision and applied to its business development to achieve its goal and objective of “becoming a strong and modern bank moving toward international standards”.

## Mission

In order to make BCEL a strong and modern bank moving toward international standards, the key missions of BCEL include development of strong corporate governance by focusing on: development of banking services which embraces changes in each period of time; creation of a strong culture of risk management and compliance with the BASEL II principles; increase in business operation capacity; creation and development of a capable, comprehensive, accurate and punctual management information system (MIS); utilization of modern technology; and upgrade of knowledge and expertise of the employees as of regional and international levels.

## Core Values

BCEL firmly maintains 5 core values below:

1. Customer centrim;
2. Intergrity;
3. Work effectiveness;
4. Embracing changes;
5. Social responsibility.

## Associates and joint ventures

As of 31 December 2022 BCEL have investment in the following associates and joint ventures:

No.	Name of company	Business	Location	Share of BCEL
1	Lao Viet Joint Venture Bank Lao PDR	Banking	Lao PDR.	25%
2	Lao Viet Insurance Company	Insurance	Lao PDR	35%
3	Banque Franco-Lao	Banking	Lao PDR	30%
4	BCEL-KET Securities Company	Securities	Lao PDR	70%
5	Lao China Bank	Banking	Lao PDR	39%
6	Lao National Payment Network Company Limited	Electronic payment	Lao PDR	20%

## Situation of BCEL

BCEL’s total assets have a fairly good growth rate in the years 2018-2022, specifically as follows: total assets as of December 31, 2022 reached 94.493,01 billion LAK, an absolute increase of 55.550,37 billion LAK, a corresponding increase positive 142% compared to 2018 (LAK 38.942,64 billion), the strongest increase is in 2021, total assets reached LAK 68.236,99 billion, an increase of 32% compared to 2020 (LAK 51.757,38 billion) and in 2022, total assets reached LAK 94.493,01 billion, up 38% compared to 2021, total assets increased due to

increased fund mobilization. BCEL's total assets in 2022 accounted for 35% of total banking assets in Laos (statistical source of BOL and author's calculate, total assets of the whole system as of December 31, 2022 reached 272.330,54 billion LAK). This shows that BCEL is the largest bank in Laos in terms of assets.

Equity in 2022 reached 2.357,96, an absolute increase of 373,45 billion LAK, equivalent to 10.59% compared to 2018 (1,984.51 billion LAK) and accounted for 2.50% of the total capital of this ratio relatively low.

### Fund Mobilized

*Unit: Billion LAK*

Items	2018	2019	2020	2021	2022
Total Fund mobilized	36.958,13	44.455,08	51.757,38	66.104,84	92.135,05
1. By term	36.958,13	44.455,08	51.757,38	66.104,84	92.135,05
Demand Deposits	21.591,91	26.529,50	31.514,48	41.466,26	60.675,97
Term Deposits	15.366,22	17.925,58	24.638,58	24.638,58	31.459,08
2. By currency	36.958,13	44.455,08	51.757,38	66.104,84	92.135,05
Domestic Currency	19.230,43	23.832,97	26.846,44	32.692,22	34.879,22
Foreign Currency	17.727,70	20.622,11	24.910,94	33.412,62	57.255,83

(Sources: BCEL annual report)

Total fund mobilization has the strongest growth in the period 2018-2022, fund mobilization in 2018 reached 36.958,13 billion LAK after five years of operation until December 31, 2022, reaching 92.135,05 billion LAK, an absolute increase of 55.176,92 billion LAK billion, an increase of 149% compared to 2018 and accounted for 54% of fund mobilization of the entire banking system in Laos (BOL statistics and author's calculate, system-wide fund mobilization of LAK 168.916,7 billion LAK), (1) The impact of the COVID-19 pandemic has restricted production and business, so people as well as businesses choose to safely deposit money at banks to reserve for consumption during this difficult time, ( 2) due to the conversion rate because BCEL mobilized in USD was relatively high, accounted for more than 50% of total fund mobilized in kip currency. In the annual fund mobilization situation, demand deposits are larger than term deposits, increasing rapidly and accounted for a larger proportion than term deposits.

In 2019, BCEL continues to maintain a strong and stable deposit base. Total fund mobilization reached 44.455,08 billion LAK, an absolute increase of 7.496,94 billion LAK and an increase of 20% compared to 2018, accounted for 95% of total assets on the balance sheet and accounting for 51% fund mobilized of the whole bank in Laos. Deposits in foreign currencies accounted for 46% of BCEL's total fund mobilization.

In 2020, total fund mobilization reached 51.757,38 billion LAK, an absolute increase of 7.302,30 billion LAK, an increase of 16% compared to 2019, accounted for 96% of total fund mobilization on the balance sheet and accounted for 43% of fund mobilization of the whole bank in Laos, of which fund mobilization in foreign currencies accounted for 48% of total fund mobilization.

In 2020, total fund mobilization reached 51.757,38 billion LAK, an absolute increase of 7.302,30 billion LAK, an increase of 16% compared to 2019, accounted for 96% of total fund mobilization on the balance sheet and accounted for 43% of fund mobilization of the whole bank in Laos, of which fund mobilization in foreign currencies accounted for 48% of total fund mobilization.

In 2021, total fund mobilization continued to increase steadily, reaching 66.104,84 billion LAK, an absolute increase of 14.347,47 billion LAK and equivalent to an increase of 28% compared to 2020, accounted for 97% of total assets on the balance sheet and accounted for 51% of fund mobilization of whole bank in Laos, of which foreign currency deposits accounted for 50% of total deposits.

In 2022, total fund mobilization still maintained a high growth rate of 92.135,05 billion LAK, an absolute increase of 26.030,21 billion LAK and an increase of 39% compared to 2021, accounted for 97% of total assets on the balance sheet and accounted for 54% of fund mobilization of the entire banking system in Laos. In which, demand deposits reached 60.675,97 billion LAK and accounted for 66% of BCEL's total fund mobilization, this is a sensitive source of fund that can fluctuate strongly in a short time, but the situation BCEL's demand deposit model is increasing and even increasing strongly in 2022. Fund mobilization in foreign currency increases annually from 2018 to 2022 from 17.727 billion LAK, 20.622 billion LAK, 24.910 billion LAK, 33.412 billion LAK, 57.255 billion LAK and accounted for 48%,46%, 48%, 50%, 62% of BCEL's total fund mobilization.

### Credit expansion

*Unit: Billion LAK*

Items	2018	2019	2020	2021	2022
Total loan	24.845,27	28.141,03	29.152,52	30.080,97	42.808,80
1. By term	24.845,27	28.141,03	29.152,52	24.845,27	28.141,03
Short term loan	1.825,03	1.581,90	2.541,42	2.714,30	4.560,76
Midium loan	14.431,80	16.311,13	16.009,86	17.234,24	24.929,59
Long term loan	8.588,44	10.248,00	10.601,24	10.132,33	13.318,45
2. By currency	24.845,27	28.141,03	29.152,52	30.080,97	42.808,80
Domestic currency	10.988,47	12.649,12	12.717,79	10.920,25	12.763,47
Foriegn currency	13.856,80	15.491,91	16.434,73	19.160,72	30.045,33

*(Souces: BCEL annual report)*

As of December 31, 2018, total loans and advances to customers reached 24.845,27 billion LAK, accounted for 64% of total assets on the balance sheet, accounted for 83% of total deposits and accounted for 64% of total assets on the balance sheet and 36% of total bank loans in Laos. In which medium and long-term loans accounted for 92% of BCEL's total loans. Although Laos is an importing country, foreign currency lending is essential to import production equipment, medical equipment, etc., resulting in a foreign currency loan balance that is larger than a domestic currency loan.

By 2019, outstanding loans reached 28.141,03 billion LAK, an absolute increase of 3.295,76 billion LAK, an increase of 13% compared to 2018. Outstanding loans accounted for



60% of total assets, accounted for 60% of total assets, accounted for 63% total deposits and accounted for 38% of total bank loans in Laos. Medium and long-term loans accounted for 94% (of which medium-term loans accounted for 58%).

By 2020, outstanding loans will reach 29.152,52 billion LAK, an absolute increase of 1.011,49 billion LAK, an increase of 3% compared to 2019 with a low increase in outstanding balance due to the impact of the COVID-19 pandemic. Outstanding loans accounted for 60% of total assets, accounted for 63% of total deposits and 38% of total bank loans in Laos. Outstanding loans accounted for the largest proportion, medium and long-term loans accounted for 91% (of which medium-term loans accounted for 55%).

By 2021, outstanding loans will reach 30.080,97 billion LAK, an absolute increase of 928,45 billion LAK, equivalent to 3% compared to 2020; outstanding loan increase slightly due to the impact of the COVID-19 pandemic. From the beginning of 2020 to the beginning of 2022, it greatly affects the production and business development of customers. Outstanding loans accounted for 44% of total assets, 45% of total fund mobilization and 34% of total bank loans in Laos. Of which medium and long-term loans accounted for 91% (of which medium-term loans accounted for 58%).

By 2022, outstanding loans will reach 42.808,80 billion LAK, an absolute increase of 12.727,87 billion LAK, equivalent to 42% compared to 2021. Outstanding absolutely increase because COVID-19 have been controled, production and business activities started again. Outstanding loans accounted for 49% of total assets and 46% of total fund mobilization and accounted for 35% of total bank loans in Laos. Of which, medium and long-term loans accounted for 89%.

#### **Business efficiency of Banque Pour le Commerce Exterieur Lao Public (BCEL):**

BCEL's income, expenses and profits fluctuated unevenly in the past period. 2018 was the year of the highest profit after tax in the period of 2018 -2022, after-tax profit in 2018 reached 353,65 billion LAK and in the following years, business results decreased year by year and fell to the lowest level in the year 2021, the profit is only 35,44 billion LAK due to the impact of the COVID-19 pandemic affecting the production and business activities of businesses in general and BCEL's borrowers in particular face many difficulties in business, making bad debts increase, leading to an increase in provision for credit risks. By 2022, after-tax profit will reach 228,19 billion LAK, an absolute increase of 192,75 billion LAK, equivalent to 544% compared to 2021. In general, BCEL's profit in 2022 seems to be very good, but when we Looking back at the business results in the three funds in 2022, all of them were negative, but by the end of the year, the profit increased, according to the assessment, it could be due to the debt restructure.

BCEL's net income grew very modestly in 3 years from 2018 -2020 compared to the previous year at 10%, 6%, 5%. By 2021, income reached 1.232,15 billion LAK, respectively (171,48 billion kip) decreased equivalent to -12,22% compared to 2020. By 2022, income will skyrocket to 228,19 billion LAK, an absolute increase of 522,88 billion LAK, equivalent to 42.44% compared to 2021. In 2021, the decrease in income due to the impact of the COVID-19

pandemic makes BCEL's borrowers face many difficulties, leading to customers having to freeze debts, freeze interest, and reduce interest for customers.

BCEL's income accounts for the largest proportion as interest income accounts for an annual proportion of over 70% of total income. 2021 only is the most difficult year for the economy in general and the banking industry in particular. BCEL is also one of the most affected banks in Laos, leading to a decrease in interest income to 61%, specifically, the proportion of net income over the years 2018 - 2022 is 73%, 72%, respectively 77%, 61%, 82%. Next is service income, which has increased unevenly over the years but still ensures over 15% of total income, specifically service income over the years 2018 - 2022 is 19%, 16%, 15% respectively 22%, 17%. While payment and cash service fees are increasing with a proportion of over 50% of total service fee income, fee collection from guarantee services is decreasing with the proportion of 14% in 2018 to more than 5% annually 2021. This shows that BCEL's underwriting activities have not been focused. For forex trading, there is a tendency to gradually decrease even by 2022, the income from this activity is negative -38,15 billion LK.

BCEL's total expenses increased steadily over the years from 2018 to 2022, specifically 2018 reaching 1.808,53 billion LAK. By 2019 the cost increased by 280,27 billion LAK, equivalent to 15% compared to 2018. In 2020 expenses increased by 319,08 billion LAK, equivalent to 15% compared to 2019. By 2021, operating expenses will continue to increase by a good amount of 344,19 billion LAK with an equivalent increase of 14 % compared to 2020. The increase in total expenses is due to an increase in interest expenses and a very rapid increase in provisioning costs for credit risks because these two costs account for the largest proportion of total operating costs, specifically. the proportion of interest expense over the years 2018-2022 is 55%, 57%, 55%, 54%, 52%, this expense has an annual increase of 12%, 19%,13%, 10%, 24%. Interest expense increased because fund mobilization has increased over the years despite the COVID-19 pandemic, but BCEL's fund mobilization continues to increase very high because people and businesses reduce investment in production and business during the year. The two-year period by disease control makes the production and business process very limited in both production, transportation and export and import stages.

The second is the cost of provisioning for credit risks, accounting for 12%,15%,20%, 23%,25% of the cost of provisioning for credit risks, which increased steadily and had a very fast growth rate compared to the previous year. With other types of expenses, specifically, the cost of provisioning for credit risks increased in turn from 2018 to 2022, respectively, this year increased by 19 billion LAK, 93 billion LAK, and 159 billion LAK, 174 billion LAK, 263 billion LAK and equivalent increase over the years 9%, 42%, 50%, 37%, 40% of these expenses increased due to high increase in bad debts such as newly arising bad debts, bad debts converted into higher-risk debt.

In third is the staff salary cost in the period 2018-2022 with a decrease, employee salary expenditure in 2019 was 300,62 billion LAK, decrease 31,16 billion LAK, equivalent to 9% compared to 2018. But by 2020 this cost will increase by 324,02 billion LAK, an absolute increase of 23,4 billion LAK, equivalent to an increase of 8% compared to 2019. By 2021, this

cost will decrease by -18,21 billion LAK equivalent to decrease of -5% compared to 2020 and by 2022 this cost is increase 7% compared to 2021. Employee salary costs account for 18% of total costs over the years, 18%, 14%, 13 %,11%, and 9%.

Other expenses including administration costs, service fees and depreciation accounted for 14%, 13%, 13%, 11%, 13% of BCEL's total cost over the years.

BCEL's control indicators (such as profit after tax, total equity, total assets) have complicated movements in the period 2018-2022. In general, the indicators tend to increase over the years, except for the target of profit after tax, which has a significantly decreased rate compared to the increasing trend of total equity and total assets, even in 2021 profits are greatly reduced and inversely with the growth of assets, equity has a negligible growth change.

Profit after tax has a negative growth fluctuation in 2018, 2019, 2020 and 2021 as follows: In 2018, the growth rate of profit after tax increased by 22% compared to 2017, by 2019 the growth rate decreased by -7% compared to 2018, but by 2020 and 2021, the profit after volatility will grow strongly negative -26% compared to 2019 and -85% compared to 2020 due to the COVID-19 pandemic affects the production and business activities of banks in general and BCEL in particular.

Profit after tax on total assets (ROA) and profit after tax on equity (ROE) each year respectively: ROA in 2018 reached 0,99% and in 2019 this target reached 0,71% compared to the previous year. In 2018, the target of return on assets decreased for the next two consecutive years, even falling sharply in 2021, reaching only 0,05%, but in 2022 this indicator increase again to reach 0,24% compared to the previous year. 2021 and ROE decrease gradually over the years from 2018 to 2021 respectively as follows: 18%,11%, 2% but this indicator increases again in 2022 to reach 10% compared to 2021. In these years, BCEL's risk provision increased dramatically, affecting ROA and ROE. In contrast, 2022 marks an increase in profit after tax. In general, the growth rate of profit after tax on assets and profit after tax on owned capital, although increased, was still lower than the average growth rate of the whole industry in the period 2018-2022 over the years (ROA: 0,80%; 1,74%; 0,62%; 0,65%; 1,35% and ROE: 10,89%; 25,02%; 11,96%; 11,65%; 15,84).

BCEL's equity ratio (CAR) decreased over the years during the research period from 2018 to 2022, the CAR over each year was 10,64%; 10,51%; 8,55%; 7,37% and 6,29%. It can be said that BCEL's CAR decreases year by year, especially in 2021 and 2022, this target is lower than the minimum level prescribed by the current state bank. However, Laos commercial banks have a very clear division in terms of CAR as larger banks usually have a lower ratio than smaller banks. And indeed in the case of BCEL- which is the only equitized and largest-scale bank in Laos, the equity ratio fluctuates around the minimum, the highest level achieved by the bank is 10,64% in 2018. It shows that, with a high proportion of capital in the market, BCEL needs to actively increase its CAR to be able to avoid all kinds of risks in operations, such as credit risk, operational risk and market risk.

**Liquidity indicator**

The liquidity of commercial banks is evaluated based on two criteria: the efficiency of fund mobilized and the ratio of highly liquid assets.

The loan/deposit ratio (LTDR) of commercial banks according to international practices is usually from 80% to 100%. Currently, Lao commercial banks have two ways to calculate the loan-to-deposit ratio, that is: according to the calculation method of the world when the total deposit includes only customer deposits (LTDR); The second calculation method is according to the decision No. 296/BOL of the State Bank of Laos when the total deposits in addition to customers' deposits also include deposits of credit institutions and the issuance of valuable papers (LTDR1). If applied according to the first calculation method, the LTDR ratio of BCEL in the research years is relatively low, from 2018 to 2022. Thus, the bank's ability to raise capital is developing very well in the first market.

Loan to total assets (LAR) shows how much money the bank will use with 100 LAK of assets to lend directly to customers. Typically, this percentage will range between 70% and 80%. Accordingly, BCEL's LAR in the research years from 2018-2022 almost always has this rate below 70%. This shows that BCEL has not improved the efficiency of using its own assets in the supply of capital in the market, and when compared with the results obtained by BCEL over the years, it shows the efficiency of capital use of the company. BCEL is relatively low.

**Advantage, disadvantage****Advantage:**

BCEL is the largest commercial bank in Laos in terms of total assets by the end of 2022, reaching 94.493,01 billion LAK, accounting for 1/3 of the total assets of the whole banking system (272.330,54 billion LAK) in Laos. With its efforts, BCEL has gradually increased its credit rating with competitors in the economy, thereby attracting more customers. BCEL is the first bank, a pioneer in Laos in innovation in applying modern science and technology in the operation process and offering diversified and modern products and services to meet the needs of customers. BCEL is the only bank that implements Basel II, which regulates criteria according to international regulations and has built a regulatory risk management model. In addition, BCEL's staff is professionally trained both domestically and abroad, capable of absorbing new knowledge and applying modern technology well.

**Disadvantage:**

Although, BCEL is a large bank in Laos, but its relatively low equity (2.357,96 billion LAK) accounted for 0,87% of total capital (total assets 94.493,01 billion LAK) very business activities has a reputation and has more advanced technology than other banks, but too low equity can affect the bank's operational safety. And BCEL's asset size increased dramatically, but when assessing income and profit, it was found that the results achieved were not commensurate with the growth rate of assets. Regarding service activities, a variety of credit products and services have not been built and developed to limit risks and not focus too much on large customers.

**Solutions:****Measures to increase the size of equity**

BCEL's equity to total capital is relatively low, to ensure operational safety, the bank can increase equity by: (1) issuing more shares to existing shareholders or shareholders strategic investment at home and abroad, but this measure is only implemented when the bank operates effectively. (2) stock dividend will help the bank increase its own capital from retained earnings, but this measure is often contrary to the wishes of some shareholders. (3) issuance of bonds and certificates of deposit

**Measures to improve the quality of lending activities**

BCEL has two main customer groups: economic organizations; and groups of individual and other customers. Thus, banks need to have separate measures for each of their customer groups in providing banking services and products.

First, for the group of customers of economic organizations: (1) divide them by type, field, industry, and profession, (2) by type of enterprise with state-owned enterprises and limited companies, joint stock company, foreign-invested enterprise, (3) By industry, there are agriculture, forestry and fishery, manufacturing and processing industry, build, Consumer loans.....

**Measures to improve the quality of investment activities**

The first is to complete and standardize documents regulating investment activities of the bank, taking that as the basis for implementing investment processes and procedures. Risk regulations in investment activities should also be specified in these documents. Along with that, diversifying investment channels will help BCEL both reduce risks in investment, increase profits in investment activities, and increase liquidity.

**Measures to improve risk management capacity**

First, BCEL needs to perfect the system of general credit risk management documents for its entire banking system, from the head office to branches and transaction offices. Procedures and processes in credit risk management need to be completed and specifically guided, from regulations on credit products and corresponding interest rates for each customer group, to the lending process, how to decentralize approval authority; the roles and responsibilities of the relevant actors should also be specified in detail; and finally the regulation of the bank's internal rating system.

**Measures to improve service quality**

For payment services: First of all, BCEL needs to offer a variety of payment products and services to help people improve their cashless habits. The bank needs to upgrade its core banking system in the process of diversifying its services and products to make the payment and transaction process faster and safer. As mentioned in the previous solution, BCEL also needs to actively cooperate with Fintechs to provide more services and products for customers and the economy. In addition, the developed economy has appeared a lot of foreign transactions. To support its customers in cross-border transactions and payments, BCEL needs to expand its network of operations to countries, can open foreign currency accounts at banks of countries, or can open its own branch.



For foreign currency trading services: BCEL needs to have an appropriate pricing policy in spot foreign currency trading or foreign currency derivatives. Buying and selling in large quantities at a competitive price will sometimes bring unimaginable profits to the bank.

### **Solutions to improve the quality of human resources:**

Although currently, high technology is used, human resources also play an equally important role as an important factor determining the existence of the bank. Thus, it is necessary to train and improve the number of human resources such as standardizing job titles and improving skills in using modern technology.

### **CONCLUSION**

The business efficiency of commercial banks has many approaches, from different angles such as economic efficiency, technical efficiency... From here, the groups of indicators reflect and the factors affecting the efficiency. Commercial banking business will also depend on that assessment angle that changes. The author has systematized and divided into groups of indicators in order to provide aspects to evaluate the business performance of commercial banks. Based on those groups of indicators, the author has calculated and analyzed the business performance of BCEL for 5 years and given the results in the bank's operations. After 5 years of operation, BCEL has achieved strong growth in total assets, the bank's income has increased. The bank's business performance compared to rival banks is relatively low. From the study of BCEL's business performance, the author has pointed out the achieved results of the bank as well as the limitations that the bank needs to overcome, and the causes leading to those limitations. From here, the author proposes some solutions to improve business efficiency of BCEL in the period 2024-2025 and 2025-2030.

Business activities of commercial banks in general and improving business efficiency of BCEL in particular are difficult and complex issues involving many factors and many fields. Although there have been many efforts in studying, researching as well as understanding relevant documents, due to limited qualifications and time, the article cannot avoid certain shortcomings. The author hopes to receive opinions and suggestions from scientists, teachers and interested people to make the article more complete.

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# CAPITAL STRUCTURE OF LOGISTICS SERVICE ENTERPRISES LISTED ON THE VIETNAM STOCK EXCHANGE

Hoang Thi Thuy Hang<sup>1</sup>

**Abstract:** *The study's main focus is on how much or if any leverage a corporation employs. The article examines the capital source composition of firms providing logistics services listed on the Vietnamese stock market. From there, we are able to recognize how much an organization depends on external funds as well as how much initiative it takes from internal capital sources. Due to the unique characteristics of the industry, which call for long-term growth, research findings indicate that large-scale businesses and businesses in the sector of transport service businesses are making use of high debt as well as utilizing long-term debt.*

## 1. INTRODUCTION

Numerous theoretical and empirical studies have demonstrated that using debt in a company's capital structure has considerable benefits for the company's management, shareholders, and investors. A company's revenue is shielded from taxes by interest on its obligations, which raises its worth. Debt also requires the corporation to pay interest, which lowers insider-controlled discretionary funds and lowers prospective agency expenses. The act of issuing debt is viewed as conveying good news about a company's potential future success. The possibility of a takeover can be decreased and shareholder wealth can be increased in times of business hardship by raising agency disputes between owners and creditors to get a loan.

Whether logistics service enterprises use debt capital or not will be studied in this research with the aim of clarifying the actual situation of debt use and self-financing ability of enterprises. To clarify the difference between enterprises, the author divided enterprises into small and large scale enterprises based on the mark of 10000 billion dong and divided enterprises by industry field for comparison.

## 2. LITERATURE REVIEW

An extensive overview of the trade-offs between the cost of capital and different capital structures is presented in the work of T. Copeland, T. Koller and J. Murrin [4], studies that explore ratios which show the differences between the weighted average cost of capital versus the unlevered cost of capital, the leveraged cost of equity versus the unlevered cost of equity, as well as the "beta" with debt and the "beta" "No debt for "beta" debt. At that time, the issuance of new shares will directly affect the value of the business.

Studying the meaning of debt, P. Fernandez [5], has clearly expressed his views on tax shield [6], beta firm has no debt and no debt company. The approach to the benefits of tax

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shields due to debt is also mentioned in the evaluation method of Damodaran [7], Miles, Ezzel [8,9], Myers [2] and Harris-Pringle [10].

Many studies simultaneously find a positive effect of debt on the overall financial position of the company. Another research of P. Fernandez [11] is also worth mentioning, in which the APV and WACC models are analyzed and compared to better clarify the difference of debt costs visually through analysis data collection.

Options pricing models [1,7] are also mentioned by many authors, as models that are protected from changes in capital structure. As mentioned earlier, the above approach refers to reporting the change in capital structure primarily when the cost of capital is estimated.

### 3. RESEARCH METHODS AND RESEARCH DATA

- Research data: all logistics service businesses listed on Vietnam stock exchange
- Time duration: year of 2018 to year of 2022

- Methods: statistics, comparing groups with small scale (SS), large scale (LS) Besides, companies were divided by industry, namely transportation service industry (TS), warehousing service industry (WS) and transportation support service industry (TSS). All comparisons are based on average value and figures are calculated in excel.

### 4. RESEARCH RESULTS

#### 4.1. Size of total capital

The average size of total capital of each group by type of business and by size is shown in the following table:

**Table 4.1 Size of total capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

*Unit: million dong*

	Year 2018	Year 2019	Year 2020	Year 2021	Year	Average 5 years
					2022	
Average	3,781,029	3,417,286	3,076,200	3,336,582	3,276,201	3,377,459
SS	368,511	372,095	369,313	422,697	395,981	385,719
LS	10,094,188	9,050,891	8,083,940	8,727,268	8,604,608	8,912,179
TS	8,367,661	7,323,526	6,306,867	6,616,003	6,157,883	6,954,388
WS	685,177	697,036	740,554	836,061	817,736	755,313
TSS	1,248,517	1,253,127	1,275,770	1,467,582	1,866,601	1,422,319

*Source: Author's compilation*

The average capital size of enterprises in the sample revolves around a value of more than VND 3,300 billion during the 5 years of the sample, but the average value of small-sized enterprises is only around VND 385 billion while that of the large size group is around VND 8,900 billion. For large-scale enterprises, the value is in the range of 8,900 billion, which can be said to be dozens of times higher, although the current number of large-scale enterprises is 20 out of 58 while the number of small-scale enterprises is 38. the number is nearly double, but the average size is dozens of times smaller, if the total size of small businesses is calculated

with the total size of large enterprises, that number is still many times higher. From there, it can be seen that there is a clear difference in size between the group of large-scale and small-scale enterprises. However, if you go deeper into the group of large-scale enterprises, not all businesses can achieve an average asset level of around 10 000 billion, but because VJC (Vietjet) has an average total asset of more than 10,000 billion VND. 53 000 billion and HVN (Vietnam Airline) has an average total assets of more than 71 000 billion, causing the average index of the group to increase. These are the only two aviation enterprises in the sample and due to the specificity of the production and business industry, they have to purchase many aircraft and related equipment to provide aviation services, but the total assets of the enterprise are remarkably high. tell.

When analyzing the size of the total capital of enterprises by industry group, the transport industry group is the group with the largest average size (because of the specificity of having to purchase means of transport such as airplanes, cars, boats, etc.). ,...) and the group of warehousing businesses have the lowest equity (because many locations can be rented instead of having to buy land with high value for warehousing services), transportation support businesses need to The reasonable support coordination system and the nature of that industry make the average capital of enterprises around 1,400 billion.

#### + Size of Debt

The average size of total loan capital of each group by type of business and by size is shown in the following table:

**Table 4.2 Size of total loan capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

Unit: million dong

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	2,422,236	1,960,263	1,860,121	2,091,132	2,101,138	2,086,978
SS	117,058	111,947	118,728	150,800	119,671	123,641
LS	6,686,816	5,379,648	5,081,698	5,680,748	5,766,852	5,719,152
TS	5,951,135	4,734,140	4,421,059	4,902,654	4,863,113	4,974,420
WS	240,243	229,355	264,261	298,253	252,113	256,845
TSS	486,750	442,104	459,284	549,702	812,930	550,154

Source: Author's compilation

The average value of total capital of enterprises is around 3300 billion as analyzed above and the average value of loan capital is around 2,000 billion, showing that basically, businesses in the industry are financed at about 60% by debt capital. This happens slightly differently when dividing into small and large groups. The average debt value of the small-sized group is around 123 billion and the average asset value is around more than 385 billion, showing that the small-sized group has only about one-third debt. The large-scale group has an average debt of 5700 billion while the asset value is around 8,900 billion, equivalent to about 65% of the total capital, however, due to the large debt scale, the sample mean about 60%.

When dividing enterprises by industry group for analysis, it can be seen that the size of transport enterprises (mainly those in the large-scale group) achieved the largest scale of debt in the whole sample, at least in the group of transport enterprises. Warehousing is reached in the middle level is the group of businesses that support. But it can be clearly seen that the difference between the group of transport enterprises and the other two groups (10 - 20 times more) and the previous explanation has also been explained above because of the different characteristics of production and business.

#### + Size of owner's equity

Average size of total equity capital of listed companies on the stock exchange 2018-2022

**Table 4.3 Size of owner's equity of logistics service enterprises listed on the Vietnam Stock Exchange.**

Unit: million dong

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	1,141,887	1,221,227	974,124	957,803	848,959	1,028,800
SS	247,366	259,874	248,021	266,894	275,437	259,519
LS	2,841,477	3,047,799	2,353,718	2,270,532	1,938,650	2,490,435
TS	1,897,997	2,027,984	1,349,879	1,117,352	644,265	1,407,495
WS	569,995	617,463	656,794	806,263	889,725	708,048
TSS	761,766	811,023	816,486	917,881	1,053,671	872,165

Source: Author's compilation

The group's equity is large, and the transportation businesses are significantly different from those in the rest of the groups. For the small group, the large group owns the equity value more than 20 times. When divided by groups, the transportation group is the strongest group with nearly 2 times the size of the other two groups, showing that the equity autonomy of this group of businesses is significantly better than that of other groups. remaining.

#### + Size of owner's contributed capital

**Table 4.4 Size of owner's contributed capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

Unit: million dong

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	720,818	735,362	752,177	924,085	978,948	822,278
SS	150,653	157,043	157,631	170,106	173,722	161,831
LS	1,777,095	1,805,251	1,852,087	2,318,945	2,468,616	2,044,399
TS	1,368,014	1,372,663	1,393,461	1,785,644	1,788,053	1,541,567
WS	255,875	265,733	265,733	279,587	283,675	270,121
TSS	345,365	363,477	372,699	403,691	541,121	405,271

Source: Author's compilation

The average size of equity capital is more than 800 billion, where significant disparities continue for the small and large groups, which is consistent with the general perception that

companies with equity capital strong will have a better chance to develop the total capital size. Currently, the average size of equity capital of large enterprises is more than 20 times larger than that of equity capital of small-sized enterprises, and when divided by group, the Transport enterprises are still the leading group of enterprises, followed by warehousing enterprises and transport support enterprises reaching the middle level.

Analyzing the increase in owner's contributed capital of each year, we have: SFI is an enterprise with a continuous increase in the size of equity capital in the 5 years of the sample. Other enterprises also have quite impressive increase in owner's contributed capital, such as ASG, which has increased its equity continuously within 4 years from 345 billion to 756 billion. VSC is also the enterprise that increases owner's contributed capital continuously for 4/5 years or TMS is also an enterprise that increases owner's contributed capital continuously for 4/5 years and doubles from 475 billion to more than 1,000 billion in 2021

In terms of the number of enterprises increasing the size of equity capital contribution, 2019 is the year that sees the most enterprises increase equity through increasing owner's contributed capital (10 enterprises), then 2021 (8) enterprises, but in terms of actual scale growth, in 2021 there will be the biggest boom in size, (average size increases by more than 70 billion while other years only increase by 10-20 billion). The capital contribution of enterprises in 2021 increased significantly, causing the growth rate of 2021 to increase sharply compared to the remaining 4 years.

Specifically, in 2021, VNF will increase by 25%, PJT will increase by 50%, GSP will increase by 50%, TMS will increase by 50%, and HVN will increase by 56%. up to 50% has a huge impact on the size of the total equity capital contribution of the whole sample HVN, in 2021, has increased about 8000 billion in equity, from more than 14 000 billion to more than 22 000 billion. Owner's contribution is significant because the average value of capital contribution of the whole sample is just over 800 billion, other businesses often raise capital in the range of a few dozen to more than 100 billion while HVN alone has raised more than 8000 billion in equity. ownership in resources for all 58 enterprises in the sample. Also in 2021, VSC increased the scale of capital contribution to 100%. In the 2nd year, the businesses with outstanding equity growth were: In 2019, statistics show that, SKG increased by 17 billion in contributed capital compared to 2018 and remained the same until 2022, GSP increased owner's contributed capital in 2019 (increasing by 60 billion) and in 2021 (increasing by 200 billion). MHC increased in 2019 (up about 30 billion), TCL also increased by 100 billion in 2019 and SGN also increased in capital by about 100 billion in 2019. SGT increased a little more and increased by more than 130 billion in 2019. seems to be the year that firms in the industry increase their equity the most in the five years studied.

In the remaining 2 years, 2020 and 2022, in 2020, PJC increases by 15 billion, GMD increases equity 1 time and the increase is about 40 billion. PVT only increased its capital once in 2020, but the increase was about 400 billion, the previous contributed capital was 2800 billion and then more than 3, 200 billion.

Researching in 2022, VNF continuously increased its capital contribution in 2021 and 2022. SCS increased by more than 200 billion in 2022, while DL1 increased its capital by more than 50 billion. Especially, HAH will increase its equity 6 times by 2022, from 487 billion to 2, 886 billion in 2022.



### + Size of development investment fund

Size of investment and development fund of listed business and service enterprises in Vietnam from 2018-2022

**Table 4.5 Size of development investment fund of logistics service enterprises listed on the Vietnam Stock Exchange.**

Unit: million dong

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	79,182	102,726	119,918	129,672	141,568	114,613
SS	32,617	27,825	36,092	39,868	42,984	35,877
LS	161,689	228,962	262,440	281,452	306,038	248,116
TS	76,002	125,400	150,992	162,316	170,946	137,131
WS	48,890	61,260	72,125	73,142	84,752	68,034
TSS	94,811	97,196	109,758	120,459	134,310	111,307

Source: Author's compilation

Enterprises in the industry with large scale clearly have better opportunities to accumulate investment and development funds, but when viewed as a group, transport support businesses are the group that accumulates for investment and development funds. largest of the transportation and warehousing groups. The fact that enterprises have well-developed investment funds and continuously increase their resources over the years will imply their willingness to expand and innovate in the face of market fluctuations. Going into the analysis of enterprises in the sample, only 6 enterprises do not have investment and development funds out of a total sample of 58, it can be said that the majority of enterprises of the day take initiative in innovation. , expand, develop in the future through the maintenance and development of the development investment fund.

### + Size of retained earnings after tax

Size of retained earnings after tax of listed service businesses in Vietnam from 2018-2022

**Table 4.6 Size of retained earning after tax capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

Unit: million dong

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	330,510	391,526	173,426	(13,584)	(216,141)	133,147
SS	60,083	61,559	50,499	48,631	50,642	54,283
LS	830,299	1,001,898	399,680	(128,499)	(703,658)	279,944
TS	612,195	739,671	146,666	(454,224)	(1,098,806)	(10,900)
WS	107,561	113,600	123,736	164,520	179,875	137,858
TSS	134,282	153,658	137,640	185,556	222,581	166,744

Source: Author's compilation

The capital generated from retained earnings after tax decreased sharply during the 5-year study period and the situation was most severe in the group of large-scale enterprises and transport enterprises. Going into the situation of companies, it is found that the phenomenon of negative retained earnings after tax occurs in over 10 enterprises in the sample and there is 1 enterprise with this index that has been negative for 5 consecutive years, namely PGT, other enterprises with negative profit after tax. Most other businesses have serious losses in 2021 and 2020, especially HVN (Vietnam Airline), the transport enterprise with the largest capital scale is also the one with the most persistent loss, up to minus 34 billion in 2022.

#### 4.2. Proportion of capital sources

+ Proportion of borrowed capital in total capital

**Table 4.7 Proportion of borrowed capital in total capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	64.84%	58.24%	61.62%	64.12%	66.42%	63.05%
SS	31.58%	29.98%	32.12%	35.57%	30.12%	31.87%
LS	67.10%	60.42%	64.15%	66.73%	69.52%	65.58%
TS	70.78%	64.27%	69.64%	73.68%	78.46%	71.37%
WS	38.63%	35.12%	36.97%	36.87%	29.07%	35.33%
TSS	38.99%	35.28%	36.00%	37.46%	43.55%	38.25%

*Source: Author's compilation*

In terms of proportions, it can be seen that large-scale enterprises and transport enterprises use financial leverage at a significantly higher level than the rest. While the average number of the high group is 65-70%, the remaining groups only use leverage at 30-40% and the general trend of large-scale enterprises and increased debt from 2019 while other groups showed a rather erratic trend of volatility, but the level of fluctuation is not high, whether increasing or decreasing, the increase or decrease can be considered quite small compared to the total scale.

#### + Proportion of short-term debt and long-term debt in total debt capital

Proportion of short-term debt of total debt capital of listed service businesses in Vietnam from 2018-2022

**Table 4.8 Proportion of short-term debt of total debt capital of logistics service enterprises listed on the Vietnam Stock Exchange**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	72.4%	74.6%	77.8%	78.0%	75.6%	75.7%
SS	80.1%	81.9%	84.8%	84.4%	83.0%	82.8%
LS	57.9%	60.7%	64.5%	65.8%	61.6%	62.1%
TS	66.4%	66.4%	68.8%	68.7%	69.5%	68.0%
WS	73.3%	73.8%	80.4%	77.8%	73.1%	75.7%
TSS	76.7%	82.0%	84.2%	86.3%	82.2%	82.3%

*Source: Author's compilation*

It can be seen that most of the loans of enterprises in the sample come from short-term debt and that happens quite evenly in all groups, unlike other indicators, in this index, enterprises Small-scale enterprises and warehousing or transportation support businesses have a higher proportion of short-term debt than large enterprises and transport enterprises because their capital needs seem to be short-term and more temporal.

The ratio of long-term debt to total debt capital of listed service businesses in Vietnam from 2018-2022

**Table 4.9 Proportion of long-term debt of total debt capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	27.6%	25.4%	22.2%	22.0%	24.4%	24.3%
SS	19.9%	18.1%	15.2%	15.6%	17.0%	17.2%
LS	42.1%	39.3%	35.5%	34.2%	38.4%	37.9%
TS	33.6%	33.6%	31.2%	31.3%	30.5%	32.0%
WS	26.7%	26.2%	19.6%	22.2%	26.9%	24.3%
TSS	23.3%	18.0%	15.8%	13.7%	17.8%	17.7%

*Source: Author's compilation*

Large-scale enterprises and transport service businesses are separate from the rest when it comes to the use of long-term debt, obviously with industry-specific requirements requiring large capital sources and recovery. In the long-term, the use of long-term loans will help businesses balance capital in the long-term better.

#### **+ Proportion of owner's equity in total capital**

Proportion of equity to total capital of listed business and service enterprises in Vietnam from 2018-2022

**Table 4.10 Proportion of equity to total capital of logistics service enterprises listed on the Vietnam Stock Exchange.**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	35.16%	41.76%	38.38%	35.88%	33.58%	36.95%
SS	68.42%	70.02%	67.88%	64.43%	69.88%	68.13%
LS	32.90%	39.58%	35.85%	33.27%	30.48%	34.42%
TS	29.22%	35.73%	30.36%	26.32%	21.54%	28.63%
WS	61.37%	64.88%	63.03%	63.13%	70.93%	64.67%
TSS	61.01%	64.72%	64.00%	62.54%	56.45%	61.75%

*Source: Author's compilation*

Since borrowed capital and equity are two components of the total capital, the fact that the group has a large scale and the transport service business has a large proportion of borrowed capital, which means the self-financing rate will be lower. the remaining groups, the dependence on external capital is significant for this group of enterprises and the financial autonomy is less than other groups for this group of enterprises.

### + Proportion of equity capital in total equity

Proportion of retained earnings after tax in total equity of listed service businesses in Vietnam from 2018-2022

**Table 4.11 Proportion of retained earnings after tax in total equity of logistics service enterprises listed on the Vietnam Stock Exchange.**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	61.7%	58.7%	75.0%	93.3%	111.6%	80.1%
SS	60.5%	60.2%	63.3%	63.4%	62.7%	62.0%
LS	61.8%	58.5%	77.4%	100.0%	124.8%	84.5%
TS	70.2%	66.0%	100.7%	155.1%	269.4%	132.3%
WS	51.3%	49.9%	48.8%	44.8%	41.0%	47.1%
TSS	45.3%	44.8%	45.6%	44.0%	51.4%	46.2%

*Source: Author's compilation*

The equity capital of the enterprises in the sample is increasingly accounting for a large proportion of the total capital and has even increased to more than 100% in the years 2022, showing that many enterprises in the industry have not been able to preserve the capital. equity capital, causing it to decrease over the years, and the severe decline in negative value makes the equity capital significantly smaller than the contributed capital, this can be called the phenomenon of equity recession. , especially for large-scale enterprises and transport enterprises in 2021-2022. The difference between groups is that if you break down by size, you will see stability in the small group and a significant increase in the proportion of large enterprises. Likewise, noticeable volatility can be seen in large-scale enterprises and transport enterprises.

### + Proportion of investment and development funds in total equity

Proportion of investment and development funds in total equity of listed service businesses in Vietnam from 2018-2022

**Table 4.12 Proportion of investment and development funds in total equity of logistics service enterprises listed on the Vietnam Stock Exchange.**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	6.7%	8.1%	11.9%	13.1%	16.1%	11.2%
SS	11.9%	10.4%	13.9%	14.4%	15.5%	13.2%
LS	5.6%	7.4%	10.9%	12.1%	15.5%	10.3%
TS	3.8%	5.9%	10.7%	13.8%	25.3%	11.9%
WS	10.1%	11.6%	12.8%	10.8%	11.1%	11.3%
TSS	12.4%	12.0%	13.4%	13.1%	12.7%	12.7%

*Source: Author's compilation*

Although investment and development funds have a larger scale in large-scale enterprises and transportation, it is clear that considering the size of equity capital, these two groups of enterprises have a low proportion of investment and development funds. significantly. Partly because

businesses in these two groups have strong support from banks, the accumulation of investment and development funds in accordance with production scale has not really been a priority.

#### + Proportion of retained earnings after tax in total equity

Proportion of retained earnings after tax in total equity of listed service businesses in Vietnam from 2018-2022

**Table 4.13 Proportion of retained earnings after tax in total equity of logistics service enterprises listed on the Vietnam Stock Exchange**

	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Average 5 years
Average	27.5%	30.4%	15.9%	-3.4%	-28.5%	8.4%
SS	23.8%	23.1%	20.1%	17.8%	16.8%	20.3%
LS	28.1%	31.6%	15.1%	-8.1%	-40.7%	5.2%
TS	31.4%	35.4%	11.1%	-38.2%	-161.5%	-24.4%
WS	27.5%	28.0%	29.6%	31.5%	35.6%	30.4%
TSS	17.6%	18.9%	16.9%	20.2%	21.1%	19.0%

*Source: Author's compilation*

The contribution of profit after tax to the development of equity size of enterprises can be seen more clearly in the small-sized group than in the large-scale group as well as in the warehousing and transportation support group. than in the group of transport enterprises. The 5-year research period can be considered a difficult period for this group of businesses, especially in 2021 and 2022.

## 5. CONCLUSIONS AND SUGGESTIONS

Large-scale enterprises had more negative fluctuations over the duration of the 5-year study than small-scale enterprises, and transportation service businesses did not operate as efficiently as the other business groups. This inefficient operation has a significant impact on long-term development because it results in negative development investment funds or residual profits.

Actual analysis shows that the transportation service industry group has the largest scale of equity but is also the most debt-dependent group, which achieves the best growth in profit after tax but in difficult times. This group is also the group with the most risks and losses. Warehousing can be considered as the most stable industry group when it comes to debt or self-financing, this is the industry group with the least volatility in the 5 years of the study.

Because of the size difference, financial indicators change significantly, demonstrating that larger businesses with strong growth rely more on debt than those with slower development. Large-scale organizations and logistics service providers should get recommendations that they should carefully reevaluate how effectively they employ loans.

In the future, as e-commerce develops along with the development of revolutions, merchandise transportation becomes increasingly urgent, the vibrant development of the

industry will be an opportunity for good business profit margins. That the companies take loans for production, taking advantage of money from related parties will become more effective, bringing more value to businesses and the economy in general.

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# MOBILIZATION OF FINANCIAL RESOURCES FOR SUSTAINABLE DEVELOPMENT OF VOCATIONAL EDUCATION INSTITUTIONS AFFILIATED TO VIETNAM GENERAL CONFEDERATION OF LABOR

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*Summary: Sustainable development is the common goal of all nations over the world, including Vietnam. Achieving sustainable development requires equitable and comprehensive development in all sectors of the economy, including vocational education (VE). Not out of the general trend, institutes for VE affiliated to the Vietnam General Confederation of Labor always strive to improve the quality of training, towards the goal of sustainable development. To achieve this, one of the key issues is that institutions must effectively mobilize and take full advantage of existing financial resources. This article studies the situation of mobilizing financial resources of institutes for VE affiliated to the Vietnam General Confederation of Labor (VGCL), thereby raising several recommendations to help institutions better exploit financial resources, aiming at improving training quality and obtaining the sustainable development for VE activities.*

*Keywords: Career revenues, financial resources, national budget, sustainable development, vocational education.*

## 1. INTRODUCTION

Sustainable development is the common goals for nations over the world including Vietnam. The three pillars of sustainabilities include economy, society and environment. Those are developed through various economic activities, including vocational education. In Vietnam, the sustainable development goal of VE is reflected in the Prime Minister's Decision No. 2239/QĐ-TTg dated December 30, 2021. Implementing the policy of Government, VE institutions in general and VE institutes affiliated to the Vietnam General Confederation of Labor in particular always strive to improve the quality of training towards the goal of sustainable development. This goal can only be achieved when institutions have efficient financial resources. Currently, the financial resources of VE institutions affiliated to the Vietnam General Confederation of Labor are mobilized from: (i) The National Budget; (ii) Career revenues; (iii) Other revenues. In the past, despite many efforts, the mobilization of financial resources by VE institutes under the Vietnam General Confederation of Labor is not yet effective and not commensurate with the potentialities and the development of the economy. Therefore, the study on the current situation of mobilizing financial resources for sustainable development of VE institutions affiliated to the Vietnam Labor Confederation is of great significance at present.

## 2. GENERAL THEORETICAL BASIS AND OVERVIEW OF RESEARCH RELATED TO MOBILIZING FINANCIAL RESOURCES FOR SUSTAINABLE DEVELOPMENT OF VOCATIONAL EDUCATION

### 2.1. General theoretical basis for mobilizing financial resources for sustainable development of vocational education

*\* The sustainable development of VE*

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Vocational education is a study level of the national education system, during which vocational training courses of pre-intermediate, intermediate, and upper-intermediate level are provided for employees, thus meeting the demand for human resources in manufacturing, trading and service aspect. VE is carried out in two forms: formal training and regular training[4]. Vocational education activities can be imparted at VE institutions or vocational schools.

Sustainable development is the common goal of all nations in the world. In Vietnam, on 10th May 2017, the Prime Minister issued the National Action Plan to implement the 2030 Agenda for Sustainable Development and set out 17 sustainable development goals. In order for Vietnam to achieve those goals, sustainable and comprehensive development of all sectors, including VE, of the economy is indispensable. So as to achieve the sustainable development in VE, the following aspects must be focused on:

*Raising the employment rate and improving vocational skills training for learners*

According to estimates by the International Labor Organization (2020), there are 267 million young people (aged 15-24) who are unemployed due to the lack of necessary working skills [3]. Facing the changes in technology and environment, raising employment rate among students is indeed a great challenge. If the training courses do not alter to meet the demand of the labor market, there will not be any desirable result.

Currently, TVET systems of countries around the world are in the process of reforming and renovating to adapt to current and future challenges. This process, although varies from region to region and depends on the level of development of each country, all include the change from teaching essential, basic skills to teaching advanced skills. This allows learners to have better access to suitable job opportunities after graduation during the rapid development of the Fourth industrial revolution.

*Implementing digital conversion in VE*

Digital conversion in VE aims to deploy digital VE activities, promote the application of information technology in class management as well as teaching and assessment, thus enhancing the quality of domestic VE and bringing up several opportunities. Digital conversion in VE creates a breakthrough in management, rapidly increasing the number of trainings, contributing to improving the quality of skilled human resources, increase labor productivity and increase national competitiveness in the context of international integration.

*Approaching environmentally-friendly fields*

VE institutions play an important role in accelerating a low-carbon economy and a sustainable society, enhancing resilience to climate change. This is done through the traditional role of VE institutions in preparing learners for career areas and skills and enhancing their participation in the world of work. This traditional role is facing new expectations, requiring adaptation and more in line with green work. On that basis, the requirement of greening in training activities of VE institutions is set. Eco-friendly VE helps promote more environmentally friendly professional activities. Governments need to capture the potential of job creation by

providing skills to learners for emerging green sectors. Vulnerable groups in the labor market need support to develop knowledge and potential skills for green jobs.

*Improving the quality of communication, monitoring and evaluation in VE*

In order to achieve sustainable development in VE, VE institutions need to develop specific plans for information organization, promotion, counseling, career guidance, etc. associated with practical occupations, thus providing better vocational support to achieve the set goals. In addition, VE institutions also need to enhance the effectiveness in counseling, career guidance, propaganda, and forecasting the potential requirements of the job market via the development and distribution of documents, publications, books, leaflets, reportages, documentaries... related to the field of VE; Moreover, it is important to coordinate with mass media units to disseminate and propagate vocational education; organize seminars, conferences with theme related to the field of TVET.

***\* Mobilizing financial resources for sustainable development of vocational education***

The mobilization of financial resources plays an extremely important role in achieving sustainable development for VE. Mobilizing financial resources at VE institutions should ensure the following:

- (i) Financial resources of VE institutions must be legally exploited and mobilized as well as comply with the Nation's regulations on financial management..
- (ii) The revenue structure of the units must be reasonable.
- (iii) The diversity of forms of financial resources exploitation and mobilization must be ensured.

To guarantee the effectiveness of VE, in accordance with the Nation's policy, VE institutions affiliated to VGCL need to mobilize and manage their financial resources well. These financial resources include:

Funds by the National Budget: Fund from the National Budget for TVET institutions includes recurring operating expenses and non-recurring operating expenses. Recurring operating expenses are used for the expenditure of vocational training of every faculty in vocational school. The non-recurring operating budget is for upgrading projects and implementing national target programs of VE institutions.

Career revenue: Career revenue of VE institutions includes: Tuition fees, vocational training enrollment fees; Revenues from manufacturing – trading activities, joint venture activities with organizations and individuals which are legally suitable with the functions of VE institutions and have received Competent Authority Approval; Revenues from leasing public properties, loans...

Other revenues: In addition to funds provided by the state budget and professional revenues, VE institutions also have a number of other revenues coming from investment and sponsorship of domestic and foreign organizations and individuals.

In addition to domestic revenue, in order to achieve sustainable development in the current period, The Nation also promulgates policies to attract and mobilize investment capital from international organizations to accelerate the transformation and development of VE institutions.

## **2.2. Overview of research related to mobilizing financial resources for sustainable development of vocational education**

Ducci, Maria A. (1991), *Financing of Vocational Training in Latin America, Discussion Paper No. 71*, Education Resources Information Center. This study examined the diversity in mobilizing financial resources to finance TVET in Latin American countries: Mobilizing from the state budget, reducing taxes on TVET, providing subsidies and scholarships for learners, signing training cooperation contracts... The study also presents the financial mechanisms and policies of Latin American countries for vocational education and the trend of expanding financial resources of vocational education institutions in the future [1].

Institute for Vocational Training Science, General Department of Vocational Training (2014), *Some synchronous investment solutions to develop key occupations and ministerial-level scientific research topics*. Based on theoretical and practical research, the project has proposed a number of synchronous investment solutions to develop key vocational training in Vietnam. The topic has proposed many different solutions, including solutions on mobilizing financial resources for vocational education institutions. However, the proposed solutions are mainly associated with the State's policy system, and there has not been in-depth research on the implementation of these solutions at vocational education institutions [2].

Tran The Lu (2018), *Mobilizing financial resources at public vocational education institutions in Vietnam*, doctoral thesis, Academy of Finance. The thesis has evaluated the current situation of financial resource mobilization at public vocational education institutions in Vietnam. The thesis has explained the limitations and causes of limitations in mobilizing financial resources and on that basis has proposed two groups of solutions to increase financial resources for vocational education institutions: Group of solutions on innovating state budget spending for vocational education and group of solutions on mobilizing financial resources outside the state budget for vocational education [8].

Thu Huong (2019), *Financial policy for vocational education: Ensuring equity in funding*, Dan Tri electronic newspaper, November 2019. The study made the following observations: Currently, Vietnam's TVET system is considered to be weaker than other countries in the region. The reason pointed out is that vocational education institutions lack financial resources. In the article, the author mentioned the mobilization of financial resources for vocational education. However, the article only stops at evaluating the State's policies, and the actual mobilization of financial resources at vocational education institutions is not mentioned [7].

Tran Thi Van Anh (2021), *To effectively use resources from the state budget for vocational education*, Financial Journal period 1-2, February 2021. Research has identified that the state budget plays a key role in the development of vocational education. According to this study, the support from the state budget for TVET includes 3 sources: Funding for recurrent expenses, funding for capital construction investment and funding under the national target program. The

content of the study focuses on allocating financial resources for TVET from the state budget, while the mobilization of non-state budget resources for TVET has not been mentioned [9].

Through analysis, we see that in Vietnam and around the world there have been research projects on mobilizing financial resources for vocational education institutions. However, currently there is no research project on mobilizing financial resources for sustainable development of vocational education establishments under the Vietnam General Confederation of Labor. In this article, the author will research the current situation of mobilizing financial resources and then make some proposals to effectively exploit financial resources towards sustainable development of vocational education institutions under the General Confederation of Labor. Vietnam.

### **3. RESEARCH METHODS**

#### ***\* Data collection methods***

The article uses a secondary data collection method, consisting of two steps:

Step 1: Learn about data accessibility: The author researches policies, regimes and access to secondary data related to the mobilization of financial resources for sustainable development of vocational education institutions under the Vietnam General Confederation of Labor.

Step 2: Search and collect data:

Secondary data was searched and collected through reports of the Vietnam General Confederation of Labor, Report of the General Department of Vocational Education, reports of vocational education institutions; prestigious journals at home and abroad and other scientific research works.

#### ***\* Data processing methods***

Statistical method: Used by the author to present data related to the article content. The data in the article is arranged in a certain order to ensure logic and science.

Analytical method: the author analyzes the situation of mobilizing financial resources for sustainable development of vocational education establishments under the Vietnam General Confederation of Labor on two aspects: Capital size and capital structure.

Synthesis method: the author synthesizes data on mobilized capital from vocational education institutions under the Vietnam General Confederation of Labor according to the contents that need to be researched and systematically chains them together.

Comparative method: Used to compare and contrast data on financial resources mobilized in the period of 2019-2022 of VE institutions under the Vietnam General Confederation of Labor.

### **4. RESEARCH RESULTS**

#### **4.1. Mobilizing financial resources for sustainable development of VE institutions affiliated to the Vietnam General Confederation of Labor**

***\* Overview of vocational education institutions affiliated to the Vietnam General Confederation of Labor***

According to statistics of the General Department of Vocational Education, as of December 2020, Vietnam has 1,227 public VE institutes (including 538 public colleges and intermediate schools) [10]. Currently, Vietnam has 12 ministries and 04 socio-political organizations with VE institutes affiliated, including the Vietnam General Confederation of Labor. According rearrange and reorganize plan of the Trade Union, there are currently 16 VE institutes affiliated to the Vietnam General Confederation of Labor that are eligible to operating (table 1).

**Table 1: VE institutes affiliated to the Vietnam General Confederation of Labor**

No.	Name of VE Intitutes
1	The first Nghean College of Economics – Technology
2	Hatinh College of Technology
3	Dongkhai College
4	Thainguyen Vocational School
5	The second Dongnai Digital Economy Vocational School
6	The nineth Quangbinh Intermediate School of Tourism and Technology
7	Binh Thuan Vocational School of Engineering - Technology
8	The Tenth Intermediate School of Technology
9	Binh Duong College of Economics and Human Resources
10	Bac Ninh Technical and Economic High School
11	Ninhbinh Intermediate School of Economics - Tourism
12	Hanoi Trade Union Vocational School
13	The Eighth Nam Dinh Intermediate School of Technology
14	Ha Nam Economic – Technical Intermediate School
15	Vocational Education Center of Binh Dinh Trade Union
16	Vocational Education Center of Phu Yen Trade Union

Source: Option No. 473/PA-TLD about reorganize and reorganize

#### *VE institutes affiliated to trade unions*

VE institutions affiliated to the Vietnam General Confederation of Labor were established based on the needs of the labor market and the development of the market economy.

In the period of 2019-2022, despite the great impact of the Covid-19 epidemic, vocational education activities affiliated to the VGCL still achieved relatively good results. The number of enrolled students reached 294,226 (College level: 1,952 people; Intermediate level: 22,829 people; Pre-intermediate level and part-time training course: 269,445 people), equivalent to 112% of the planned target [12].

#### ***\* The current situation of mobilizing financial resources for sustainable development of VE institutions affiliated to the VGCL***

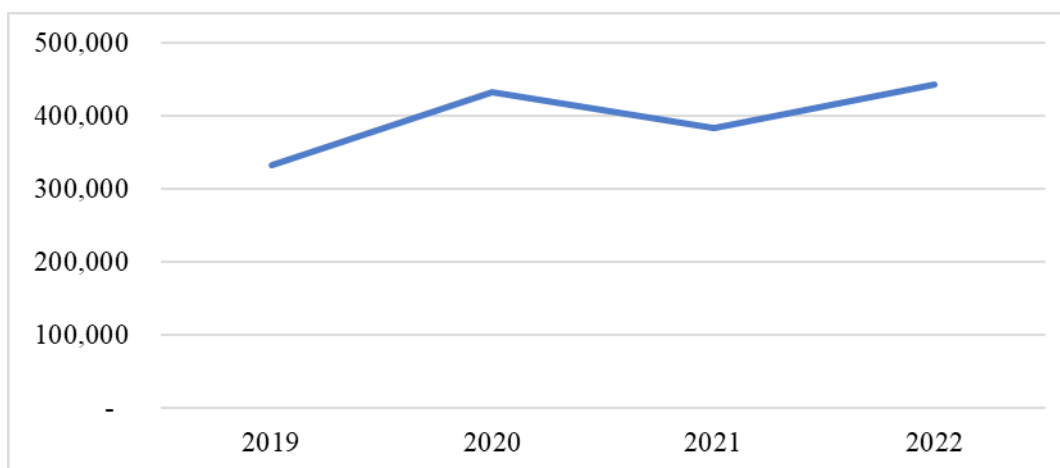
In order to achieve sustainable development, VE institutes affiliated to the Vietnam General Confederation of Labor are constantly making great efforts in exploiting and effectively managing financial resources. The exploitation and management of financial resources must be strictly inline with the National and local regulations, as well as the financial regulations of the institutes themselves. The mobilization of financial resources must reflect the scale and structure of financial resources.



### *The scale of financial resources*

In order to achieve sustainable development, the most important thing VE institutions need to focus on is maintain a suitable scale of financial resources. Similar to other VE institutions across the country, the financial resources of VE institutions affiliated to the Vietnam General Confederation of Labor include: (i) Funds from National Budget; (ii) Professional income; (iii) Other revenues. During the period of 2019-2022, due to the Covid-19 pandemic, the mobilization of financial resources of VE institutes had to deal with several difficulties. The total financial resources mobilized by VE institutions are illustrated in Chart 1.

*Unit: millions VND*



**Chart 1: Scale of financial resources of TVET institutions affiliated to the Vietnam General Confederation of Labor**

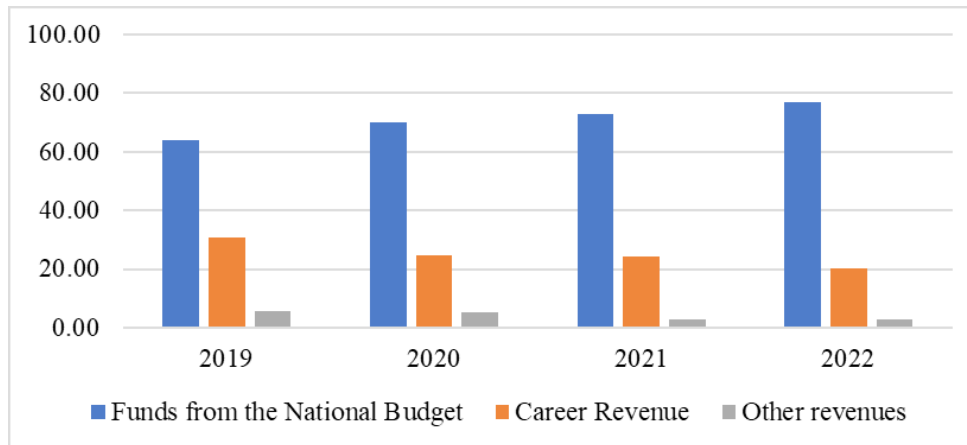
*Source: Report on VE activities of the Vietnam General Confederation of Labor over the period of 2019-2022*

Over the period of 2019-2022, the total financial budget of institutions are relatively large: 2019 figure was 333,481 million VND; In 2020, this statistic increased to 432,889 million VND (grew by 99,408 million VND, with a corresponding growth rate of 29.81%); In 2021, due to the Covid-19 pandemic and social distancing strategies, the total financial budget decreased by 11.42%, reaching 383,466 million VND; In the year of 2022, thanks to the Government's efforts and supportive policies in pandemic control, along with contribution of managers, officials, and teachers, the budget increased to 443,620 million VND (growth rate is 15.69%). Among the 16 VE institutes affiliated to the Vietnam General Confederation of Labor, the first Nghean College of Economics – Technology, The Tenth Intermediate School of Technology, and Ninhbinh Intermediate School of Economics - Tourism are 3 schools witnessing relatively stable growth in financial resources over the period of 2019-2022; Another 3 institutes evaluated as schools having the most appropriate and effective measures to mobilize financial resources in the post-pandemic context are Dongkhai College, Thainguyen Vocational School, and The Eighth Nam Dinh Intermediate School of Technology, with 2022 budget increasing by 23,439 million VND, 21,071 million VND and 18,484 million VND, respectively. This great success was achieved due to the pro-actively, timely responses have been made in correspondance with the current economic situation.

### *The structures of financial resources*

Beside the scale of financial resources, the structure of those also plays an extremely important role in the sustainable development of VE institutions. The ratio of financial resources fluctuates over years and there is a clear difference between institutes. Over the period of 2019-2022, financial support from the National budget accounted for the largest proportion, followed by career revenues and finally other revenues (Chart 2):

*Unit: % (percentage)*



**Chart 2: Structure of financial resources of TVET institutions affiliated to the Vietnam General Confederation of Labor**

*Source: Report on VE activities of the Vietnam General Confederation of Labor over the period from 2019 to 2022*

### *Funds allocated from the National Budget*

During the period from 2019 to 2022, funds allocated from the National budget always accounted for the highest proportion in the total revenue of the institutes: In 2019, National budget funding accounted for 63.91% of total revenue; In 2020, this proportion was 70.14%; In 2021, it was 72.81% and in 2022 this rate increased to 77.08%. The proportion of National budget funding are shown in Table 2:

**Table 2: The proportion of National budget funding in the total revenue of VE institutes affiliated to VGCL**

*Unit: Millions VND*

No.	Funds from the National Budget	2019	2020	2021	2022
1	Recurring operating expenses	60,958	92,002	99,596	111,443
2	Non-recurring operating expenses	25,100	71,591	64,560	120,082
	Total	86,058	163,593	164,156	231,525

*Source: Report on VE activities of the Vietnam General Confederation of Labor over the period from 2019 to 2022*

Over the period from 2019 to 2022, the National Budget provided Recurring operating expenses for most VE institutes affiliated to the Vietnam General Confederation of Labor, specifically, in 2019, the allocated fund was 60,958 million VND; in 2020, it was 92,002 million VND; in 2021, it was 99,596 million VND and by 2022, it increased to 111,443 million VND. As can be seen, the recurring operating expenses allocated by the National budget increased steadily

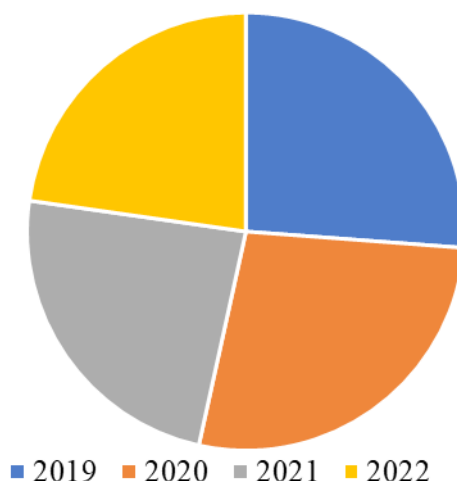
over the years. The reason lies in the fact that during this period, the market has a great demand for skilled labor, causing the number of students enrolled in vocational schools to increase sharply. At the same time, the growth in the number of teaching staff and the adjustment of the base salary from July 1, 2019 are also one of the reasons for the increase in National budget funding. Out of a total of 16 institutes, Hatinh College of Technology, The first Nghean College of Economics – Technology, The ninth Quangbinh Intermediate School of Tourism and Technology are the units with the largest total recurring fund granted by the State Budget.

In the budget allocated from the State budget, the non-recurring funding accounts for a lower proportion and is implemented in a number of units. In the period of 2019 -2022, 2021 and 2022 are the years with a large amount of state budget investment for irregular tasks. This is possible because the Vietnam General Confederation of Labor has implemented the VET development plan according to Official Dispatch No. 1243/TCGDNN - KHTC on the formulation of the 5-year VE development plan for 2021 - 2025. Among the VE institutes affiliated to the Vietnam General Confederation of Labor, the College of Economics - Technology No. 1 Nghe An is the unit receiving the largest non-recurring funding, up to 53,226 million VND; followed by Ha Tinh College of Technology with 45,223 million dong..

#### *Career revenue*

If the National budget funds account for the highest proportion, career revenues account for the second largest proportion of total revenues: In 2019, career revenue accounted for 30.58% of total revenue; 2020 rate was 24.72%; In 2021 this was 24.35% and in 2022 this was 20.12%. The gradual downward trend in the career revenue are caused mainly by the impact of the Covid-19 epidemic difficulties in enrollment due to competitiveness .

*Unit: millions VND*



**Chart 3: Career revenue of VE institutions affiliated to the Vietnam General Confederation of Labor**

*Source: Report on VE activities of the Vietnam General Confederation of Labor over the period from 2019 to 2022*

Career revenue of VE institutions affiliated to the Vietnam General Confederation of Labor includes: Tuition fees, procedure fees and service activities (Car driver education course,

motorcycle training course , vocational training for prisoners, etc. ). According to the roadmap to implement the financial independence, the career revenue of VE institutions will have to increase gradually to meet the recurrent expenditure needs of the units and reduce the burden on the National budget.

**Table 3: Career revenue of VE institutions affiliated to the Vietnam General Confederation of Labor**

*Unit: Millions VND*

No.	Career Revenue	2019	2020	2021	2022
1	Tuition fee, procedure fee	80,651	68,421	80,837	44,294
2	Service fee	22,112	38,580	12,544	44,953
	Total	102,763	107,001	93,381	89,247

*Source: Report on VE activities of the Vietnam General Confederation of Labor over the period from 2019 to 2022*

In terms of the scale of career revenue, VE institutions affiliated to the Vietnam General Confederation of Labor are divided into 3 groups:

- VE institutions with large-scale career revenue (average over 20 billion per year): Hatinh College of Technology, Dongkhai College. This great revenue can be generated as every years these two vocational schools implement several measures to attract a large number of students to study at the school.

- VE institutions with medium-scale career revenue (10 to 20 billion/year on average): Thainguyn Vocational School

- VE institutions with small-scale career revenue (less than 10 billion/year on average): All the remaining VE institutes, among which the school with the lowest revenue is Ninhbinh Intermediate School of Economics - Tourism, with an average of only 361.38 million VND per year. Low career revenue is resulted from small number of students and ineffective enrollment measures.

In most vocational schools, fees and charges from training activities account for a large proportion of career revenue. Fees and charges accounted for over 90% of career revenue of Hatinh College of Technology and The ninth Quangbinh Intermediate School of Tourism and Technology in the entire period of 2019-2022. These are units with a large number of students enrolling regularly between the years. Insstitutes with a higher rate of revenue from service fee than tuition and other charges are Hanoi Trade Union Vocational School and Phu Yen Trade Union Vocational Education Center. The annual number of freshers at these vocational schools are insignificant but they are able to take good advantage of joint training activities, their location and infrastructure equipment to develop a variety of services.

### *Other revenues*

Regarding VE institutions affiliate to the Vietnam General Confederation of Labor, other revenues account for a small proportion: In 2019 it accounted for 5.51% of total revenue; In 2020 the rate was 5.14%; In 2021 the rate was 2.84% and in 2022 the rate was 2.8%. Other revenues mainly come from investment and sponsorship activities of domestic organizations and individuals. In the decade of integration and digital transformation, investments and grants from organizations and individuals play an extremely important role in the development of VE institutes, but currently these resources are rather limited and neglected.

### ***\* Evaluation of the mobilization of financial resources of VE institutions affiliated to VGCL***

Based on the above data analysis, it can be seen that the mobilization of financial resources of VE institutions affiliated to the Vietnam General Confederation of Labor has achieved some results as follows:

*Firstly*, VE institutions affiliated to the Vietnam General Confederation of Labor have mobilized certain financial resources for carrying out vocational training towards the goal of sustainable development. The increase in financial resources is a great opportunity for VE institutes to improve teaching quality and expand their training area.

*Secondly*, institutions have diversified mobilizing channel. In addition to financial resources mobilized from the National budget, VE schools have also made good use of their career revenues. Specifically, tuition fees have become one of the greatest financial buffer for VE schools as they have focused on improving the quality of training, strengthen vocational skills training and open new professions in line with market trends and the economy's sustainable development strategy. Besides, they have also taken advantage of the existing facilities to generate revenue from service activities.

*Thirdly*, financial resources of VE institutions affiliated to the Vietnam General Confederation of Labor were initially implemented in the form of socialization. The implementation of socialization of financial resources has helped institutions improve their autonomy and self-responsibility, reduce the burden on the state budget, improve the management capacity and use of financial resources at VE institutions. Besides, the socialization of financial resources also enhances the responsibility of society and enterprises for VE activities.

Besides the achieved results, the mobilization of financial resources towards the goal of sustainable development of TVET institutions affiliated to the Vietnam Confederation of Confederation has the following drawbacks:

*Firstly*, the mobilization of off-budget financial resources is yet ineffective. The exploitation and mobilization of financial resources outside the National budget has not been synchronously implemented among establishments. Currently, VE institutions have only focused on generating revenue from tuition, but have not had any appropriate solutions to mobilize financial resources from training services, scientific research, and technology transfer.

*Secondly*, tuition fees, although being responsible for a significant proportion out of the total career revenue, its growth speed is still low. The reason is that in the past time, institutions have been greatly affected by the Covid-19 pandemic. This has greatly affected the enrollment work, causing the revenue from tuition fees to decrease. In addition, the legal tuition fees of public VE institutions are still low, which is inconsistent with the growth rate of the economy. The limited source of tuition fees has affected the lives of staff and teachers in VE institutions under the Vietnam General Confederation of Labor.

*Thirdly*, TVET institutions have not taken effective measures to enhance financial mobilization from joint venture activities. In terms of financial independence, revenue from joint ventures and associations plays a very important role for VE institutions. However, at the present, most institutes do not play an active role in forging bonds with enterprises to open human resources training course. Activities of joint ventures and linkages with universities, colleges, enterprises... on scientific research, as well as the implementation of practical projects is currently also very limited at VE institutions affiliated to the Vietnam General Confederation of Labor.

Limited financial resources make the facilities, classrooms, training equipment serving at the vocational training institutions under the Vietnam General Confederation of Labor are still lacking. Most of the TVET institutes have a system of classrooms and training equipment that are old and outdated because they were invested many years ago. Some equipment is no longer suitable and fail to meet the training requirements in the new period. This greatly affects the quality of training and the sustainable development of TVET institutes affiliated to the Vietnam General Confederation of Labor.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

In order to effectively mobilizing financial resources for the sustainable development of VE institutions affiliated to the General Confederation of Labor, the writer propose following recommendations:

*Firstly*, the Government needs to promulgate mechanisms and to prioritize the development of VE institutions. Accordingly, the Government needs to supplement and complete policies for VET participants, including: Learners, teachers, VE institutions and enterprises participating VE; build a training model suitable to the context of our country, form a model of shared education to improve investment efficiency. At the same time, it is necessary to realize the policy on VE development in Article 6 of the Law on Vocational Education: “Investment in VE is prioritized in socio-economic development and human resource development plans. The budget for VE is prioritized in the total state budget expenditure for education and training” to create a breakthrough in the scale and quality of VE.”

*Secondly*, the Government needs to analyze and re-evaluate the regulations on tuition and fees applicable to public VE institutes. The Government should consider the positives, limitations, and inadequacies of the tuition and fee policy over the past time. The Government should study and apply the suitable tuition fee policy to promote and improve the quality of VE.

*Third*, VE institutions need to have policies to effectively exploit financial resources from service activities, take advantage of professional skills to create products that are applicable, and implement the socialization of products in order to increase revenue for the institutes.. VE



institutes must, on the one hand, study the market's demand for products, On the other hand, it is necessary to review the human resources and equipment to carry out the production process and create products to supply the market.

*Fourthly*, VE institutes need to be more proactive in establish linkage with loval and foreign enterprises, universities, colleges, research centers...; continue to look for partners, expand international relations with reputable VE institutes to gradually increase revenue from training services.

Sustainable development of VE is the policy of the Government of Vietnam, which has been reflected in the Vocational Education Development Strategy for the period of 2021 - 2030, with a vision to 2045. Therefore, in the near future, based on the actual situation and learn from experiences from other countries in the world, VE institutions affiliated to the Vietnam General Confederation of Labor should take measures to effectively exploit financial resources, hereby improving the quality of vocational education, contributing high-quality human resources to the society, contributing to the country's sustainable development./.

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# CIRCULAR ECONOMIC DEVELOPMENT: EXPERIENCE FROM SOME COUNTRIES AND LESSONS FOR VIETNAM

Dr. Duong Thi Quynh Lien<sup>1</sup>, Dr. Nguyen Phi Hung<sup>2</sup>

*Abstract: Shifting from a linear economy to a circular economy is a common trend of countries around the world and Vietnam is no exception to that trend. That is the best way to harmonize the relationship between economic growth and environmental protection in order to achieve sustainable development. In recent years, Vietnam is facing many challenges in terms of resource depletion, environmental pollution and climate change. To realize the goals of sustainable development and respond to climate change, Vietnam needs to promote the development of a circular economy. The article introduces the practice of circular economy development in some countries around the world, on that basis, draws lessons for Vietnam.*

*Keywords: Economy, circular economy, development, sustainable development, climate change, natural resources*

## 1. MAKE A PROBLEM

The circular economy is a closed production cycle, the resources and wastes of the previous production process are reused or reused, the waste streams are turned into inputs of the new production cycle. Key features of the circular economy include: increased repair and remanufacturing of products, increased recycling of materials, and longer shelf life of products; increase reuse, increase material productivity, improve asset utilization, and change consumer behavior. Therefore, the circular economy is forecasted to reduce the demand for new goods (and raw materials), replace secondary raw materials in production, expand secondary industrial zones, create durable products and easier to repair, develop the service and sharing economy.

In essence, the circular economy focuses on products and services that have a negative impact on the environment and effectively use natural resources, minimizing waste to the environment. This is the biggest difference of the circular economy compared to the traditional linear economy (also known as one-way economy), which only cares about exploiting natural resources to maximize output and serve production and consumption, leading to a huge backlog of waste discharged into the environment, depletion of natural resources and serious environmental pollution. While the circular economy focuses on the management and use of resources in a closed loop, avoiding the discharge of waste into the environment. The utilization of resources in a circular economy can take many forms: reuse, recycling, repair and recovery of materials.

Therefore, the circular economy is increasingly interested in reusing waste for economic development and limiting the exploitation of natural resources. Achieving a circular economy

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is a difficult task, requiring the worldwide efforts of individuals, businesses and governments. This article, based on secondary data sources, will generalize about the benefits of the circular economy and some circular economic development models in the world, thereby drawing out some recommendations for stakeholders to develop a circular economy in Vietnam to catch up with the trend of international economic integration.

## **2. CIRCULAR ECONOMY DEVELOPMENT IN SOME COUNTRIES AROUND THE WORLD**

Circular economy is understood as an economic model in which design, manufacturing and service activities aim to prolong the life of materials and eliminate negative impacts on the environment. This is an indispensable economic development model in the world towards sustainable development, because this economy achieves three goals: (i) Responding to the depletion of input resources; (ii) Overcoming environmental pollution in the output development; (iii) Harmoniously combine economic growth with environmental protection. In addition, the circular economy also brings many benefits to countries, helping to save costs, reduce price fluctuations and risks from suppliers, increase innovation by replace products.

### *Japan*

Japan has approached and decided to implement the circular economy since 1991 to turn the country into a “recycling-based society” through the promulgation and implementation of many related legal documents, specifically can be as follows: The Basic Act on Building a Society Based on Recycling came into force in 2002; Equipment Recycling Law issued in 2001; The biomass energy strategy issued in 2003; Action plan for a low carbon society issued in 2008.

Besides the circular economy, green growth is also an important content introduced by the Government of Japan in the new Growth Strategy issued in 2009. The strategy takes into account the challenges of climate change and Given Japan’s aging population, the main green growth goals mentioned in the Strategy include: Promoting “green innovation”, i.e. innovation in the environment and energy sectors to achieve a low carbon society; Greening the tax system is one of the tools that will be used to promote green innovation.

In implementing the circular economy and green growth, the Japanese Government has applied a number of specific measures such as: (1) Implementing cleaner production: According to the principle of “3R” (reduce, recycle) use, recycle) of the circular economy is to save resources; (2) Clarifying the manufacturer’s responsibilities; (3) Building eco-industrial parks; (4) Building a convenient recycling product collection system; (5) The consumer pays the fee upfront; (6) The recycling infrastructure is co-owned. To implement the green growth model, the Japanese Government has issued many synchronous policies including: Green investment; Research and implement green technology; Subsidies and tax incentives for the purchase and sale of green technologies and green products; Propaganda, human resource training, international cooperation, especially the application of the green tax system - one of the important tools used to promote green initiatives.

Japan also has specific policies for marine economic development. The Government has developed a national strategy for marine economic development. At the beginning of the

twenty-first century, in the face of the fact that human activities have a great impact on the marine environment and ocean resources, creating challenges for mankind, Japan issued a white paper on oceans and oceans its first ocean policy in 2004. Accordingly, the country identified sustainable development and comprehensive ocean management. Japan's white paper on oceans and ocean policy in 2021 has focused on topics related to the Decade of Marine Science for Sustainable Development and especially the topic of "green recovery" after the pandemic. COVID-19, with the idea of creating a stronger marine and ocean economy based on respect for marine biodiversity, better adapting to climate change by transitioning to sustainable trade with environment, maintaining a healthy ocean environment.

### *China*

China passed its first circular economy-related bill in 2008. In 2018, China and the EU (EU) signed a memorandum of understanding on circular economy cooperation. By 2019, the Intercontinental Cooperation of 200 enterprises in the World and China has committed to the circular economy of plastics. The Law on Protection of the Circular Economy of China requires state agencies and departments at the local level to consider relevant issues in investment and development strategies industries are coal, iron, electronics, chemicals and petroleum.

Circular economy strategy is implemented at three levels: promoting clean production at the enterprise level, in industrial parks implementing industrial ecosystems, at the regional level developing cities Ecological. This strategy has been tested in seven industry sectors and implemented in 13 industrial zones. In 2005, in 10 eco-cities and eco-provinces (Beijing, Shanghai, Chongqing, Guiyang, Ningbo, Hebei, Tongling, Liaoning, Shandong and Jiangsu) under the direction of the Commission. National Development and Reform Commission. China has determined to build an eco-city and eco-province, including three basic criteria for circular economy development, including: The agro-industrial system of the circular economy (ecological industry, agriculture) ecology and eco-services industry); Building urban infrastructure, in which the use of circulating water, energy and solid waste is prominent; Ecological security with the appearance of green buildings, the improvement of living environment quality and environmental protection. Over the past decade, China has led the world in promoting waste recycling with many initiatives, programs to develop circular economy and green growth. A good example is the production of electronic circuit boards in Suzhou district.

China pays attention to the development of the blue sea economy according to the circular economy model. In the 13th Five-Year Plan on National Socio-Economic Development, it is required to expand the space for blue sea economic development. The plan adds content to develop inland and offshore fisheries to protect and maintain coastal fisheries resources, restore marine environment and ecosystems, and improve the healthy development of fisheries effectively offshore. China has also promoted the scientific innovations of the marine industry and established six national marine economic development and innovation pilot areas and seven national industrial pilot bases to renew the industry sea by science and technology, in which some projects have achieved important results including: Shandong Peninsula Green

Economic Zone, Qingdao Green Silicon Valley and strategic cooperation between marine parks and industrial zones located in the Yangtze River Delta region.

China is also a typical country in terms of approaching the circular economy model after a period of excessive use of natural resources and causing many environmental consequences. In 2008, China passed a bill related to the circular economy. In 2018, China and the EU signed a memorandum of understanding on cooperation in developing a circular economy model. In 2019, intercontinental cooperation includes 200 enterprises of countries around the world and China committed to a circular economy on plastics... China built three stages to develop a circular economy, including: small circulation (implemented at the scale of factories and industrial zones); medium cycle (scales up more) and large cycle (performs across the entire economy). The circular economy in China is built according to a specific route, from defining the concept of development to the goal of circular economy development to passing a legal system that is mandatory for businesses ...

### *Europe*

The circular economy action plan was adopted by the European Commission in December 2015. The European Union (EU) wants to approve the implementation of the Plan to stimulate the transformation of the economy towards a circular economy, to promote global competitiveness, sustainable economic growth and create more new source of employment. At the same time, the European Commission adopted a revised Waste Law that came into force in 2018, including actions to support the circular economy and mandatory targets for member states on waste management. Accordingly, the EU's common goal is to recycle 65% of municipal waste by 2035; recycle 70% of packaging waste by 2030. In addition, specific packaging materials include paper and cardboard: 85%, non-ferrous metals: 80%, aluminum: 60%, glass: 75%, plastic: 55%, wood: 30%. A binding landfill target to reduce waste to a maximum of 10% of municipal waste by 2035. The EU's green growth regulatory framework is a road map with concrete actions for effective use maximize natural resources to achieve a circular economy. The EU focuses on transport, agriculture, construction, cement, steel, information and communication technology, chemicals and textiles. It is estimated that the circular economy could generate around 600 billion euros per year in benefits for the EU, create 580,000 new jobs and help reduce greenhouse gas emissions.

The European Commission adopted the European Green Agreement on 1 December 2019 and the new Circular Economy Action Plan on 11 March 2020. The new Action Plan unveils initiatives across the entire product lifecycle, promoting circular economy processes, and promoting sustainable consumption. In particular, the EU paid attention to the promulgation of legal documents including waste management policies such as: Waste Framework Directive; Landfill Directive; Waste Transport Regulations. In addition, strengthening the responsibility of manufacturers in the internal production market includes: Directive on the life cycle of vehicles. Along with the introduction of policies and laws to develop the circular economy and green growth, the EU has developed a policy to develop the blue sea economy. In 2014, the European Commission issued the "Plan to renew the blue marine economy", including the



following three groups of tasks: Developing marine economic sectors with high potential for job creation and sustainable growth; Prioritize essential activities to provide knowledge, ensure legal basis and security in the blue sea economy; Develop EU regional maritime strategies, ensuring the promotion of cooperation among countries.

### 3. CURRENT SITUATION OF CIRCULAR ECONOMY IN VIETNAM

With special enemy belong to one background terrible economy in progress play develop in time period too degree push strong Karma chemical and presently grand chemical background terrible economy according to determined direction belong to Party and Home water, background terrible economy belong to Vietnamese Male Have the start sharp best determined Okay position gender superfluous receive. However, Vietnam's vulnerability to climate change shows that the transition to sustainable consumer production is an important task important.

Concepts related to the circular economy model had been in Vietnam since 20 year with the name call like: tissue picture VAC (garden - pond - cage) pressure use rather wall labour in the field of agriculture - rural areas, where the population of Vietnam still accounts for nearly 80% . In addition, the concepts of “ eco- industrial park “, “ cleaner production “, “no development “,” waste”, re processing, re history use, re product export - one part belong to circular economy - also Okay topic access a lot in time time via. The concept thought This Satisfied Okay can presently via the main book of the Party and State related to environmental protection.

In the year via, tissue image product export clean than Satisfied Okay push strong develop declare. According to statistics of the Ministry of Industry and Trade, there are about 400 enterprises and production facilities that have Okay support support fight price fast, near the 100 business Karma Okay support support product export clean more and become point models. Some typical models in the direction of circular economy in the field of economical and efficient use of energy have been approved by the Ministry of Industry and Trade pole develop declare in time time fit via: Construction build and develop declare real presently tissue pilot use of alternative energy forms and energy-saving household models; Applying energy management model in industrial facilities; Build, spectrum variable and core wide tissue image history use power quantity replace position in the muscle department business across the country. Or the Household movement to use energy economically and efficiently fruit spectrum variable wide in River Interior, wall city Lake Chi Bright, Need Poem, Grandma Ria - Vung Tau, Copper Tower, Jar Thuan, Need Poem, Money Jiang, North Ning....

According to Mr. Nguyen Quang Vinh, General Secretary of VCCI, General Secretary, Executive Vice Chairman of the Business Council for Sustainable Development (VBCSD), in recent years, with the efforts of the Government, relevant agencies agencies and pioneering businesses, the concept of a circular economy has become much closer. The circular economy provides a new perspective on using raw materials in a more efficient and economical way, while constantly reminding people to effectively use limited resources in terms of water, energy, raw materials and also food with life cycle long than, obtain price treat High than



so with direction awake presently in. Grand face Labour ty Coca- Cola Vietnam, Nguyen Thi Thu Hang, Director of External Communications and Sustainable Development, said that raising consumer awareness about packaging collection and recycling is an important part of the Strategy “For a world without waste” that Coca-Cola is implementing. The goal is that by 2030, collect and re processing 100% quantity bag packaging but Coca-Cola sell go out above full bridge; arrive year 2025, achieve 100% recyclable packaging and by 2030, use at least 50% recycled materials in the company’s product packaging. General Director of La Vie Company said that both La Vie Company and Nestlé Vietnam Company and members of Nestlé Group have been committed to implementing plans to reduce the amount of first-time plastic (virgin plastic) in close package product Products, reduce play waste plastic (plastic footprint) at the source and contribute to initiatives to collect the equivalent of the amount of packaging put on the market by 2025. Almost all La Vie products are now 100% recyclable. In early 2021, La Vie became the first mineral water brand in Vietnam Vietnamese Male history use bottle do from plastic re processing (rPET) obtain pepper standard bag packaging real products, encouraging domestic enterprises to invest in rPET production to accelerate again tissue image circular economy, create muscle festival re born give bark bottle Nestlé Vietnamese Male and La Vie is also the founding member of PRO Vietnam.

The national program on economical and efficient use of energy for the period of 2019-2030 emphasizes the goal of mobilizing all social resources to implement all solutions on economical and efficient use of energy to achieve the goal. until 2025 obtain level period thrifty power quantity 5.0 arrive 7.0% total pepper tree power quantity full country in stage paragraph 2019-2025; reduce level damage the seventh electricity power down short than 6.5%; reduce the average energy consumption for industries/sub-industries compared to the previous period paragraph 2015-2018. Chapter submit also put go out item pepper build build one central heart Vietnam energy data and at least two national training centers on economical and efficient use of energy together with the establishment of a fund to promote economical and efficient use of energy through socialization, funding and cooperation of individuals and organizations at home and abroad.

Moreover, Vietnam participates in bilateral and multilateral free trade agreements, new generation free trade agreements. Most of these agreements have regulations and agreements on sustainable development, environmental protection, response to climate change and must comply with emission and emission standards. This is a premise to promote Vietnam to accelerate its transformation to a circular economy model. However, the policy framework on developing a circular economy model incomplete, lack of mechanisms and policies to promote the circular economy such as: Regulations on the responsibility of enterprises for the recovery and recovery of resources from used products; economic tools and policies such as resource tax, environmental protection fee. Awareness of the circular economy and the need to transition to the development of a circular economy model still limited. Resources for making the transition to circular economy development still weak. Circular economy must be associated with scientific innovation and access to advanced technology. Besides, to develop circular economy requires a team of good experts, to solve problems well, from the

beginning to the end of the whole process. There is still a lack of enterprises that are capable of technology for recycling and reusing used products; it is difficult to immediately change the production and consumption habits of the whole society today for many easy-to-use products such as plastic bags and disposable plastic products to using only recyclable materials and products, reusefully utilized; small and medium-sized enterprises find it difficult to invest in technological innovation.

#### **4. LESSONS LEARNED FOR VIETNAM**

Towards building a circular economy, the Government of Vietnam has made great efforts in environmental protection through many important legal documents, strategies and orientations, typically the Law on Environmental Protection. school year 2014; National strategy on green growth for the period of 2021 - 2030, with a vision to 2050; Vietnam's renewable energy development strategy to 2030, vision to 2050; National strategy on integrated solid waste management to 2025, vision to 2050... At the same time, to achieve the set targets, Vietnam has been implementing a series of programs related to solid waste circular economy development.

Currently, in Vietnam, there have been a number of circular economic models implemented, bringing certain efficiency. However, Vietnam is facing an increasing amount of waste generated while the source of raw materials and fossil materials is increasingly depleted and technological difficulties. Based on the reality in Vietnam and the experience of some of the above countries, in order to realize and develop the circular economy in Vietnam, it is necessary to effectively implement the following solutions.

*Firstly*, promoting the dissemination and research of the theory and practice of circular economy development in the world in order to equip the management agencies with full, comprehensive and correct knowledge of this economic model. businesses and people. Building an appropriate management legal system in the circular economy development; formulating and developing a policy and legal framework to manage the circular economy model according to market demand, shifting towards pollution prevention and efficient use of recyclable materials; develop and strictly apply standards for product quality management and quality of input materials.

*Second*, the State and ministries, departments and branches need to have guidelines and practical actions to promote the circular economy in all branches; policies to support capital sources, production locations, and expand access to information technology. In addition, the State needs to establish a center to support enterprises to deploy the circular economy in production and research activities; at the same time, promote the development of science, technique, technology and advanced products in the field of recycling materials and new energy from waste, satisfying environmental conditions and saving costs.

*Third*, research to create a mechanism to encourage the implementation of this economic model by providing incentives, tax priorities and other support policies. In the long term, it is necessary to form businesses that provide support services for manufacturing enterprises in implementing the circular economy. Deploy the circular economy model with appropriate levels.

*Fourth*, optimize input materials; Control and management of input materials should be considered and implemented throughout the system, including all processes and infrastructure that are closely related to resources or activities human production, as well as how to distribute the generated energy. At the same time, strengthen international cooperation, promote the role of the non-state business community in piloting the implementation of the supposed new model in Vietnam today.

*Fifth*, mobilize community participation in the development of the circular economy. Experience shows that, in order to implement a circular economy, it is necessary to involve all stakeholders from government agencies, mining and raw material enterprises, processors, production, distribution, retail, consumers, garbage collectors... participate, only then can success in the implementation process be achieved. Accordingly, it is necessary to raise the awareness of the whole society about the participation of the Government, businesses and people in the development of the circular economy.

## 5. CONCLUDE

*a) Circular economy is the core solution towards sustainable development, that is, economic development goes hand in hand with environmental protection. This model has been applied by many countries around the world and has shown remarkable results. Based on the experience of circular economy development in a number of countries around the world and the reality of the approach in Vietnam, to really transform to a circular economy requires the joint efforts and responsibility of all stakeholders. related parties in which the business Karma To be dynamic force central heart, Home water close shoulder trick ants create, guide lead and Community participation to change both awareness and behavior of the whole society.*

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# SUSTAINABLE DEVELOPMENT OF CUSTOMERS CREDIT FUND SYSTEM IN GLOBALIZATION CONDITIONS

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*Abstract: The People's Credit Fund system of Vietnam has developed in both quantity and quality in all aspects of its activities, contributing to supporting members in the area to develop production and business and improve people's living standards, making a significant contribution to poverty reduction, development of the local economy, and repelling black credit. However, the operation of People's Credit Funds in Vietnam still has many shortcomings in terms of organization and operation, and risks and challenges tend to increase. The article focuses on the process of formation and development, the role of PCFs, and limitations - instability in the actual operating situation and proposes some key solutions in the coming time, contributing to the consolidation and development of a healthier and more sustainable PCF system.*

*Keywords: People's credit funds, cooperative credit institutions.*

## 1. INTRODUCTION

The People's Credit Fund is a type of credit institution that plays an important role in the Vietnamese economy. However, to meet the globalization needs of credit institutions, the people's credit fund system in Vietnam needs solutions to adopt promptly. Therefore, the author chooses the topic: "Sustainable development of customers credit fund system in globalization conditions"

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Some research projects about People's Credit Fund in Vietnam:

Associate professor and doctorate. Dinh Xuan Hang and Dr. Tran Thi Lan Co-Chair (2018) "Development of the people's credit fund system in Vietnam". Scientific research project of the Academy of Finance.

Nguyen Thi Ngoc Anh – Ph.D. student (2017) "Sustainable development of the people's credit fund system in Vietnam". Thesis of Doctorate in Economics of Banking Academy.

## 3. Methodology and Proposed Model

Researcher used qualitative analysis method to achieve the research purpose. In particular, some specific methods are mentioned as follow:

- Methods of Explaining and Synthesizing theory
- Methods of Analysis, synthesis and comparison

## 4. RESEARCH RESULTS

*People's credit fund is a type of cooperative credit institution, operating on the principle of voluntariness, autonomy and self-responsibility for operation results, realizing the main goal*

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*is mutual assistance among members, helping each other effectively implement production and business activities, services and improve life.*

The People's Credit Fund system was established under Decision 390/QĐ-TTg dated July 27, 1993 of the Prime Minister with a 3-level model: Central People's Credit Fund, Regional People's Credit Fund, Grassroots People's Credit Fund in order to implement the Party and State's policy on developing a new cooperative credit model, contributing to poverty alleviation and rural agricultural development in order to implement the Party and State's policy on developing a new cooperative credit model, contributing to poverty alleviation and rural agricultural development.

Implementing the Law on Credit Institutions 2010 and Circular 31/2012/TT – NHNN “Regulations on Cooperative Banks”, the Central People's Credit Fund consists of the Head Office and 27 branches, nearly 70 transaction offices. The service has successfully transformed its operating model into a Co-operative Bank while still ensuring normal operations, capital regulation, and a smooth people's credit fund system. Up to this point, cooperative credit institutions include: Cooperative Bank and people's credit fund.

As of 31/12/2022, Cooperative Bank has 35 branches (including 27 branches when established and 8 new branches), with a total capital of more than VND 35,000 billion, and outstanding loans of nearly VND 28,000 billion. With 2,269 people's credit funds with about 2 million members, operating in 61/63 provinces and cities with a total capital of more than VND 127,000 billion, outstanding loans reached VND 98,900 billion.

The active support of the Cooperative Bank as a national cooperative union in the banking sector, the People's Credit Fund system has promoted the goal of mobilizing capital sources on the spot, contributing to meeting capital needs for production and business, implement the goal of poverty reduction and limit usury in rural areas, affirming the correct policy of the Party and the State on the development of the PDP model.

#### **4.1. The role of the People's Credit Fund in Vietnam**

People's credit plays a great role in contributing to socioeconomic development, with 5 important roles in the main system - the national currency.

Firstly, the People's Credit Fund is an important link and component of the system of national credit institutions, reflected in its very early history and starting from the problem of previous families. Since the 1980s, the PCF system began to develop relatively quickly and strongly, contributing to the diversification and promoting the development of the credit market in particular and the rural and cooperative economy in general.

Secondly, in the context that access to financial services is still quite modest and in the characteristics of Vietnam related to geographical factors, farmers and rural areas, PDP is still a channel to mobilize capital, lead capital and invest necessary for people and households, especially for agricultural, rural, mountainous areas.

Third, by mobilizing capital, providing such capital contributes to increasing access to banking services for people and households; thereby contributing to agricultural and rural



development, Vietnam's new rural program, job creation, and poverty alleviation for individuals and households in the areas where the PCF operates.

Fourth, the people's credit fund system has significantly contributed to reducing black credit evils, especially in rural and mountainous areas. The situation of "black credit" raging in some localities in the country recently once again shows the need to further increase the accessibility of capital for the people. In the context that the network of commercial banks cannot yet cover villages and communes, the people's credit fund system is an effective extension arm to bring timely capital to the poor.

Thursday. Over the years, with the upgrading and establishment of the Cooperative Bank, the stage of capital reconciliation and capital use of the credit management system has been more efficient. You have reached your daily translation maximum - please come back tomorrow or usury.

#### **4.2. Some limitations - instability in the organization and operation of the people's credit fund system in Vietnam over the past time**

First, some people's credit funds pursue profit goals, away from the principles and purposes of cooperative credit institutions.

Some people's credit funds, especially people's credit funds with large scale and inter-commune, inter-ward areas and in areas of economic development have shown signs of pursuing profit goals and escaping from poverty. cooperative principles. Many funds are only interested in commercial lending but lack interest in supporting members through other types of banking and financial products and social welfare. Some people's credit funds have a hot growth rate, these people's credit funds have expanded in scale and operating areas, but the management apparatus has not kept up with development requirements, which is dangerous. opportunities beyond the scope of management and control; Therefore, potential risks are not only for these people's credit funds themselves but also have the potential to affect the safety of other people's credit funds in the area and the whole system.

Second, the size of equity is low, the operating market share is too small

The charter capital of PCFs is low, so the level of capital mobilization and lending is limited. Low financial capacity hinders all aspects of the fund's activities, besides, the ability of funds to contribute capital at Vietnam Cooperative Bank is still limited. This situation puts pressure on capital for the State Budget. According to the State Bank's annual report, by the end of 2018, the People's Credit Fund's capital mobilization market share was only 1%, the lending market share accounted for 1.4% compared to the total number of credit institutions. Meanwhile, the average loan amount of PCFs is low.

Third, many remote and remote areas have not yet established a People's Fund

The credit market in rural areas is in danger of being left empty. The number of people's credit funds is still very limited, only 1/10 of the communes, belonging to 61/63 provinces and cities have people's trust funds, especially in mountainous and midland provinces such as Cao

Bang, Bac Kan, and Lang Son, the number is still limited. regime. The number of people's credit funds in many provinces and cities is still small as Can Tho has 3, Hau Giang 1, Ben Tre has 3, and mountainous provinces such as Lao Cai, Dak Nong, Binh Phuoc only have 1-2 funds... while demand The demand for mobilization and borrowing capital of the people is very large.

Fourth, due to the small scale of operation, it is very difficult to compete with commercial banks near/ in the same area of operation.

Because people's credit funds are small, in order to mobilize capital and attract people to deposit money into people's credit funds, there are periods when agricultural banks allow people's credit funds to be mobilized. With a higher interest rate than commercial banks, plus a small people's credit fund's equity, the people's credit fund's lending interest rate is usually higher than that of commercial banks. On the other hand, because the equity of the people's credit fund is small, good customers who have a large loan demand and exceed the safety regulations cannot be met by the people's credit fund. must "run" to commercial banks or the black market credit market to borrow.

Fifth, the observance of the provisions of the law, especially the regulations on ensuring safety in the operation of some people's credit funds, has not been serious, leading to risks and insecurity.

Due to not having to make compulsory reserves, many people's credit funds have made the most of the mobilized capital to lend, not paying attention to the provision to ensure solvency, so they are often faced with financial difficulties. the pressure of lack of liquidity, not only affects the fund itself but also puts pressure on the Co-operative Bank when many people's credit funds are in short supply at the same time. Even insolvency, easily causing liquidity risk to a People's Credit Fund, can spread to adjacent people's credit funds and the whole system.

Sixth, the management, administration, and control of people's credit funds are inadequate, lacking professionalism, and family-style management.

In some people's credit funds, the lending decision is usually only one credit officer and director, there is no cross-control or independent appraisal to closely monitor the lending process. There are even cases where the director decides to lend himself and the people's credit fund disburses when there is only one handwritten note from the director without making a credit profile, leading to risks and loss of capital. The activities of the Supervisory Board often do not bring into full play its role of on-the-spot inspection, supervision, and warning, so it is not possible to promptly detect violations and weaknesses of the people's credit funds.

#### **4.3. Proposing some solutions to sustainably develop the people's credit fund system in Vietnam in the coming time**

##### ***(1) Solution for People's Credit Fund***

- Strengthening the financial capacity of People's Credit Fund

As mentioned above, the current capital capacity of the People's Credit Funds system is very limited. This situation People's Credit Fund to face many difficulties in ensuring safety and

developing their operations, reducing their competitiveness. To strengthen financial capacity, People's Credit Funds need to do the following well:

+ Increase the minimum and appropriate contribution for each member: Currently, according to the State Bank's regulations, the minimum established capital contribution is 300,000 VND. The level of capital contribution to establish membership is being regulated for all members. However, in our opinion, depending on the area of operation, depending on the members (individuals, households, legal entities, ..) credit funds can increase the contribution to establish membership status. minimum capital in order to increase the charter capital for the fund.

+ Carry out merger and consolidation of small-scale people's credit funds with adjacent operating areas: The merger and consolidation will create conditions for people's credit funds to improve their financial capacity. management, reducing management costs, and improving operational efficiency. In addition, people's credit funds need to control costs, improve operational efficiency, and increase the percentage of retained earnings to increase the size of equity capital.

- Restructure the activities of the People's Credit Fund

Developing the banking services of the People's Credit Fund through the Cooperative Bank focal point in accordance with the management capacity of the People's Credit Fund and aiming to better serve its members and customers in the agricultural and rural areas, disadvantaged areas, contributing to support community development - in line with the operational objectives of the type of cooperative credit institution.

- Thoroughly grasp and strictly abide by the regulations on safety in the operation of the People's Fund

The situation of some People's Credit Funds violating regulations on capital adequacy, credit safety, the safety of treasury, etc., still occurs in recent times. Therefore, the strengthening of governance, internal control, inspection, and supervision of the SBV aims to establish and strengthen the operation of the whole system.

- Upgrade and complete facilities, and equipment and improve information technology capacity

Each People's Credit Fund needs to focus on investing in building headquarters, equipment, management information systems, and computerization in professional management and administration, ensuring that 100% of the People's Credit Funds have facilities to meet requirements. safe operation and installed internet, and fax; complete and install a unified management information system throughout the system so that people's credit funds can operate professionally.

## ***(2). Solutions for Co-operative Bank***

- Improve business processes and procedures, and apply new technologies to improve the efficiency of working capital regulation for people's credit funds.

In order to implement this solution well, first of all, banks need to grasp the principle of prioritizing the service of grassroots credit funds, that is, credit banks only lend to businesses outside the system after they have fully met the needs of people's credit funds. In addition, the supporting bank needs to improve its business processes and procedures and apply new technologies for receiving and lending available capital to people's credit funds in the most flexible, quick, and convenient way possible. On the other hand, the Coalition Bank needs to strengthen the expansion of the internal payment system in order to better serve the money transfer service and create favorable conditions for capital regulation nationwide.

- Improve service capacity to support People's Credit Funds:

As a focal organization with a nationwide scope, CIs need to proactively establish a network of organizations and mechanisms to provide care and support to improve the performance of People's credit funds

- Strengthening co-financing lending activities between co-financing banks and People's credit funds

The supporting bank must establish a co-financing lending mechanism together with the People's credit funds. The implementation process of the People's Credit Fund is the place to receive loan applications. When deeming that the ability and regulations to ensure operational safety do not allow financing the entire loan application project of customers, the People's credit funds will transfer the entire loan application to the CI. After reviewing the documents, the co-financing bank will decide on the co-financing loan with the People's credit funds.

- Strengthen the financial capacity of the supporting banks to be able to provide financial support to the People's credit funds. Improve financial capacity through channels:

- Capital contributed by members.

- Regulatory deposits of member credit unions.

- Increase the mobilization of deposits from residents and economic organizations.

### ***(3). Strengthening the linkage between People's Credit Funds***

- Enhance the ability of people's credit funds to put resources into common use and access common support services

People's credit funds often have a small size, limited management, and financial capacity, so People's credit funds need to determine responsibility for their system by actively participating in system organizations such as People's Credit Funds Association, System Preservation Fund, Solvency Reserve Fund, Mutual Insurance Fund, and other supporting organizations so that People's credit funds can both support and help each other - in accordance with their operating principles and at the same time. exploiting and promoting the resources of each People's Credit Fund to create the strength to link the system.

- Strengthening system linkage through contracts between People's credit funds

Correlation of the size of people's credit funds, that is, people's credit funds of different sizes need to sign contracts and agreements to exploit and operate, as well as develop appropriate banking and financial services to avoid situations in the system there is the phenomenon of "big fish eat small fish" or unfair competition.

***(4). Consolidate and improve the professional capacity of staff in the system of cooperative credit institutions***

The need to train human resources for the PCF system is very large and urgent. In order to meet the requirements of the people's credit fund system which is growing deeper, wider, and more effective, the improvement of capacity and professional qualifications must be comprehensively concerned at all levels. stages of the staffing process. This solution needs to follow the direction:

- Recruiting qualified new employees.
- Training and retraining the existing staff

## **5. DISCUSSION AND CONCLUSION**

### **5.1 Discussion**

#### **(1). Solution for People's Credit Fund**

- Strengthening the financial capacity of People's Credit Fund

As mentioned above, the current capital capacity of the People's Credit Funds system is very limited. This situation People's Credit Fund to face many difficulties in ensuring safety and developing their operations, reducing their competitiveness. To strengthen financial capacity, People's Credit Funds need to do the following well:

+ Increase the minimum and appropriate contribution for each member: Currently, according to the State Bank's regulations, the minimum established capital contribution is 300,000 VND. The level of capital contribution to establish membership is being regulated for all members. However, in our opinion, depending on the area of operation, depending on the members (individuals, households, legal entities, ..) credit funds can increase the contribution to establish membership status. minimum capital in order to increase the charter capital for the fund.

+ Carry out merger and consolidation of small-scale people's credit funds with adjacent operating areas: The merger and consolidation will create conditions for people's credit funds to improve their financial capacity. management, reducing management costs, and improving operational efficiency. In addition, people's credit funds need to control costs, improve operational efficiency, and increase the percentage of retained earnings to increase the size of equity capital.

- Restructure the activities of the People's Credit Fund

Developing the banking services of the People's Credit Fund through the Cooperative Bank focal point in accordance with the management capacity of the People's Credit Fund and aiming

to better serve its members and customers in the agricultural and rural areas, disadvantaged areas, contributing to support community development - in line with the operational objectives of the type of cooperative credit institution.

- Thoroughly grasp and strictly abide by the regulations on safety in the operation of the People's Fund

The situation of some People's Credit Funds violating regulations on capital adequacy, credit safety, the safety of treasury, etc., still occurs in recent times. Therefore, the strengthening of governance, internal control, inspection, and supervision of the SBV aims to establish and strengthen the operation of the whole system.

- Upgrade and complete facilities, and equipment and improve information technology capacity

Each People's Credit Fund needs to focus on investing in building headquarters, equipment, management information systems, and computerization in professional management and administration, ensuring that 100% of the People's Credit Funds have facilities to meet requirements. safe operation and installed internet, and fax; complete and install a unified management information system throughout the system so that people's credit funds can operate professionally.

## **(2). Solutions for Co-operative Bank**

- Improve business processes and procedures, and apply new technologies to improve the efficiency of working capital regulation for people's credit funds.

In order to implement this solution well, first of all, banks need to grasp the principle of prioritizing the service of grassroots credit funds, that is, credit banks only lend to businesses outside the system after they have fully met the needs of people's credit funds. basis. In addition, the supporting bank needs to improve its business processes and procedures and apply new technologies for receiving and lending available capital to people's credit funds in the most flexible, quick, and convenient way possible. On the other hand, the Coalition Bank needs to strengthen the expansion of the internal payment system in order to better serve the money transfer service and create favorable conditions for capital regulation nationwide.

- Improve service capacity to support People's Credit Funds:

As a focal organization with a nationwide scope, CIs need to proactively establish a network of organizations and mechanisms to provide care and support to improve the performance of People's credit funds

- Strengthening co-financing lending activities between co-financing banks and People's credit funds

The supporting bank must establish a co-financing lending mechanism together with the People's credit funds. The implementation process of the People's Credit Fund is the place to receive loan applications. When deeming that the ability and regulations to ensure operational safety do not allow financing the entire loan application project of customers, the People's



credit funds will transfer the entire loan application to the CI. After reviewing the documents, the co-financing bank will decide on the co-financing loan with the People's credit funds.

- Strengthen the financial capacity of the supporting banks to be able to provide financial support to the People's credit funds. Improve financial capacity through channels:

- Capital contributed by members.
- Regulatory deposits of member credit unions.
- Increase the mobilization of deposits from residents and economic organizations.

### **(3). Strengthening the linkage between People's Credit Funds**

- Enhance the ability of people's credit funds to put resources into common use and access common support services

People's credit funds often have a small size, limited management, and financial capacity, so People's credit funds need to determine responsibility for their system by actively participating in system organizations such as People's Credit Funds Association, System Preservation Fund, Solvency Reserve Fund, Mutual Insurance Fund, and other supporting organizations so that People's credit funds can both support and help each other - in accordance with their operating principles and at the same time. exploiting and promoting the resources of each People's Credit Fund to create the strength to link the system.

- Strengthening system linkage through contracts between People's credit funds

Correlation of the size of people's credit funds, that is, people's credit funds of different sizes need to sign contracts and agreements to exploit and operate, as well as develop appropriate banking and financial services to avoid situations in the system there is the phenomenon of "big fish eat small fish" or unfair competition.

### **4). Consolidate and improve the professional capacity of staff in the system of cooperative credit institutions**

The need to train human resources for the PCF system is very large and urgent. In order to meet the requirements of the people's credit fund system which is growing deeper, wider, and more effective, the improvement of capacity and professional qualifications must be comprehensively concerned at all levels. stages of the staffing process. This solution needs to follow the direction:

- Recruiting qualified new employees.
- Training and retraining the existing staff

**Conclusion:** In the process of economic renewal and development of the country, the PCF system plays an important role in mobilizing local capital, contributing to meeting capital needs for production, business, services, and life. members, poor households, carry out economic restructuring, build new countryside and limit usury in the countryside. The results achieved by the PCF system in recent years have confirmed the correct policy of the Party and State on the People's Credit Fund development model.

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# FACTORS AFFECTING THE CAPACITY OF HUMAN RESOURCES IN HIGHER EDUCATION INSTITUTIONS OF THE MINISTRY OF FINANCE OF VIETNAM - A CASE STUDY OF THE UNIVERSITY OF FINANCE - BUSINESS ADMINISTRATION

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*Abstract: This paper aims to evaluate the factors affecting management human resource capacity at the University of Finance - Business Administration, which is a public educational institution in the financial industry, under the Ministry of Finance, Vietnam. Through the comparison of research from practice with the theoretical basis system, we focus on studying and evaluating the influence of the following factors: (1) Development strategy; (2) Working environment; (3) Policies and remuneration regimes; (4) Employee involvement; (5) Organizational culture to management human capacity with standards of knowledge; skill; attitudes and general competency standards. The research model is in SEM form and measurement models are reflective scales, so this paper applies SPSS 24.0 and AMOS 24.0 software. Analytical data is collected through survey questionnaires with observed variables measures using the typical 5-point Likert scales. Survey subjects are officials, management leaders, experts, and employees at administrative and non-business units under the Ministry of Finance. Highlights of this study are two factors that have a strong impact on the human resource management capacity of the University of Finance - Business Administration, including factors related to the environment and the level of employee participation in financial education institutions in Vietnam.*

*Keywords: Management capacity, human resource management, public educational institutions, Vietnam*

## 1. INTRODUCTION

The fostering and retraining issues which enable leaders and employees in non-business units to be capable of operating and mastering new technologies are very important. The organizational structure and personnel regulations on determining job positions are still not specific and difficult to implement, making it difficult for financial education institutions in personnel arrangement and recruitment (Nguyen Viet Loi, 2017). In addition, public educational institutions in the Finance sector are under pressure to attract high-quality human resources, facing the risk of transferring high-quality human resources to other institutions due to the lack of resources. The career positions have not yet created mechanisms and policies to attract talents, and have not created an attractive working environment to encourage the active participation of employees.

In building a competency framework for leading human resources, input-based, transformational, and head-based managerial human capacity is the process of developing

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managerial human capacity to bring about a sustainable competitive advantage for an organization, or enterprise, (Lado A. A., Wilson M. C, 1994), a Competency-based perspective, by focusing attention on human resource activities, functions, and processes to enhance or become resistant to capacity accumulation and exploitation, complements the behavioral perspective (Schuler & Jackson, 1987) and, therefore, has the potential to improve understanding of strategic human resource management. The results of the human resource management framework have been proven to be effective tools in recruitment, performance management, human resource development, and ultimately to improve the efficiency of the entire enterprise organization. Therefore, organizations and businesses are interested in and focused on developing the capacity of managing human resources.

In Vietnam, the dominant research direction on human resource management is the assessment and identification of management capabilities in organizations. Research articles on the capacity of senior management personnel are topics of interest to many scholars with valuable works. Scientific topics are mentioned at different levels such as in textbooks, lectures, and articles published in prestigious journals. Which, authors such as Vu Thuy Duong and Hoang Van Hai (2005), Nguyen Van Diem and Nguyen Ngoc Quan (2010), Le Quan, Nguyen Quoc Khanh (2012), Pham Thi Quynh Hoa (2018), Nguyen Hong Tin, Vo Thi Thanh Loc, Vo Thanh Danh, Nguyen Quang Tuyen, Vo Kim Thoa (2015) are the authors with elaborate and outstanding studies on this issue. The authors have made many assessments in such content as the concept and role of management capacity in handling work as well as operating in organizations and enterprises.

The concept, theoretical basis, and application of management capacity in general and management capacity to the public sector, in particular, have been fully studied in the world since the 1990s. There have been many scientific works. value studies in countries around the world with a focus on leadership and management in the public sector such as Spencer (1993); Dainty (2005); Chung-Herrera et al (2003); a group of scientists from Korea such as Kang et al (2015); a group of scientists from China such as Xuejun and Wang (2009); a group of scientists from Taiwan such as Jeou-Shyan et al (2011); Research by Megahed (2015). Thus, the scientific approach to management capacity has been recognized in many countries around the world. However, up to now, there has been no research work in Vietnam and in the world to study the factors affecting the human resource capacity of leadership and management at regional educational institutions, especially at the University of Finance - Business Administration, Ministry of Finance of Vietnam.

This paper is mainly based on sociological survey method, including questionnaires and in-depth interviews to collect primary data on leadership development through direct survey of staffs, management level, experts and employees of University of Finance - Business Administration - A public educational institution under the Ministry of Finance, Vietnam. Therefore, the study uses an exploratory case study design (Venkatasubramanian, Rengaswamy, Yin, & Kavuri, 2003) with the aim of studying the factors affecting the capacity of human resource management at the University of Finance - Business Administration, Ministry of Finance of Vietnam to provide implications for the University to have the correct view in

its management as well as to help educational institutions belonging to Ministry of Finance of Vietnam to refer to have solutions to improve the capacity of their management.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1. Human capacity**

The term “competence” was first used by McClelland (1973) in the study “Testing competence rather than intelligence”. In this work, the author mentions that the test tests cannot predict the level of job completion and the success of employees in the career unit. However, the level of success, efficiency in work, and work done well can be predicted through the individual personality of employees as well as the capabilities they possess. The reason given is that in training institutions there is always a need to try to survive and develop. Research by the author group Rodriguez et al. (2002) indicates that the unit of work established to achieve good work results needs effective employees to be able to implement the strategy, the vision of the organization, and the unit setup. Therefore, Research about power management is a way of connection to help management personnel complete their assigned tasks, thereby helping individuals organize their work in general and providing basic education in the field of finance. Own your own goals.

### **2.2. Management human resource development strategy**

In research by author Ta Huy Hung (2019), the management human resource development strategy is a long-term orientation and plans to have a leadership team that meets the capacity requirements to be able to perform tasks in the long term. The management human resource development strategy is also an important basis for determining long-term, medium-term, and short-term human resource plans; this is also the basis for implementing management human resource development activities. To ensure that the quantity and quality meet the requirements of performing management tasks. Therefore, determining the strategy to develop management human resources has a strong impact on the implementation of management activities and the development of management human resources in financial education institutions. Accordingly, the first hypothesis is proposed as follows:

***Hypothesis 1 (H1):** The impact of development strategy on the capacity of human resource management*

### **2.3. Working environment**

Working environment plays an important role towards the employees, management ‘performance. Working environment is to impact immensely on employees’ performance either towards negative or the positive outcomes (Chandrasekar, 2001). Noble (2009) states that more attention should be paid in identifying and dealing with working environment because when employee has negative perception to their environment they sometimes suffer from chronic stress. Opperman (2002) stated that, working environment means those processes, systems, structures, tools or conditions in the workplace that impact favorably or unfavorably individual performance.



The working environment of management human resources is the totality of all conditions surrounding human resources in general and management staff in particular during the working period, affecting the working process and emotions, working mode of employees, and management force. Specifically, the environment includes the physical conditions such as workspace, design office, furniture, work equipment, etc.; the environment includes mental conditions such as the interaction between employees, the interaction between employees and managers, common working mode of employees, management, regulations - rules of the organization institutions, businesses,... (Christabella Peter Bushiri, 2014).

Thus, it can be seen that to have an ideal working environment, organizations and businesses need to have many conditions to meet, both physically and mentally. In this way, the new management staff will be comfortable and excited to give their best at the office every day, bringing efficiency to the enterprise organization in general and grassroots education in particular. From here, the second hypothesis is proposed as follows:

***Hypothesis 2 (H2):** The impact of the working environment on the capacity of human resource management*

#### **2.4. Human resource policy and remuneration**

This is considered a guideline that has an important influence on the behavior at work and the performance of duties of the management team. Especially, the compensation policy according to the ability has a great influence on the attitude of the assessee in receiving the results and directing their efforts to improve their capacity in the future.

Developing management leadership capacity must first retain good human resources capable of leading and managing. Approaching this aspect, applying remuneration and improving the working environment will contribute to retaining key old employees and attracting new ones (Fry, L.W. 2003). From there, train and improve the capacity of key personnel and develop new leaders. From the above analysis, the third hypotheses is proposed:

***Hypothesis 3 (H3):** The impact of policies and remuneration regimes on the capacity of human resource management.*

#### **2.5. Employee participation**

Research by authors Roberts (2003), Islam and Bin (2006) manages the importance of employee participation in the evaluation process that will affect the results of personnel evaluation. In the study of Roberts (2003), the participation of employees in the evaluation system of the public non-business unit will help improve their performance through staff understanding and trust in the work of the rating system. With that news, security staff like a better acceptance of the evaluation results, even if the evaluation results for them personally are not good. Because they believe that their participation makes the rating system fairer and more positive. Thus, the participation of employees, who are subject managers here, will have an impact on capacity assessment work, a content belonging to the human resources management company in general of financial education institutions. Based on this argument, the fourth hypotheses are proposed:

*Hypothesis 4 (H4): The impact of employee participation on the capacity of human resource management*

## **2.6. Organizational cultural environment**

Research by Boyatzis (2008) refers to culture in established units as an important factor in human resource management in general and this is effective to assess activities value and the capacity of own management staff. A strong cultural environment in financial training institutions encourages management staff to share values, beliefs, work motivations, and more. This Elementary must be viewed as the direction for the build-up of the power staff and as built-up standard and the process that mark with the kernel of management in the group function said general and the database Education privacy. From here, the following final hypothesis is added:

*Hypothesis 5 (H5): The impact of organizational culture on capacity of human resource management*

## **3. RESEARCH METHODOLOGY**

### **3.1. Data decimal method**

For secondary data: Researching data is decimal information, news, figures, documents, standards, reports of the Ministry of Finance, the Ministry of Labor - Invalids and Social Affairs, the General Confederation of Labor Vietnam Action, Vietnam Chamber of Commerce and Industry (VCCI), development strategy of the University of Finance - Business Administration, Vietnam Ministry of Finance and magazine; report; specialized website related to human resource management, human resource development, leadership, human resource development leadership, domestic and international management.

For the data level: This weighted research, sociological research method uses surveys and in-depth interviews to collect primary data related to management capacity development. The survey was designed using a combination of open and closed questions, a scale (identifier, interval, and rate), and a 5-point Likert scale (1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, and 5 = strongly disagree). The survey subjects were managers, management leaders, experts, and employees of the University of Finance - Business Administration, Ministry of Finance.

According to Hair, Ringle, and Sarstedt (2011), as a rule of thumb, the sample size should be equal to or greater than 100 and the smallest sample should have the desired ratio of 5 observations for each variable ( $n > 100$  samples and  $n = 5k$ , where  $k$  is the number of observed variables equivalent to the number of research questions). On the other hand, according to Bursi et al. (2006), the minimum sample size applicable in practical studies is 100 to 200 observations. With the author's research, there are 125 survey is suitable for a practical study.

### **3.2. Data analysis method**

After collecting data from the University of Finance - Business Administration, Ministry of Finance in Vietnam, the author cleaned the data, coded the necessary information in the investigation, and entered and analyzed the data using SPSS 24 and AMOS 24 software.

The imported data is analyzed according to EFA, and CFA, analyzing the linear structure model base on SEM structural model is widely used in the fields of psychological research (Anderson & Gerbing, 1988), sociology (Lavee, 1988; Lorence & Mortimer, 1985), research child development (Biddle & Marlin, 1987) and extensively studied in the field of management (Tharenou, Latimer, & Conroy, 1994). After the model parameters have been estimated, the results of the implied model covariance matrix are then compared with an empirical covariance matrix or based on data. If the two matrices are unified, then the structural equation model can be considered a plausible explanation for the relationship between factors (Hoyle, 1995).

#### 4. RESEARCH RESULTS

##### 4.1. The result of exploratory factor analysis (EFA)

Methods of exploratory factor analysis (EFA) and multivariate regression were selected to analyze the data in the research.

**Table 1. Coefficient KMO and BT**

<b>KMO and Bartlett's Test</b>		<b>1st</b>	<b>Last</b>
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.867	.882
Bartlett's Test of Sphericity	Approx. Chi-Square	3103.217	2319.451
	Df	741	435
	Sig.	.000	.000
Total variance extracted		75.098	76.286

The Kaiser-Meyer-Olkin Test (KMO) as a Measure of Sampling Adequacy was used in the present study (Table 1) to detect multicollinearity in the data to verify the appropriateness of carrying out a factor analysis. For our data, KMO was  $0.882 > 0.5$ , and the results of our analysis for Bartlett's Test of Sphericity showed a significance level of 0.00. It can be concluded that the relationship among variables is strong. Because there is no change in the names of the factors, the hypotheses proposed to test the previous section are kept for testing in the next sections.

**Table 2. Pattern Matrix**

	<b>Component</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
TG2	.968			
TG4	.855			
TG3	.840			
TG1	.787			
KN2		.978		
KN1		.913		
KN5		.711		
KN3		.663		
CS1			.968	
CS3			.917	
CS2			.844	
TD2				.964
TD1				.898

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization. According to Hair & ctg (2009, 116), Multivariate Data Analysis, 7th Edition:

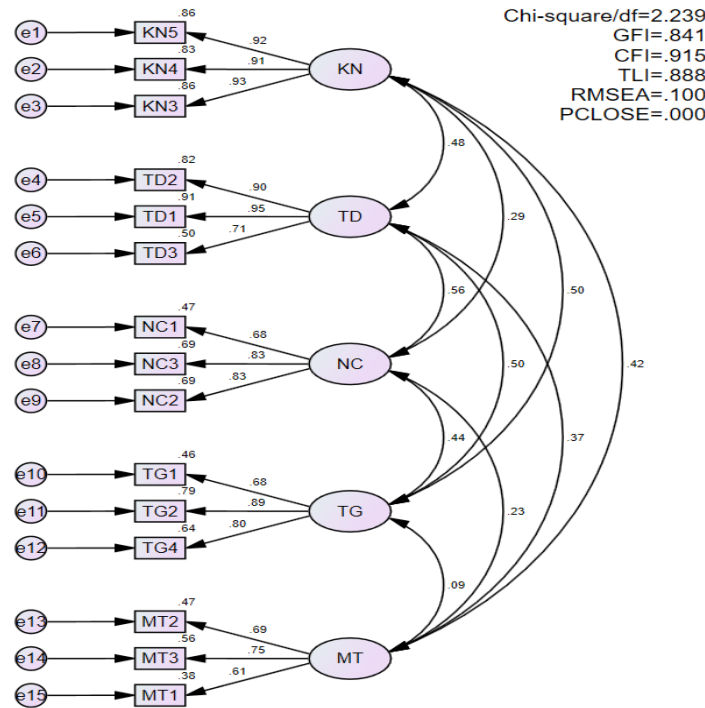
- Factor loading at  $\pm 0.7$ : The observed variable has a very good statistical significance.
- Factor loading at  $\pm 0.5$ : The observed variable has a good statistical significance.
- Factor loading at  $\pm 0.3$ : The minimum condition for the observed variable to be retained.

As we can see, all the factors in Table 2 are satisfactory because they are greater than 0.5. Not only that, there are 12 factors with factor loading greater than 0.7, so the factors have a very good statistical level and satisfy the requirements to go to the CFA analysis step.

**4.2. Factor analysis results confirm CFA**

After performing exploratory factor analysis, the author conducted a confirmatory factor analysis CFA, and obtained the following results about the model:

The coefficients CFI=0.915 are greater than 0.9, TLI=0.884, and GFI=0.841 are all greater than 0.8. PCLOSE=0.0 < 0.1, CMIN/df = 2,239 < 3, so the model is considered suitable with market data and ensures unidirectionality.



**Fig. 1. Model analysis confirms CFA**

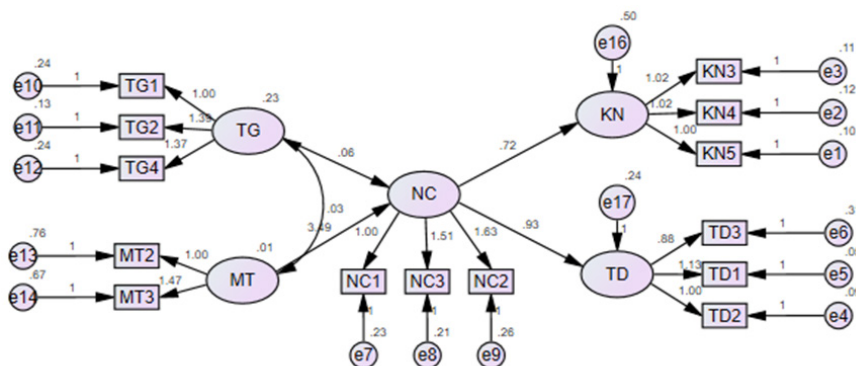
The regression coefficient table 3 shows that the P-values are less than 0.05 and the results from the normalized regression weighting table show that the weights are greater than 0.5, so the scales ensure convergence values. All scales have good general reliability (CR > 0.5); Total variance extracted (AVE) > 0.5.

**Table 3: Results CR and AVE**

	CR	AVE	MSV	MaxR(H)	KN	TD	NC	TG	MT
KN	0.944	0.848	0.256	0.944	0.921				
TD	0.895	0.742	0.314	0.939	0.480***	0.861			
NC	0.827	0.617	0.314	0.843	0.289**	0.560***	0.785		
TG	0.836	0.632	0.256	0.860	0.506***	0.503***	0.439***	0.795	
MT	0.752	0.616	0.130	0.905	0.360*	0.328*	0.131	0.162	0.785

**4.3. Structural equation modeling (SEM)**

After having the results of checking the suitability of the entire model, the author proceeded to put all the observations and latent variables that were satisfied into the model for SEM analysis and hypothesis testing. The results of the linear structural model analysis in the figure show that the values  $Cmin/df = 3.140 < 5$ ,  $TLI = 0.882$ ,  $CFI = 0.858$  and  $GFI = 0.953$  have achieved good results and  $RMSEA = 0.037 < 0.05$ . As such, the data is considered appropriate.



**Fig. 2. Result from SEM**

**4.4. Results of hypothesis testing**

After testing the goodness of fit of the model, the results of hypothesis testing are shown through Regression Weight and Normalized Regression Weight. Table 3 shows the normalized regression weights, whereby all coefficients have a positive sign indicating that the influence direction between factors is positive.

**Table 4. Standardized Regression Weights**

(Group number 1 - Default model)

			Estimate
KN5	<---	KN	.925
KN4	<---	KN	.912
KN3	<---	KN	.926
TD2	<---	TD	.903
TD1	<---	TD	.954
TD3	<---	TD	.707
NC1	<---	NC	.685

			<b>Estimate</b>
NC3	<---	NC	.830
NC2	<---	NC	.833
TG1	<---	TG	.680
TG2	<---	TG	.887
TG4	<---	TG	.802
MT2	<---	MT	.687
MT3	<---	MT	.746
MT1	<---	MT	.614

## 5. DISCUSSION AND CONCLUSION

The results of hypothesis testing obtained: The group of strategic factors (H1), policies and remuneration regimes (H3), and organizational culture (H5) do not have enough grounds to conclude affecting on human resource management capacity. Meanwhile, the group of working environment factors (H2) and the group of employee participation factors (H4) have a positive effect on human resource management capacity.

**Table 5: Hypothesis test results**

<b>Hypothesis</b>	<b>Content</b>	<b>Result</b>
H1	The impact of development strategy on human resource management capacity	No statistical significance
H2	The impact of working environment on human resource management capacity	Statistical significance and have a positive effect
H3	The impact of policies and remuneration regimes on human resource management capacity	No statistical significance
H4	The impact of employee participation on human resource management capacity	Statistical significance and have a positive effect
H5	The impact of organizational culture on human resource capacity	No statistical significance

The research in this paper has contributed both theoretically and practically. Firstly, in practical terms, the research results are the basis for public and government organizations in general and the University of Finance - Business Administration, Ministry of Finance of Vietnam in particular to plan policies to improve human resource management capacity forces in the Vietnamese public sector. Leaders of the University of Finance - Business Administration, Ministry of Finance of Vietnam need to pay more attention to at least two main factors, working environment and employee participation, to help improve the capacity of managers. Next, the study also builds and tests a research model on management capacity in the University of Finance - Business Administration under the Ministry of Finance of Vietnam.

However, in order to do well in human resource management, it not only comes from the efforts and efforts of the organization's top leaders, but also needs the proper attention of the Party and State of Vietnam. The authors hope that these research results will partly help organizations in the Ministry of Finance of Vietnam have a clearer view and have a more correct orientation and strategy in improving human resource management capacity force.

This study has some limitations. Although the data is quite diverse, the sample size (125) is still quite small compared to the sample frame. We suggest that future studies should expand



the sample size and increase the number of financial training institutions under the Ministry of Finance of Vietnam.

Finally, this study, only two factors have an impact on human resource management capacity, therefore, further studies can expand the variables to diversify and evaluate more effectively for human resource management capacity. human resource management capacity to make more accurate recommendations on human resource management capacity in the public sector in general and the Ministry of Finance in particular in Vietnam.

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# GLOBAL CHALLENGES, SUSTAINABLE SOLUTIONS: BUSINESS STRATEGIES IN VIETNAM AMIDST A CHANGING WORLD

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**Abstract:** *Amidst rapid globalization and evolving socio-economic landscapes, this paper examines how businesses in Vietnam navigate global challenges while pursuing sustainable strategies. Through literature analysis, and policy review, we explore the impact of global shifts on local businesses, identifying vulnerable sectors. Case studies and expert interviews reveal innovative approaches used by Vietnamese businesses to address challenges and integrate sustainability. The study underscores the importance of adaptable strategies and highlights factors enabling successful sustainability integration. Our findings emphasize aligning business approaches with sustainability principles for resilience and competitiveness. This research contributes to understanding how localized strategies interact with global dynamics, guiding businesses toward sustainable success in a changing world.*

**Keywords:** *Globalization, Sustainable business, Challenges, Vietnam, Business strategies*

## 1. INTRODUCTION

In an increasingly interconnected world characterized by rapid technological advancements and shifting economic landscapes, the concept of sustainable development has gained paramount importance. Globalization has significantly altered the dynamics of business operations, presenting both opportunities and challenges for economies and enterprises alike. As nations strive to harness the benefits of globalization while addressing its complexities, the pursuit of sustainable economic growth has emerged as a vital consideration.

This paper focuses on the Vietnamese context, a country undergoing remarkable transformation in the face of globalization's multifaceted impacts. Vietnam's journey from a predominantly agrarian economy to a rapidly industrializing nation mirrors the global trends of increased trade, technological diffusion, and cross-border integration. Yet, these changes have brought forth numerous challenges, from environmental concerns to socio-economic inequalities.

Against this backdrop, the purpose of this study is to delve into the intricate relationship between global challenges, sustainable business practices, and strategic responses in Vietnam. By scrutinizing the ways in which local businesses navigate the evolving global landscape, we aim to shed light on innovative approaches that balance economic growth with environmental and social well-being. Through comprehensive analysis and insightful case studies, this research contributes to a deeper understanding of how businesses in Vietnam are adapting to the changing world order while advancing sustainability goals.

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## **2. LITERATURE REVIEW**

The intersection of developing a sustainable economy and business in the context of globalization has attracted substantial scholarly attention. The literature reflects a growing recognition that global challenges, including climate change, resource scarcity, and social inequality, necessitate innovative strategies for businesses to remain competitive while contributing to sustainable development. This section reviews key themes and findings from existing literature that inform our understanding of this dynamic relationship.

### **2.1. Globalization's Impacts on Business and Economy:**

Scholars emphasize how globalization has transformed trade patterns, supply chains, and market dynamics. As economies become increasingly interconnected, businesses face intensified competition, higher consumer expectations, and exposure to global risks. Furthermore, the influx of new technologies and digital platforms has enabled borderless commerce, influencing business models and customer interactions.

### **2.2. Sustainable Business Practices in a Globalized World:**

The literature underscores that sustainable business practices are no longer optional but essential for long-term viability. Firms are urged to integrate environmental stewardship, social responsibility, and ethical governance into their strategies. Concepts such as corporate social responsibility (CSR), green innovation, and circular economy principles have emerged as tools for aligning economic growth with sustainable outcomes.

### **2.3. Challenges and Opportunities in Developing Countries:**

Developing countries, like Vietnam, encounter unique challenges as they integrate into the global economy. These challenges encompass resource constraints, environmental degradation, and socio-economic disparities. Nonetheless, the literature highlights opportunities for leapfrogging traditional developmental pathways by adopting sustainable practices early on.

### **2.4. Business Strategies for Sustainability:**

Scholars explore a range of strategies that businesses can employ to thrive in a sustainable global economy. These include diversifying supply chains, embracing eco-innovation, and fostering stakeholder engagement. Collaborative initiatives with governments, non-governmental organizations, and academia also emerge as effective means to address complex global challenges.

### **2.5. Localizing Global Sustainability Goals:**

Researchers emphasize the importance of contextualizing global sustainability frameworks to suit local conditions. This localization involves tailoring strategies to account for cultural norms, regulatory environments, and specific developmental challenges. Successful implementation hinges on the ability of businesses to strike a balance between global best practices and localized solutions.

In conclusion, the literature review demonstrates a rich body of research exploring the intricate interplay between sustainable economy, business strategies, and globalization. The

evolving landscape underscores the need for businesses to adapt, innovate, and collaborate across borders while remaining committed to sustainability. This study builds upon these insights by delving into the specific case of Vietnam, unraveling how businesses in the country navigate the challenges and opportunities of a rapidly changing global environment while striving for sustainability.

### 3. METHODOLOGY

This section outlines the research design, data collection methods, case study selection, and data analysis techniques employed in the study.

**Research Design:** A qualitative case study approach will be adopted for this research, enabling an in-depth exploration of the relationship between sustainable economy, business strategies, and globalization within the Vietnamese context. This approach is well-suited to understanding complex phenomena in their real-world context and generating rich insights from multiple data sources.

**Data Collection Methods: Literature Review:** A comprehensive literature review will be conducted to gather existing knowledge on sustainable business practices, globalization impacts, and related concepts. This will help establish a theoretical framework and provide a foundation for the case study analysis.

**Policy Analysis:** Government policies, regulations, and initiatives related to sustainable development and business practices in Vietnam will be analyzed. This will provide insights into the broader policy environment shaping business behavior.

**Case Study Selection:** Two case studies will be selected to illustrate different aspects of sustainable business strategies within the Vietnamese context. These case studies will focus on businesses that have effectively integrated sustainability principles into their operations. One case study will highlight the implementation of circular economy practices, while the other will showcase successful corporate social responsibility initiatives.

**Data Analysis Techniques: Thematic Analysis:** Thematic analysis will be used to analyze qualitative data collected from interviews and policy documents. The process involves identifying patterns, themes, and relationships within the data. Initial coding of the data will be followed by the development of broader themes that capture key insights and findings.

**Comparative Analysis:** A comparative analysis will be conducted to identify similarities and differences between the two selected case studies. This analysis will allow for a nuanced understanding of the different strategies employed by businesses to achieve sustainable development goals.

**Validity and Reliability:** To ensure the validity of findings, triangulation will be employed by cross-referencing information from various data sources, including literature, policy documents, and interview transcripts. Additionally, member checking will be conducted by sharing preliminary findings with interviewees to ensure accuracy and alignment with their perspectives.

While the qualitative case study approach offers rich insights, the findings may not be fully generalizable due to the specific nature of the case studies and the Vietnamese context. Additionally, the reliance on self-reported data from interviews could introduce bias.

By employing a robust research design, thorough data collection methods, and rigorous data analysis techniques, this study aims to provide a comprehensive understanding of how sustainable economy and business strategies are developed and implemented in the context of globalization within Vietnam.

#### **4. GLOBALIZATION AND ITS IMPACTS ON VIETNAMESE BUSINESSES**

The rapid pace of globalization has fundamentally transformed the operating environment for Vietnamese businesses. In this segment, we delve deeply into the intricate array of effects that globalization has exerted on these enterprises, spanning from shifts in trade patterns to the evolving dynamics of market competition. Globalization has precipitated a profound reconfiguration of trade patterns, propelling Vietnamese businesses toward an increasingly active role in international markets. The dismantling of trade barriers, the ascent of e-commerce, and advancements in logistics have all acted in concert to facilitate the seamless flow of goods across borders. This has ushered in fresh avenues for industries oriented toward exports, concurrently subjecting these businesses to amplified global competition. The phenomenon of globalization has also spurred the integration of supply chains across geographical boundaries, leading to intricate networks of production and distribution. Vietnamese businesses now occupy pivotal nodes within these global supply chains, collaborating with international partners to procure materials and components. Nonetheless, this heightened integration has concurrently laid them bare to risks, exemplified by vulnerabilities to supply chain disruptions emanating from events transpiring in remote corners of the world.

Furthermore, the dynamics of the market and consumer expectations have undergone a metamorphosis due to globalization. As geographic boundaries blur, Vietnamese businesses grapple with elevated consumer expectations, informed by global trends and standards. The influx of foreign products and services has elevated benchmarks for quality, innovation, and the overall customer experience. In order to sustain competitiveness on both the domestic and international fronts, businesses must adapt their strategies to satisfy these increasingly discerning demands. Simultaneously, the diffusion of technology across borders has bestowed Vietnamese enterprises with access to state-of-the-art tools and digital platforms. The proliferation of digital technologies has not only revolutionized marketing approaches and customer interaction but has also heightened the urgency for businesses to maintain a constant cadence of innovation and remain attuned to technological trends in order to retain relevance in the market.

Yet, the extensive interweaving of economies under globalization's mantle exposes Vietnamese businesses to a gamut of risks, ranging from economic undulations to geopolitical tensions and currency fluctuations. The intricate web of global interconnectedness signifies that disturbances in one corner of the world can reverberate and resonate throughout businesses in distant locales. This necessitates the formulation and implementation of robust



risk management strategies to mitigate potential disruptions. It's important to recognize that globalization's impact isn't restricted solely to economic domains; it reverberates through environmental and societal spheres as well. As Vietnamese businesses embrace global markets, they are compelled to address concerns surrounding sustainable practices, adherence to environmental regulations, and upholding social responsibilities. An oversight in these realms could culminate in reputational harm and exclusion from markets that prioritize sustainability as a key criterion.

## **5. SUSTAINABLE BUSINESS PRACTICES IN VIETNAM**

In the pursuit of sustainable development in Vietnam within the intricate embrace of globalization, a panorama of challenges and prospects emerges. This section meticulously dissects the pivotal challenges confronting businesses and simultaneously explores the avenues through which they can harness opportunities for sustainable expansion. Notable among these challenges is the strain imposed by resource limitations and environmental apprehensions. Swift industrialization and urbanization have rendered Vietnam susceptible to resource scarcity and environmental deterioration, with businesses contending with predicaments ranging from water scarcity and pollution to habitat degradation. The conundrum lies in orchestrating a delicate equilibrium between economic progression and environmental conservation, necessitating the embrace of resource-efficient practices.

Additionally, persistent socio-economic disparities persist despite the transformative effects of economic growth, accentuating the significance of businesses contemplating an evenhanded distribution of benefits. This encompasses the fostering of decent work conditions and equitable wages, thereby contributing to an all-encompassing development framework. Redressing social inequalities not only augments societal well-being but also fortifies long-term stability. Propelling these endeavors forward, technological advancements unfurl corridors of innovation that enable businesses to transcend conventional developmental trajectories. This entails the strategic leveraging of technology to sculpt sustainable solutions, encompassing domains like renewable energy infrastructure and digital platforms for fostering financial inclusivity. However, navigating technological shifts necessitates a confluence of investment and adaptability.

Moreover, the transition towards a sustainable economy beckons substantial investments in green technologies and practices, underscoring the imperative for businesses to secure access to mechanisms of green finance and investment avenues aligned with sustainability objectives. This demands fruitful collaboration with financial institutions and international partners. Although the adoption of circular economy practices presents an array of benefits, it might entail initial costs and necessitate the recalibration of organizational workflows. Despite the short-term challenges, businesses must commit resources to research, development, and training to wholeheartedly embrace circular principles.

While globalization offers an aperture for businesses to tap into broader markets, it concurrently subjects them to heightened competition from international contenders. Nonetheless, sustainable practices can assume the role of a distinguishing factor, equipping

businesses to cater to conscientious consumer segments and access markets that elevate sustainability as a cornerstone. Additionally, navigating the evolving regulatory landscape is pivotal, as Vietnam's regulatory fabric assimilates sustainability considerations. Businesses must adroitly navigate the evolving terrain of regulations related to environmental safeguarding, social responsibility, and principled business practices.

## **6. CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT**

In the pursuit of sustainable development in Vietnam within the intricate embrace of globalization, a panorama of challenges and prospects emerges. This section meticulously dissects the pivotal challenges confronting businesses and simultaneously explores the avenues through which they can harness opportunities for sustainable expansion. Notable among these challenges is the strain imposed by resource limitations and environmental apprehensions. Swift industrialization and urbanization have rendered Vietnam susceptible to resource scarcity and environmental deterioration, with businesses contending with predicaments ranging from water scarcity and pollution to habitat degradation. The conundrum lies in orchestrating a delicate equilibrium between economic progression and environmental conservation, necessitating the embrace of resource-efficient practices.

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## **7. CASE STUDIES: INNOVATIVE STRATEGIES FOR SUSTAINABILITY**

This section presents two case studies that highlight innovative approaches adopted by Vietnamese businesses to incorporate sustainability into their strategies. These cases exemplify how businesses are addressing challenges and seizing opportunities in pursuit of sustainable development.

### **7.1. Case Study 1: Circular Economy Integration in Manufacturing**

Business Name: EcoTech Solutions (Eco-green solution joint stock company)

Eco-green solution joint stock company, a Vietnamese manufacturing company, has embraced circular economy principles to transform its operations. By rethinking product design, materials sourcing, and waste management, EcoTech has minimized resource consumption and waste generation. The company's "closed-loop" approach involves designing products for disassembly and remanufacturing, extending product lifecycles, and reducing reliance on virgin resources. EcoTech's circular initiatives not only reduce environmental impact but also enhance cost efficiency and customer loyalty.

### **7.2. Case Study 2: Sustainable Value Chain Collaboration**

Business Name: Viet nam green foods join stock company

Viet nam green foods join stock company, a Vietnamese food processing company, has fostered sustainable practices across its value chain. Recognizing the importance of responsible sourcing, the company collaborates closely with local farmers to promote organic farming techniques and fair labor practices. Viet nam green foods join stock company's commitment to ethical sourcing not only ensures the quality of its products but also supports the livelihoods of rural communities. The company's transparency and emphasis on shared value have positioned it as a leader in sustainable food production.

**Lessons Learned:** These case studies underscore the importance of innovative strategies in navigating challenges and capitalizing on opportunities. EcoTech Solutions' circular economy model showcases how reimagining traditional manufacturing processes can lead to resource efficiency and long-term viability. Meanwhile, GreenHarvest Foods' emphasis on sustainable value chain collaboration demonstrates the potential for businesses to contribute to social well-being while ensuring product quality and market competitiveness.

#### **Key Takeaways:**

**Innovation as a Driver:** Both cases emphasize the role of innovation in driving sustainable practices. Innovation allows businesses to find creative solutions to sustainability challenges and gain a competitive edge in the global market.

**Collaboration and Partnerships:** Collaboration with stakeholders, including suppliers, customers, and local communities, is crucial in achieving sustainable development goals. Businesses that engage in meaningful partnerships can amplify their impact.

**Holistic Approach:** Sustainable development is not limited to environmental concerns but also encompasses social and economic dimensions. Businesses must adopt a holistic approach that considers diverse stakeholder interests.

**Long-Term Vision:** Successful integration of sustainability requires a long-term vision that transcends short-term challenges. Businesses must invest in sustainable practices that may initially involve additional costs but yield long-term benefits.

## **9. DISCUSSION AND FINDINGS**

This section synthesizes key research findings by drawing insights from literature reviews, case studies, and empirical data. The ensuing discussion highlights research implications and elucidates how Vietnamese businesses navigate the intricacies of fostering a sustainable economy and business within a globalized framework. The discourse emphasizes the delicate equilibrium Vietnamese businesses must strike between global market demands and sustainability imperatives. While globalization offers growth prospects, it also amplifies competition and exposes businesses to global risks. Sustainable practices like circular economy initiatives and ethical sourcing are pivotal in differentiating businesses and bolstering long-term resilience. Innovation emerges as a central motif, with case studies underscoring its pivotal role. Enterprises embracing eco-innovation, circular economy principles, and responsible value chain management gain a competitive edge, positioning themselves as pioneers. Adapting global sustainability frameworks to the Vietnamese context is highlighted, with successful businesses adeptly balancing global best practices and local needs. Collaboration's significance is stressed, as partnerships among businesses, government bodies, NGOs, and local communities are vital for inclusive sustainable development. The triple bottom line approach, considering economic, social, and environmental facets, is reinforced to measure success beyond financial performance. Strategic flexibility is crucial for businesses to adapt to evolving dynamics and sustainability challenges. Policy's role in shaping the business environment is pointed out, with policymakers pivotal in enabling sustainable practices through incentives, regulations, and capacity-building. The research's contributions in elucidating the nexus of sustainable economy, business strategies, and globalization in Vietnam are underscored, offering valuable guidance for businesses, policymakers, and researchers invested in sustainable development.

## **10. IMPLICATIONS AND RECOMMENDATIONS**

This section outlines the implications of the research findings and provides actionable recommendations for businesses, policymakers, and other stakeholders to foster sustainable economic growth and business practices in Vietnam within the context of globalization.

Businesses:

- **Embrace Innovation:** Businesses should prioritize innovation to develop sustainable products, processes, and business models that meet global demands while minimizing environmental impact.

- **Collaborate for Impact:** Collaborative efforts with suppliers, customers, and local communities can amplify sustainable outcomes and contribute to shared value.

- **Invest in Capacity-Building:** Investing in employee training and development in sustainable practices fosters a culture of innovation and responsible business conduct.

#### Policymakers:

- **Promote Regulatory Frameworks:** Policymakers should establish and enforce regulations that incentivize sustainable practices, such as tax incentives for green investments and stringent environmental standards.

- **Facilitate Access to Green Finance:** Develop mechanisms that provide businesses with access to green finance options, fostering investments in sustainable technologies and practices.

- **Support Research and Development:** Allocate resources to research initiatives that focus on sustainable technologies and solutions tailored to local needs.

#### Local Communities:

- **Engage in Sustainability Initiatives:** Communities can engage with businesses in sustainable initiatives, offering local expertise and contributing to the success of value chain collaborations.

- **Demand Sustainable Practices:** Local communities have the power to influence businesses by supporting products and services that prioritize sustainability.

#### Academia and Research Institutions:

- **Conduct Localized Research:** Researchers should focus on generating context-specific knowledge that addresses the unique challenges and opportunities of Vietnamese businesses in a globalized context.

- **Promote Knowledge Transfer:** Facilitate partnerships between academia and businesses to translate research findings into actionable strategies.

#### International Partnerships:

- **Share Best Practices:** International organizations and partners can share best practices, case studies, and experiences from other countries to inspire and guide Vietnamese businesses in sustainable practices.

- **Support Capacity-Building:** Collaborate to provide training and capacity-building initiatives that equip Vietnamese businesses with the knowledge and tools to integrate sustainability effectively.

#### Civil Society and NGOs:

- **Advocate for Change:** Civil society organizations can advocate for policy changes and promote responsible business conduct through awareness campaigns and public engagement.

- **Facilitate Multi-Stakeholder Dialogues:** NGOs can facilitate dialogues that bring together businesses, government representatives, and local communities to collectively address sustainability challenges.



## 11. CONCLUSION

The pursuit of sustainable economic development and business practices in the context of globalization is a complex and dynamic endeavor. This paper has explored the intricate relationship between these intertwined concepts, focusing on the unique case of Vietnam. As the global landscape evolves at an unprecedented pace, Vietnamese businesses are facing a confluence of challenges and opportunities that require innovative strategies and adaptive approaches.

Throughout this research journey, we have examined the impacts of globalization on Vietnamese businesses, the adoption of sustainable practices, challenges faced, and innovative strategies employed. The case studies of EcoTech Solutions and GreenHarvest Foods have illuminated the transformative power of sustainable innovation and collaborative value chain management.

The discussions and findings underscore the importance of balancing economic growth with social and environmental responsibility. Businesses are urged to harness innovation, collaborate with stakeholders, and embrace adaptive strategies that cater to both local and global demands. Policymakers, local communities, academia, and international partners all play crucial roles in shaping the trajectory of sustainable development in Vietnam.

In closing, this research contributes to the growing body of knowledge on sustainable economy and business in a globalized context. It underscores the interconnectedness of these themes and their significance for businesses, societies, and the planet. By heeding the lessons learned from Vietnam's experience, stakeholders can collectively work toward a more sustainable future, where prosperity is shared, innovation thrives, and the harmony between people, profit, and planet is preserved.

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# APPLICATION OF ARIMA FORECAST MODEL IN FORECASTING EQUITY RISK IN LISTED TECHNOLOGY AND TELECOMMUNICATION ENTERPRISE IN VIETNAM

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**Abstract:** *Technology and telecommunications industry is a potential industry of Vietnam. The policy of digital economic development, which is a high priority goal in the national development strategies of the Government, will really create great opportunities for information technology and telecommunications businesses in the coming time. In order to effectively exploit the potentials of Vietnam's telecommunications technology industry, this article uses the ARIMA model to forecast equity risk of listed telecommunications and technology companies in Vietnam, based on quarterly data of listed telecommunications technology companies in the period 2011 - 2023. The results show that the ARIMA Model (1, 1, 1) is the most suitable model and predicts the beta of the listed telecommunications industry. From there, the author makes comments on the beta forecast results of technology and telecommunications companies to help investors limit equity risk.*

**Keywords:** *Equity risk, Beta coefficient, listed technology and telecommunications companies, ARIMA model, forecast.*

## 1. INTRODUCTION

Information technology is one of the industries with the most positive changes in recent years, despite the pandemic, many companies in the IT industry continue to make progress when the application of information technology has been widely deployed in life, society and businesses. By becoming the country with the highest number of internet users in the world, Vietnam is expected to be among the early technology adopters with a young population and a high percentage of people using smartphones. According to the national strategy to develop the digital economy and digital society by 2025, the orientation to 2030 shows the Government's drastic orientation in the digital transformation of the entire population. To achieve this goal, technology and telecommunications businesses are the core of digital transformation with responsibility for developing national digital transformation platforms and building the infrastructure of the digital economy. With great development potential, the telecommunications industry attracts a large amount of capital from abroad. This also explains why securities stocks are interested and noticed by many professional investors domestically and internationally. Comments on investing in stocks in the field of information and telecommunications, with a low Beta coefficient representing equity risk (a measure of volatility, also known as a measure of systematic risk of a security), telecommunications technology stocks are classified as safe stocks suitable for medium and long-term investments. In order to improve the efficiency of investment in the telecommunications technology industry in Vietnam, and facilitate the access to new investment

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capital of telecommunications enterprises, the article aims to build an ARIMA model to forecast the Beta coefficient to measure equity risk as a basis for investing in telecommunications technology enterprises in the coming time.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

### \* Equity risk and Beta coefficient

Corporate risk has been studied for many years in both theory and practice. In the traditional view, risk is often viewed as misfortune, the unpredictability of earnings, associated with unforeseen losses (Murashow and Howard (2009)). According to the modern view, risk is a combination of danger and opportunity. According to Damodaran (2014), when an investor accepts a risk, he will receive a reward commensurate with that risk.

With his view of risk, Damodaran said that financial risk is the distribution of real income levels around an expected level of return. According to James Chen (2019), financial risk is the possibility that shareholders or other financial stakeholders will lose money when they invest in a company if the cash flow provided by the company is not sufficient to meet its financial obligations. Financial risk is also thought to be related to the decline in financial prices and the risk from the implementation of financial decisions affecting the profitability of the enterprise (Nguyen Thi Bao Hien (2016)).

Financial risks are viewed differently from the perspective of investors in the enterprise, namely shareholders and creditors. Shareholders who benefit from the upside and fall in the stock's price tend to have a more optimistic view of risk than do creditors. According to Nguyen Vu Thi Khuyen (2020), based on the investor's point of view, there are two types of financial risks: equity risk and default risk.

According to Damodaran (2014), *equity risk occurs when the actual return from corporate stocks is higher or lower than the expected return.*

According to Nguyen Vu Thi Khuyen (2020), *equity risk occurs when the actual income from corporate shares is lower than the expected income of shareholders.*

Madhavi Latha Challa et al (2018) said beta which used in fundamental analysis is a measure to determine the stock market volatility in terms of portfolio or security fluctuations. Beta suits as a proxy for risk if the risk could be as possibility of reduce the stock value. The stock price variability is an important consideration when evaluating risk while the systematic risk of a portfolio measures by beta so beta is an important element for capital asset pricing model (CAPM), which calculates the expected return and cost of equity. Beta is also called beta coefficient.

### ***CAPM model (Fama and French, 1992)***

The CAPM model asserts market risk as measured by the Market Beta Index, which estimates how much risk an individual investment will contribute to a portfolio that includes all traded assets. The higher the Beta, the higher the expected return of an individual stock compared to other stocks.

Statistically, this additional risk is calculated as the covariance of the asset with the market portfolio. From there, we have the following Beta calculation formula:

$$\beta_i = \frac{\text{COV}(r_i, r_m)}{\text{Var}(r_m)}$$

$\beta_i$  = market beta of asset i

Cov = covariance

Var = Variance

$r_m$  = average expected rate of return on the market

$r_i$  = expected return on an asset i

#### \* **Equity risk forecast**

So far, there are many studies on ARIMA model to forecast the returns of the stocks based on their historical data. But, hardly there are very few studies which attempt to forecast the equity risk on the basis of their beta values.

There are several studies and theories that predict the relationship between returns and risks of profitable stocks. Asset pricing theory predicts that an asset's expected return is positively associated with its exposure to systematic risk (De Bandt, O., Hartmann, P., 2000, Hansen, L.P., 2013). However, empirical evidence supporting this prediction has been mixed, as it is often found that systematic risk is not priced cross-sectional (e.g., Fama and French, 2004).

Or predict the volatility of risk through the impact of information like Bianconi et al. (2017). They used Garcia's (2013) data as a measure of CBOE (Chicago Board of Exchange) volatility Index VIX and market sentiment. Then, examined the effect of information on the top ten financial institution's tail risk and systematic risk by using the information of observed prices of put and call options or newspaper articles. They found that very little significant causality using dynamic feedback in terms of volatility.

With the objective of validating the accuracy of forecasting risk with actual values over the holding period, Madhavi Latha Challa et al (2018), forecasting with Auto ARIMA provides a prediction based on historical data, in which data has been applied by first order difference to remove white noise problems. In this analysis Auto ARIMA estimated AIC values, which yielded the more accurate forecast over the ten years period. In validation, the forecasted values are compared with actual values over the hold back period of two years. They found that the longer the forecast period is, the more uncertainty has been found and vice versa, less uncertainty exists in the case of short term period. Base on the result of analysis, different investors can choose companies according to their risk aversion.

Predicting equity risk based solely on the beta system of a particular industry is certainly a novelty, and it will make some additional contributions to the existing literature.

### 3. METHODOLOGY AND PROPOSED MODEL

Within the research framework, the author proposes to use the ARIMA model (Autoregressive Integrated Moving Average - Researched by George Box and Gwilym Jenkins (1976) and the Box-jenkins method to forecast equity risk Beta coefficient of listed telecommunications technology enterprises based on the past data series. Building the ARIMA model as a basis for forecasting the average profitability of the telecommunications industry:

The p-order autocorrelation model (abbreviated as AR(p)) is a linearly dependent process of lagged values and random errors, which is explained as follows:

$$Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \dots + \phi_p Y_{t-p} + \delta + \epsilon_t \quad (1)$$

The q-order moving average model, abbreviated MA(q), is a process that is fully described by a weighted linear equation of the current random errors and its lagged values. The model is written as follows:

$$Y_t = \mu + \epsilon_t - \theta_1 \epsilon_{t-1} - \theta_2 \epsilon_{t-2} - \dots - \theta_q \epsilon_{t-q} \quad (2)$$

This means that the value of Y at time t depends not only on current information but also on past information. However, the most recent information is more meaningful than the previous information. Thus, MA models provide a predictive value of Y<sub>t</sub> on the basis of a linear combination of past error values, whereas AR models predict Y<sub>t</sub> as a linear function of past values of Y<sub>t</sub> itself. The AR and MA cointegration model (ARMA) has the following form:

$$Y_t = \phi_1 Y_{t-1} + \dots + \phi_p Y_{t-p} + \delta + \epsilon_t - \theta_1 \epsilon_{t-1} - \dots - \theta_q \epsilon_{t-q} \quad (3)$$

ARMA models can only be executed when the Y<sub>t</sub> series is stationary. However, most time series of economic and financial data are trend series, that is, the mean value of Y<sub>t</sub> between periods can be different. In other words, time series in economics and finance are often non-stationary ones. Therefore, to deduce stationary series, we must remove the trend factor in the original data series through the process of taking the difference. A series that stops at the difference of order d is denoted by I(d). Then, the ARIMA model is denoted ARIMA (p, d, q).

The Box-Jenkins method consists of four iterative steps: (i) Experimental model identification, (ii) Estimation, (iii) Diagnostic testing and (iv) Forecasting.

In this study, the author used SPSS software to analyze secondary data. Secondary data is collected through the financial statements of 19 listed companies in the telecommunications technology industry in the period of 2018 - 2023 according to the data of  $19 * 21 = 399$  Beta observations by quarter from 2018 to the first quarter of 2023.

### 4. RESEARCH RESULTS

#### 4.1. Research sample

As of July 2022, the number of Vietnamese digital technology enterprises is estimated at 67,300, an increase of 3,422 enterprises compared to December 2021, reaching an approximate rate of about 0.69 enterprises per 1,000 people. Among them, there are 33 companies listed on HOSE,

HNX and UPCOM. Within the scope of the research, the author studies 19 companies listed on Hanoi Stock Exchange HNX and Ho Chi Minh City Stock Exchange HOSE with a data series of  $19 * 50 = 950$  observations from from the first quarter of 2011 to the first quarter of 2023.

**Table 1: Technology and telecommunications companies listed in Vietnam**

STT	Company's name	Code stock	Stock Exchange	Year listing
1	FPT Corporation	FPT	HOSE	2006
2	CMC Technology Group Joint Stock Company	CMG	HOSE	2010
3	SAM HOLDINGS JSC	SAM	HOSE	2000
4	Saigon Telecommunications Technology Joint Stock Company	SGT	HOSE	2008
5	Electronics - Telecommunications Technology Development Investment Joint Stock Company	ELC	HOSE	2010
6	Postal Equipment Joint Stock Company	POT	HNX	2006
7	Sieu Thanh Joint Stock Company	ST8	HOSE	2007
8	Sara Vietnam Joint Stock Company	SRA	HNX	2008
9	Sao Mai Viet Viet Investment And Development Joint Stock Company	UNI	HNX	2006
10	Tien Phong Technology Joint Stock Company	ITD	HOSE	2011
11	Saigon Vien Dong Technology Joint Stock Company	SVT	HOSE	2011
12	COKYVINA JSC	CKV	HNX	2010
13	Fine Arts and Communication Joint Stock Company	ADC	HNX	2010
14	Sametel JSC	SMT	HNX	2010
15	VTC Telecommunications Joint Stock Company	VTC	HNX	2003
16	Communication JSC No. 1	ONE	HNX	2008
17	Van Lang Technology Development and Investment Joint Stock Company	VLA	HNX	2010
18	KASATI JSC	KST	HNX	2010
19	Tien Trung Technology and Construction Investment Joint Stock Company	TTZ	HNX	two thousand and thirteen

*(Source: Compiled by the author)*

To calculate the Beta coefficient, from the websites of Vietnam stock market, the author aggregated the quarterly stock price data of the listed companies, summarized the quarterly value of the VN INDEX - an index that measures the trend of stock price volatility listed on the HoChiMinh Stock Exchange (HOSE). The author calculates the level of price change of the following quarterly compared to the previous quarter (average value), which is also the level of profitability of the stock. Then, the author can use the Slope function in excel where  $R_i$  is the rate of return of the stock and  $R_M$  is the return rate of the VN - Index by quarter.

## 4.2. Forecast results

### \* Descriptive statistical analysis

The descriptive statistics include: Obs (Observation) – number of observations; Mean Std. - Average number; Dev. (Standard Deviation) – Standard Deviation; Min – Minimum value; Max – The maximum value is shown in the following table of results:

**Table 2: Descriptive statistical analysis**

Variable	Obs	Mean	Std. Dev.	Min	Max
Beta	50	0.6416261	1.302918	-0.9762087	9.105318

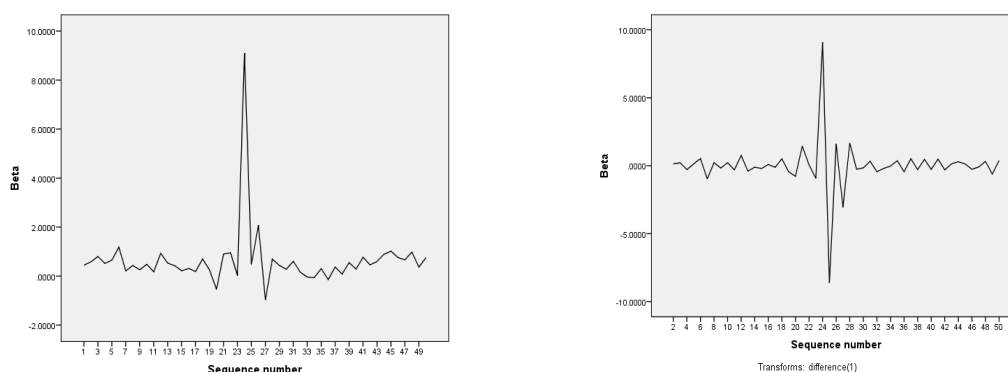
There are 50 observations Beta coefficient of listed companies in the telecommunications industry during the research period, the average value is 0.64, the standard deviation is 1.30, the maximum value is 9.15, the smallest value is - 0.97. The large fluctuation between the smallest and largest values of the Beta coefficient during the research period shows that the correlation between the market and the telecommunications technology industry has changed greatly. This is consistent with the socio-economic background as there has been an increase in technology products and services in recent years.

\* Testing for stationarity: The data series used in the ARIMA model is assumed to be stationary. Therefore, to forecast the indicators using the ARIMA model, we need to consider whether the series are stationary series or not.

Using SPSS software to check stationary series:

The results in Figure 1 show that the Beta coefficient reflects the volatility of the telecommunications technology equity risk on a quarterly basis. Specifically, the average tends to increase volatility. Thus, it can be speculated that the series of Beta numbers of the telecommunications industry in the period 2011 - 2023 is non-stop.

To make the series stationary, take the first difference using SPSS software. When we take the first difference of this series, we get a new series, Beta volatility of telecommunications industry, this series has no trend and revolves around an average value (Figure 1). This is seen as the expression of a stationary sequence.



**Figure 1: The series of Beta coefficients is not stationary and the series of Beta coefficients is stopped when taking the difference (1)**



\* Building the ARIMA model for Beta coefficients of listed companies in the telecommunications industry

To build the ARIMA model, the author uses a data series of  $19 * 50 = 950$  observations from Q1/2011 to Q1/2023.

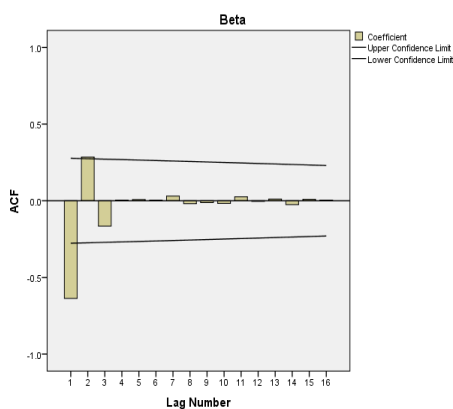
Step 1: Identification (determine p, d, q values)

The data series G stops at the first difference, we have  $d=1$ .

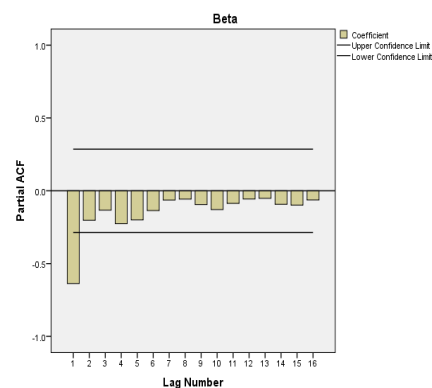
How to determine p, q using SPSS software: Choose Analyze => Forecasting => Autocorrelations. Then convert the BEP variable to the Variables box, click Difference => Autocorrelations => Partial autocorrelations. To determine the p, q values of the ARIMA model, it is necessary to rely on the ACF and PACF histograms.

To determine p, Box & Jenkins (1976) proposed the following identification method: A series is stationary autocorrelation of order p if (i) The autocorrelation coefficients decrease gradually in the form of exponential or sinusoidal shape, (ii) The partial correlation coefficients suddenly decrease to zero significant immediately after the delay p. Similar to how p is determined, observe the autocorrelation plot of the series of Beta coefficients.

From the results of observing the PACF graph, the ACF graph, we get:



**Figure 2: ACF graph**



**Figure 3: PACF graph**

There are three ARIMA models capable of matching Beta coefficients of the telecommunications industry, namely ARIMA(1,1,1); ARIMA(1,1,2).

Step 2: Estimating the model

Using SPSS software to estimate the coefficients of the ARIMA models(p,1,q) as identified above. The author estimates models for the beta coefficient representing the equity risk of telecommunications technology enterprises.

Step 3: Check diagnostics

To check the fit of the models, based on Schwarz criterion (BIC) and mean square error (RMSE). Where: BIC is an estimate of the following probability function of the model being true, under a given Bayesian setup, so a lower BIC means that a model is considered likely

to be a true model. RMSE (root mean square error): Variance or standard deviation of the forecast series compared with reality. The smaller these indicators, the better the forecast model matches the actual value.

After trying to estimate the ARIMA models, the following table summarizes the statistical results:

**Table 3: Statistical results of some standards of the tested ARIMA models**

Model ARIMA(p,d,q)	BIC	Adjusted correlation coefficient (R2)	RMSE
(1,1,1)	0.868	-0.039	1.37
(1,1,2)	0.949	-0.017	1.371

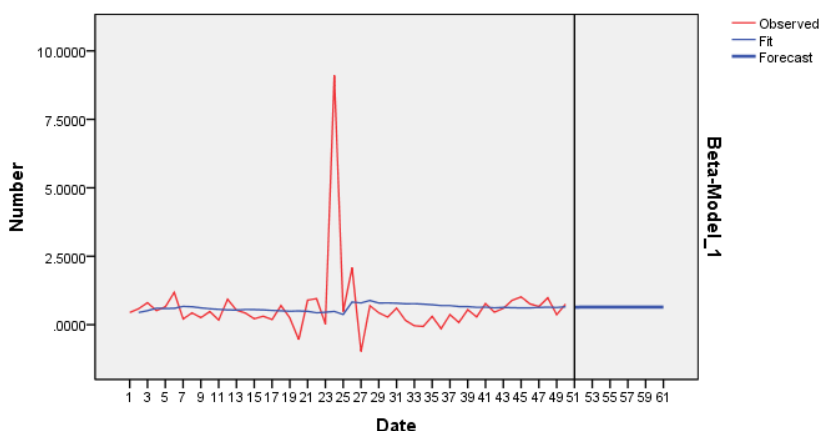
Based on the results of Table 2, the author uses the ARIMA model (1,1,1) to predict the beta value because it has the smallest BIC and RMSE values.

Step 4: Forecast

The medium-term predictions of the Beta value based on the ARIMA model (1,1,1) are presented in Table 3 and Figure 4.

**Table 4: Forecast of Beta value of listed companies in the industry telecommunications technology**

		Forecast										
Model		Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026
Beta- Forecast		.6378	.6439	.6437	.6438	.6439	.6440	.6440	.6441	.6442	.6443	.6444
Model_1	UCL	3.3635	3.3705	3.3704	3.3705	3.3705	3.3706	3.3706	3.3706	3.3706	3.3706	3.3706
	LCL	2.0878	2.0826	2.0830	2.0829	2.0828	2.0827	2.0825	2.0824	2.0822	2.0821	2.0819



**Figure 4: Forecast of Beta value of listed companies technology - telecommunications industry**

It is found that the forecast value of Beta coefficient of listed companies in the telecommunications industry from the third quarter of 2023 to the first quarter of 2026 tends to increase from 0.6378 to 0.6444. With a beta value < 1, the volatility of the stock will be lower than that of the market, so the forecast results show that telecommunications technology stocks in the coming time to 2025 are quite stable, with little volatility, but low risk comes with low profit potential. This forecast value is in line with the development situation of the

telecommunications industry in at least the next 2-3 years when information technology - telecommunications leads the top 7 industries that are assessed to have good growth potential with 63.6% of selected enterprises (Vietnam Report), however, the global economic growth slows down due to the impact of the world economic recession risks and inflation pressure, which will weaken the industry 's growth momentum .

## 5. CONCLUSION

Applying Arima model to predict beta coefficient reflecting equity risk of listed companies in the telecommunications industry, shows that the ARIMA model (1,1,1) is the model with statistically significant parameter estimates (with p-value < 0.05) and the smallest BIC standard. The ARIMA model (1,1,1) is the most suitable model among the experimental models and can be used to predict beta coefficients of listed companies in the technology - telecommunications industry. The results from the ARIMA model (1,1,1) can provide information to help investors and businesses have orientations in investment and capital mobilization. This contributes to solving one of the major limitations of telecommunications technology enterprises, which is the access to investment capital when capital from venture capitalists is less, technology innovation funds have low funding sources, lending procedures and capital support from banks are still entangled with many policies leading to disadvantaged technology enterprises, taking a long time to be processed. Failure to access new investment capital will cause the operation process to be interrupted or halted. This greatly affects the business activities of technology enterprises...

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# DIGITAL TRANSFORMATION AT VIETNAMESE BANKS TODAY – DIFFICULTIES TO SOLVE

Ph.D.Dao Duy Thuan<sup>1</sup>, Assoc.Prof. Dr. Nguyen Trong Than, Cao Minh Hanh

**Abstract:** *Digital transformation in banking integrates digitalization and technology into all banking sectors. This integration has great significance to the development of the banking industry in modifying and upgrading business processes and optimizing customers' needs in banking services. However, there are still challenges in the new context after Covid 19, artificial intelligence, information security in the industrial revolution 4.0, high-quality personnel, and governance at digital banks. The article will focus on clarifying the nature of digital banking and the challenges of digital transformation in Vietnamese banks in the new context, thereby suggesting some solutions to develop digital transformation at Vietnamese banks in the coming time.*

**Keywords:** *digital transformation, commercial banking, digital human resources, digital challenges, AI intelligence,...*

## 1. INTRODUCTION

From the pressure to survive and develop during the COVID-19 pandemic and the dramatic changes of the 4th industrial revolution, Vietnam's banking system is entering a pivotal period with incredible opportunities and unprecedented challenges. The Government's program "National Digital Transformation to 2025, Orientation to 2030" has clearly stated that finance - banking is one of the fields with social impacts, daily related to people, changing perceptions the fastest, bringing efficiency, and helping to save costs. Therefore, digital transformation should be prioritized first.

Digital transformation in banking is the integration of digitalization and digital technology into all banking sectors. This integration has great significance to the development of the banking industry in modifying and upgrading business processes and optimizing customers' needs in banking services. Specifically, digital transformation helps banks save costs and streamline operational processes. This integration also helps to provide a more accessible and engaging customer experience. Moreover, digital transformation helps promote e-payment, an opportunity to encourage the development of digital banking in Vietnam. In addition, digital transformation also brings customers new values, saving time, costs, and convenience, done anytime, anywhere, quickly, and effectively.

However, in the new context, especially after the Covid-19 pandemic, the rapid development of AI, the digital revolution is taking place all over the world, changing people's ways of thinking, perception, and habits of using their services; therefore, it is essential to have a comprehensive and objective assessment of the challenges that commercial banks may face in this already a highly complex digital transformation.

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## 2. THEORETICAL OVERVIEW OF DIGITAL TRANSFORMATION AT BANKS

### 2.1. Digital transformation concept

- The concept of digital transformation in businesses and banks

Digital transformation is not only a problem for businesses; state agencies have also issued regulations on this issue.

According to the Ministry of Information and Communications: “Digital transformation is the process of overall and comprehensive change of individuals and organizations in terms of lifestyle, way of working and production methods based on digital technologies.”

According to Gartner Information Technology Research and Consulting, the definition: “Digital transformation is the application of technology in changing business models of businesses, thereby creating new opportunities and values, helping businesses increase growth and achieve better sales. This modular business model allows organizations to move from traditional, rigid planning to a relaxed, positive state. From there, businesses can reduce costs, expand relationships with customers and partnerships, expand business networks and distribution channels, and diversify income.”

According to Microsoft: “Digital transformation is about restructuring thinking in the synergy between data, processes, and people to create new value.”

In Vietnam, one of the leading companies in the field of information technology – FPT, also has a general definition of digital transformation: Digital transformation in businesses and organizations is the process of changing from traditional models to digital companies by applying new technologies such as using big data (Big Data), Internet of Things (IoT), cloud computing (Cloud),... to change operating methods, leadership, work processes, and company culture.

In short, “digital transformation” is using data and digital technology to comprehensively change all aspects of socio-economic life, reshaping how we live, work, and communicate.

From there, it can be understood that digital transformation in banking is a change in the culture, organization, and operation methods of banking through technology. In the banking industry, digital transformation also means improvements in many service-related areas, including Process automation; Enhanced customer experience; Data integration; and Improved organizational and sales agility.

From now on, all activities and operations that must be performed at traditional transaction counters will be digitized and integrated into a digital banking application. With this application, customers do not need to spend time moving or waiting at a bank branch but can still perform financial transactions.

Accordingly, all banking transactions are done via the Internet through GPRS/3G/4G/Wifi, taking place anytime, anywhere. Customers do not have to go to branches or bank transaction offices; just a few simple steps, in 1-2 minutes, can make all online transactions, such as payment; transfer/remittance; loans; savings; deposit money into the account; account



management; participate in investment and insurance products; Notably, currently, many new and modern payment services such as bank cards, QR Codes, e-wallets,... has been promoted by banks and payment intermediaries.

At the same time, by deploying AI call centres, Chatbots help banks respond and support users better. At the same time, the solution significantly reduces customer care operating costs. In fraud prevention, artificial intelligence and extensive data analysis have helped banks detect and prevent errors and fraud in financial transactions.

*- Levels of digital banking transformation and requirements to conduct digital banking transformation and development*

Theoretically, digital transformation consists of 3 levels. However, most banks in Vietnam are only at level 1, and only a few large banks are simultaneously implementing both the first two levels:

Level 1: Partial transformation, digitization of processes, distribution channels, or products and services.

Level 2: Building a separate digital business for banks

Level 3: Digitizing all banking operations

## **2.2. Requirements for the digital transformation of the banking industry.**

Digital banking is the trend that most banks are moving towards, but this process faces significant barriers. This barrier mainly comes from strict requirements on human resources, technology, budget, and legal:

*Requirements for high-quality human resources:*

Banks need qualified personnel and information technology knowledge to operate digital banks on new technology platforms. The lack of human resources with expertise in information technology will be an obstacle to implementing digital banking upgrade projects.

In addition, banks also need to have knowledgeable staff about digital banking to increase the ability to promote services and advise customers. This group of employees needs to be open and readily receptive to changes and improvements in the digital environment.

Technology requirements: Most commercial banks today have a traditional core banking system that lacks structural flexibility and mainly operates monolithically. This leads to a time, money, and complexity dilemma if you want to change these banks' systems and operating processes.

Budget requirements for digital service development: Banks must invest much money in AI research and development to deploy digital banking. In addition, the budget value also includes investment costs in information technology projects, training on new management models, staff training, technology support,...

*Requirements for the regulatory environment:*

For banks to implement 100% digitalization, user authentication and customer identification are two critical issues that must be solved. In the traditional transaction model, verification by

an identity card, photo, and signature of the person coming to the transaction has been difficult. Switching to a machine-based identification system is often more difficult with the digital banking model. User authentication is not only related to technology but also contains legal elements. This is the basis so that when a dispute arises, the bank can clearly distinguish right from wrong. However, there are still certain limitations in identifying customers transacting through digital banks with electronic signatures, digital signatures, and biometrics. Simultaneously, there is a potential risk that the person who bears the consequences may be the bank.

Because of the strict requirements on human resources, technology, and budget, there are not many actual digital banks in Vietnam. Most have only stopped providing digital services. Some products are the bank's core but are still in the process of digitization and are yet to offer customer services.

### **3. RESEARCH METHODOLOGY**

This article examines the current situation and proposes solutions to complete and develop digital transformation at Vietnam's banks in a new complex context, such as the industrial revolution 4.0, post-COVID-19, and changes in Government policies to adapt to new changes. Thereby helping to better awareness of digital transformation at Vietnamese banks, contributing to improving the efficiency of the digital transformation process at Vietnamese banks in the coming time. To conduct this article, we used qualitative research methods.

Information collection method: Synthesize the theoretical basis based on the method of analysis and summarize the experience of previous studies on the Bank's operations, digital transformation at banks, the impact of the Industrial Revolution 4.0 on the digital transformation process at banks in the world in general and in Vietnam in particular.... and other issues related to digital transformation activities at banks. Research topics through studying documents, books, and published research works of scientists.

Document processing methods: From the collected documents, the research team uses analytical methods to analyze the evolution of the digital transformation process at Vietnamese banks in the period of 2016-2022, the impact of the Industrial Revolution 4.0, the impact of the Covid 19 pandemic on the change in monetary policy management in Vietnam. From the point of view of dialectical materialism, using logical analysis and interpretation methods to assess the current status of digital transformation at Vietnam's banks over the past time, thereby using the inductive method to conclude and summarize to propose some solutions.

Data were collected from the World Bank, State Bank of Vietnam, World Economic Forum (WEF), Ministry of Planning and Investment, General Statistics Office (GSO), Vietnam Chamber of Commerce and Industry (VCCI), Vietnam Report Joint Stock Company,...

### **4. RESEARCH RESULTS**

#### **4.1. Current situation of digital transformation process at Vietnamese banks in recent years**

Digital transformation for the banking industry is no longer a choice, but a mandatory requirement, a strategic direction, especially when the Covid-19 pandemic is complicated.

The world has witnessed the rapid expansion and development of digital banking trends in the past few years. However, when the COVID-19 pandemic broke out in early 2020, the need for digital solutions for banks was portrayed. “The pandemic has proven that digital banking is essential for consumers of all ages to manage their finances confidently,” said Allison Beer, chief technology officer at JPMorgan Chase. JPMorgan Chase’s survey of 1,500 customers at the end of 2020 found that 54% of consumers use digital tools when banking more since the onset of the Covid-19 pandemic.

Up to now, the post-pandemic transformation period, the digital transformation process is still taking place very firmly. It has a more profound impact on the finance and banking industry in the world; the trend of using digital banking services in the Asia-Pacific region in general and Vietnam, in particular, has begun to enter an acceleration phase, mainly driven by the development of technology and rapidly growing innovative solutions in the emerging market group.

In recent years, to transform into a digital business model, Vietnamese commercial banks have deployed many advanced technology applications in financial and banking activities, such as Artificial Intelligence (AI), biometric authentication (fingerprint, face), and virtual assistant (Chatbot) ... successfully cooperate with financial technology companies (Fintech) to apply new and modern technology to mobile payment activities. Digital transformation in commercial banks has increased security, enhanced customer experience and satisfaction, and achieved significant payment results.

According to the Vietnam Banking Association, the COVID-19 epidemic has promoted the awareness of digital banking transformation faster in 3-5 years, creating a leap for digital payment. Assessing the digital transformation process of the banking industry, at the seminar “Towards a cashless country” held on 19/11/2021, 95% of Vietnamese banks have, are developing or planning to build digital transformation strategies; about 80 banks deploying Internet banking services, 44 banks providing Mobile Banking services, about 20 banks officially implementing the process of opening payment accounts by electronic methods, 45 intermediary payment service providers, more than 90 thousand QR payment points; many innovative and digital payment ecosystems have been established to allow customers to access banking services, connect with other digital ecosystems on the Internet platform or provide banking services through Mobile Banking applications; many achievements of the Industrial Revolution 4.0 have been vigorously applied by banks such as analyzing customer behavior on big data; biometric authentication, quick response code application (QR-Code), card information encryption (Tokenization), contact and contactless chip card payment (contact and contactless) ... In the first nine months of 2021, mobile revenues increased by 76.2% in volume and 88.3% in value, and Internet payments increased by 51.2% in volume and 29.1% in value over the same period in 2020.

According to statistics from the State Bank of Vietnam [7], non-cash payment activities in the first four months of 2022 achieved high growth compared to the same period in 2021. Specifically, non-cash payment transactions increased by 69.7% in quantity and 27.5% in value;

Internet transactions also increased by 48.39% in volume and 32.76% in value, respectively; via mobile increased by 97.65% in volume and 86.68% in value, respectively; via QR Code increased by 56.52% in quantity and 111.62% in value respectively over the same period in 2021; The total number of activated e-wallets increased by 10.37% compared to the end of 2021.

However, Vietnam's banking industry still has much work to do to meet change requirements, promote the advantages of information technology applications, and ensure security and safety in banking activities.

#### **4.2. Difficulties with digital transformation in Vietnamese banks today**

The world is in a new context after the COVID-19 pandemic. There has been a significant change in the way of working, and the world economy relies more on online transactions thanks to AI technology. The world economies follow the path of digital transformation, especially in finance and banking, which is inevitable, and Vietnam is no exception. However, at present, the digital banking segment in Vietnam is in the process of transformation research and is relatively primitive:

*First, the legal framework for digital banking development in Vietnam still has shortcomings and needs to be improved.*

The legal corridor for digital banking development was first formed in 2007 when the Government issued Decree No. 35/2007/ND-CP dated March 8, 2007, on electronic transactions in banking activities, thereby paving the way for digitalization and digital transformation in banking activities in Vietnam. In particular, from 2016 to now, before the impact of Industry 4.0, the digital transformation process in banking activities has taken place more and more strongly, urgently requiring the completion of the legal framework in digital transformation activities of the banking industry.

In the period from 2018 to now, the Government, the Prime Minister and the Governor of the State Bank of Vietnam have issued many documents to orient the digital transformation process in banking activities such as: Decision No. 986/QĐ-TTg dated 08/8/2018 of the Prime Minister on approving the Vietnam Banking Industry Development Strategy to 2025, orientation to 2030; Resolution No. 50/NQ-CP dated April 17, 2020 of the Government on promulgating the Government's Action Plan to implement Resolution No. 52-NQ/TW dated September 27, 2019 of the Politburo on a number of guidelines and policies to actively participate in Industry 4.0; Decision No. 1238/QĐ-NHNN dated 08/7/2020 of the Governor of the SBV promulgating the Action Plan of the banking sector to implement the Government's Resolution No. 50/NQ-CP dated 17/4/2020; Decision No. 260/QĐ-NHNN dated 04/03/2021 of the Governor of the State Bank of Vietnam promulgating the Plan on information technology application, digital government development and cyberinformation security assurance in operations of the State Bank of Vietnam in the period of 2021 - 2025; Decision No. 749/QĐ-TTg dated 03/06/2020 of the Prime Minister approving the "National Digital Transformation Program to 2025 with orientation to 2030"; Decision No. 810/QĐ-NHNN dated 11/5/2021 of the Governor of the State Bank of Vietnam promulgating the Plan for digital transformation of the banking sector to 2025, with orientation to 2030. In particular, Decision No. 810/QĐ-NHNN has stipulated that

the goal of developing digital banking through the development of the Digital Transformation Plan of the banking sector is to provide digital banking services and build a financial-banking service ecosystem.

The review of the legal framework related to the development of digital banking in Vietnam shows a large gap between current legal regulations and the level of development of digital banking.

(i) The current regulations differ from the characteristics of new financial technology services and the application of advanced technologies but only focus on the payment aspect of digital banking. At the same time, this is only a service segment of digital banking. Other areas of digital banking services do not have regulations, such as the application of artificial intelligence in service consulting, crowdfunding, online lending, peer-to-peer lending, and personal financial data management. Even in electronic payment, new forms still need to be added to the scope of regulations, such as contactless payment (of SamsungPay), the application of QR codes, and biometrics (fingerprint, iris). Or as for restrictions on electronic documents, the current legal regulations on accounting documents, and electronic records, are not suitable for the specific nature of electronic documents arising in digital transactions. The review of existing legal documents of the State Bank shows that many regulations on electronic documents, such as regulations on electronic records, making electronic documents, signing electronic documents, storing electronic documents, in the Accounting Law 2015, Decree No. 174/2016/ND-CP dated 30/12/2016 of the Government detailing a number of articles of the Accounting Law 2015, Decision No. 376/2003/QD-NHNN dated 22/4/2003 of the Governor of the State Bank promulgating regulations on preservation and storage of electronic documents, used for accounting and payment of capital of payment service providers, Decision No. 1789/2005/QD-NHNN dated 12/12/2005 of the Governor of the State Bank on the promulgation of the regime of bank accounting documents, Circular No. 38/2013/TT-NHNN dated 31/12/2013 stipulating the translation of accounting documents recorded in foreign languages when used for recording accounting books, how to write digits on accounting documents and storing electronic documents, at the State Bank.

However, regulations on electronic documents based on paper document thinking are designed in the digital environment and are understood as accounting documents on software applications. Therefore, restrictions on the content, preparation, and process of rotation, storage, control, and signing are carried out similarly to paper documents but in electronic form. Meanwhile, digital transactions, such as digital payment transactions, are not only provided by banks but also by many units, such as banks, fintech companies, and mobile phone companies. Digital transactions also do not require to be tied to a bank account but can be done through e-wallets, QR codes ... and confirmed by mobile phone number or identifier, wherever you are. Digital transactions such as mobile payments are now fully automated, from initialization and charge to final bookkeeping. Control programs and management software automatically perform The checkpoints and collations without direct human implementation and supervision. Therefore, the regulation of the content of electronic documents, the process of control and preservation, and storage need to be studied and considered with new requirements of financial products and services in the market.



(ii) Current regulations on identifying and verifying customer information limit the use of digital banking services. According to Decree No. 116/2013/ND-CP and Decree 87/2019/ND-CP dated November 14, 2019, amending and supplementing several articles of the Government's Decree No. 116/2013/ND-CP dated October 04, 2013, detailing the implementation of several pieces of the Law on Money Laundering Prevention and Fighting; and related regulations, for operations of opening bank accounts, e-wallets, non-physical identification cards (new technology transactions), or establishing first-time relationships with financial institutions or organizations providing new technology financial services, these organizations must meet directly with customers to verify the information. Conducting face-to-face meetings to carry out know-your-customer (KYC) procedures will limit the spillover of financial services. Currently, no sanctions allow electronic Know Your Customer (KYC) applications. To prevent money laundering risks, banks in Vietnam are subject to many strict regulations on customer identification. As a rule, customers wishing to open a current account and bank card must provide the necessary personal information and an identity card, passport, or entry visa. Payment service providers must keep account holder signatures, update account holder information, and comply with anti-money laundering and terrorist financing laws. Financial institutions must adopt customer-identifying measures when customers open accounts or establish transactions. For transactions related to new technology, banks still have to meet customers face-to-face when first establishing relationships. Banks must establish procedures for assessing money laundering risks when providing services using new technologies. Thus, although the above regulations help managers prevent and combat financial crime risks, they reveal limitations and need to be more suitable for the characteristics of digital banking services in the digital era.

(iii) Regulations for digital banking market participants still have many shortcomings and differences, which may reduce the motivation to enter the market or cause instability and risks. Although the State Bank and the Government have issued regulations guiding banking and financial services to develop in the direction of digital transformation to prioritize minimizing cash payments in the economy, notably the Governor's issuance of Circular No. 16/2020/TT-NHNN dated 04/12/2020 amending, supplementing several articles of Circular No. 23/2014/TT-NHNN dated 19/8/2014 of the Governor of the State Bank guiding the opening and use of payment accounts at payment service providers, Decision No. 316/QD-TTg dated 09/3/2021 of the Prime Minister on approving the pilot deployment of using telecommunications accounts to pay for goods, small value service (Mobile - Money) ... Thereby, contributing to creating a legal framework regulating digital transformation activities, making digital transformation a vital issue in the development of the banking industry. However, there are still non-synchronous regulations in each specific industry and field, and safety regulations and laws for fintech companies in Vietnam still need to be completed. If not considered promptly and appropriately, promulgating legal restrictions for fintech companies can create an uneven playing field between fintech companies and traditional financial service providers, mainly commercial banks. The global and borderless nature of fintech requires enhanced international collaboration and information exchange on financial services innovations in world markets between countries.



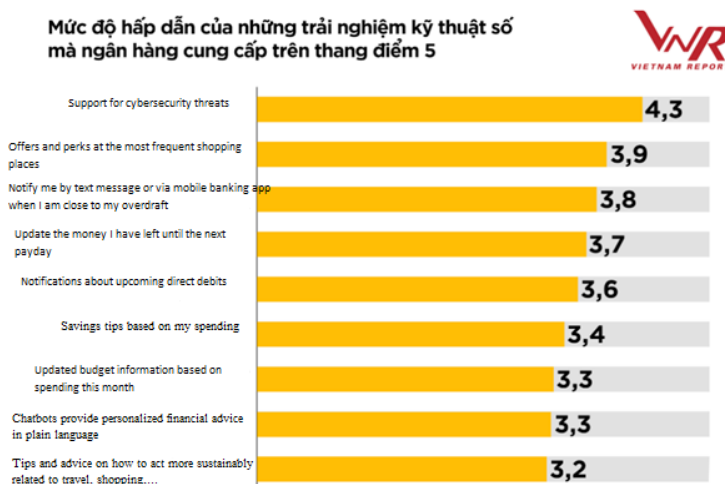
### - Second, the Application of technology

Artificial intelligence (AI) or digital applications in banking: Currently, only two banks are deploying AI: TPBank with T'Aio virtual assistant application on Facebook Messenger and VietA Bank with Chatbox operating on Fanpage with the main functions are: consulting customers with information about interest rates, exchange rates, products, fee schedules ..., answering customers questions about locations, transaction fees, card opening process.

According to the survey results of Vietnam Report 4 2021 [12], 58.33% of banks are deploying on the scale, 16.67% have partially implemented, and 25% are at the stage of strengthening the operating system. In addition, the survey also pointed out mobile data platforms, big data, open banking, and process automation by Robot, AI, and Chatbot ... applied by many banks at a high and very high level to analyze customer behavior and needs. However, Blockchain application is still limited [12].

For example, MB also recently piloted the automation of registration processes, changing services by implementing SMART FORM (Hyperlogy Corporation's solution) in May 2017. As a result, MB reduces the processing time at the counter and customers' average registration time when opening accounts, cards, Internet Banking, and SMS Banking services at the following transaction counters to 3-5 minutes (excluding waiting time, scanning, and approving documents). BIDV Bank also recently used Watson-integrated software designed by Five9 to analyze millions of customers' information and assess and forecast their debt affordability to make more accurate lending decisions.

In addition, the application of IT in improving executive management capacity and controlling risks according to Basel II standards still needs improvement. In addition, the implementation of IT projects in some commercial banks is also prolonged because they have yet to be standardized according to international practices.



**Figure 1. The attractiveness of the digital experiences that banks provide, according to Vietnam Report's Survey 2022**

Vietnam Report's customer survey (2022) [13] shows that to meet all their needs, 83.7% of customers aged 24-44 often use the services of at least two banks. The survey also showed that,

in the past year, 9.3% of customers had opened an account at a new bank (different from the one they usually use), and nearly 7% switched to a digital bank (neo bank). This shows that the experience needs of young people are significant; they expect a bank to meet only some of their needs but expect a more integrated experience when combining multiple service providers.

Among the digital experiences banks provide, young people are most interested in dealing with cybersecurity threats and shopping privileges. Other experiences related to financial consulting and management are also rated highly attractive (more than 3 points on a 5-point scale).

However, it should be noted that the problem of digitization has two sides. Innovation, convenience, and digitization of services are precisely what young customers want and need. In contrast, older or rural customers will feel alienated from the advent of digital banking and the absence of humans in transactions.

Vietnam Report's survey shows that in the past year, 58.1% of customers used mobile banking applications daily, 41.9% of customers used ATM/auto banking monthly, the demand for direct visits to branches and transaction offices is still huge (66.7%), in which the primary purpose of withdrawing money and consulting, answering questions, supporting information. Vietnam Report's survey results also show that customers better rate traditional banking models in keeping money safe and investing sustainably, especially for middle-aged people living in suburban and rural areas, while digital models have more advantages in providing financial advice—and personalized services.

*- Third, about human resources participating in digital transformation*

Commercial banks urgently need human resources capable of operating and developing digital products and services on modern technology platforms to implement digital transformation. Vietnamese banks currently need more human resources to build and acquire digital banks. This is a problem for training institutions and banks in Vietnam when they have yet to keep up with the development speed of technology. However, the number of personnel with sufficient knowledge, vision, and skills to realize the digital transformation of the banking industry in Vietnam is small. At the same time, the market is comprehensive. Not only banks have to digitize but also Fintech companies and other credit institutions. Businesses are also very dynamic in the digitization process; “job hopping” is inevitable, adversely affecting the digitization process of each bank.

*- Fourth, core bank transformation:* This activity has been implemented quite slowly due to a lack of capital resources or has been implemented, but most of it is formal and has not brought adequate efficiency: The reason is that in recent years, commercial banks have had to prioritize resources for dealing with bad debt problems, ensuring liquidity... The relatively outdated core banking system must be qualified to integrate Big Data-based digitization applications or has the switch but only buys some of the features. Most banks have yet to deploy cloud computing regarding data integration due to sensitive data characteristics and complex and asynchronous data systems.

*- Fifth, on customer information security*

In the context of the Fourth Industrial Revolution (Industry 4.0), with the explosion of technology, such as Big Data, Cloud Services, AI, and connecting things (IoT) through the Internet ... Banks are facing a lot of risks and dangers of information insecurity. The increasingly sophisticated development of digital technology increases security vulnerabilities, creating conditions for high-tech criminals and hackers to operate.

Therefore, in addition to many utilities brought to customers, digital banking development faces the problem of personal information security when the banking industry is always the critical target of technology crime. When many bank users install transaction applications (apps) on their phones, it is also the time when banks constantly issue warnings about fraud. In Vietnam, security risks such as fraud, customer fraud, cyberattacks on banks' infrastructure, and leaked user data are increasing. According to a Vietnam Information Security Association survey, over 50% of cyberattacks are aimed at financial institutions and banks. According to data from the Authority of Information Security, in the first 11 months of 2022, 11,213 cyberattacks were directed at Vietnam, up 44.2% over the same period last year. There were 3,930 phishing attacks, 1,524 deface attacks, and 5,759 malware attacks. In addition, 2022 also saw a spike in brand spoofing, accounting for 72.6% of all recorded online scams. Other forms of fraud included online account takeover spoofing, which accounted for 11.4%; Forms such as winning scams, online jobs, and loan applications ... accounting for 16%.

These surveys also show that the banking system is facing several cybersecurity challenges: Hackers attack banking data systems through bank partners, directly attack the Website to change the interface to extort money and get data, penetrate the system to execute money orders to seize information, and assets of banks and customers; set up websites impersonating banks to defraud customers...

On the other hand, the legal corridor for the protection of consumers' interests in the financial sector, the protection of user data privacy, has not yet been guaranteed; technical legal documents such as the Law on Credit Institutions in 1997 (amended and supplemented in 2004), The Law on the State Bank of Vietnam in 1997 (amended and supplemented in 2003), the Law on Securities in 2006... They also should have mentioned, or paid attention to, consumer protection instead of giving some general principles about the interests of depositors and borrowers. Thus, the limited legal foundation has affected the interests of consumers.

Thus, all three entities participating in the digital banking space: banks, customers, and affiliates of banks can become "gateways" for cybercriminals to attack. The problem is that while banks have focused on ensuring network security, partners do not attach importance to this issue and, in many cases, insufficient capacity and infrastructure for information security. In fact, in many cases, customers misuse the service and are tricked into fake bank pages ... causing crooks to take advantage and take over money in customer accounts. This requires banks and customers to equip themselves with knowledge of digital technology to avoid risks. On the banking side, having a team of cybersecurity experts knowledgeable about business operations is still challenging.

## 5. SOME RECOMMENDATIONS TO DEVELOP DIGITAL TRANSFORMATION AT VIETNAMESE BANKS IN THE COMING TIME

The above current assessments and the development trend of digital transformation at banks in banking activities in Vietnam are creating changes in value for participants. In the coming time, for digital banking to become an inevitable development need of commercial banks, it is necessary to focus on the following solutions:

- *First*, regarding the legal framework: The State Bank needs to quickly complete the legal framework, accelerate the research process on financial technology (Fintech), create a legal corridor for the application of modern technology in the field of finance and banking, and establish a Research Group on Digital Banking, assess the potential and trend of development/transformation of digital banking model in Vietnam to have support policies for commercial banks in this transformation process. In particular, when developing a legal framework, it is necessary to pay attention to the most vulnerable customers; there should be sufficient grounds to protect customers from the harmful effects of digital transformation.

- *Second, in technology*

In the trend that our country's economy is gradually implementing Industry 4.0, promoting IT applications in developing commercial banks' products and services is an urgent requirement, requiring timely and appropriate steps in the current period. Compared to other industries, technology development in the banking sector has been focused and made significant progress. To apply digital technology in the development of banking products and services in Vietnam in the coming time, commercial banks need to pay attention to some of the following solutions:

+ Focus on researching and applying the technology of Industry 4.0 to gradually modernize and effectively support the transformation of organizational structure, improve management and administration capacity, increase the share of non-credit services, improve competitiveness, and increase transparency.

+ Upgrade the new generation core banking system according to the design of digital banking, with digitized processes, innovative management, automation of risk handling and control, fraud based on AI technologies, Big Data analysis, and automatic robots to effectively support management, operating, trading, and hedging, meeting the Basel II application roadmap.

+ Strengthen cooperation with domestic and foreign corporations and IT companies to share experiences, exchange information, transfer technology, and update IT development trends suitable for the banking industry. In particular, commercial banks need to strengthen cooperation with Fintech companies. Because Fintech companies always have advantages in technology, creative ideas, and flexibility in the organization, while Vietnamese commercial banks always have a certain lag in technology compared to Fintech companies.

- *Third, human resources*

Banks must develop plans to train and retrain existing human resources in skills and knowledge of digital technology and digital transformation. In addition, the rapid change speed of the Industrial Revolution 4.0 in general and the banking industry in particular requires staff to acquire, learn, and relearn new skills and knowledge during their working process (lifelong learning skills).

At the same time, they are building relationships and networks with other organizations and partners such as Fintech, Bigtech, universities, and research institutes to implement training programs, plans, field trips, and internships to learn technology and prepare the expected staff from the student staff.

An essential part of human resources is attracting and retaining talents, so it is necessary to have long-term plans to build personnel through salary incentives, bonuses, attractive and flexible working environments, emulation programs, etc., to encourage research and development of new products and technologies...

- *Fourth, on data security*: commercial banks should provide solutions to ensure information security. For the banking industry, information security dramatically impacts the reputation and determines 90% of the success and failure of banks. Therefore, to prevent illegal access and attacks and prevent the loss of sensitive data through workstations and terminals, networks, email, and Internet access, Vietnamese commercial banks need to synchronously deploy solutions to protect, prevent, and prevent data leakage on the entire information system; strengthen inspection and supervision of the whole process and stages that potentially arise information security risks. In addition, banks and Fintech companies must also develop strategies and scenarios and organize periodic drills to respond to incidents and threats of information insecurity to improve their capacity to prevent and reduce negative impacts and consequences of cyberattacks.

## 6. CONCLUSIONS

As in the world today, digital transformation in the banking industry in Vietnam is and will be an inevitable trend. There have been specific successes in the digital transformation process, but the challenge is not small; most of the digital transformation at new banks is in its early stages and still in its infancy. Especially in the contemporary context, when post-Covid 19 still has many negative impacts, the world economic crisis has not ended, the industrial revolution 4.0, the development of artificial intelligence AI,... is having a substantial impact on the growth in Vietnam in particular, and in the world in general, the story of digital transformation in the banking industry faces more and more complex challenges. However, Vietnam is transforming firmly and flexibly with changes in the world. Hoping that the recommendations made by the research team will partly help the awareness of digital transformation at Vietnamese banks better, contributing to improving the efficiency of the digital transformation process at Vietnamese banks in the coming time./.

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# GENDER RESPONSIVE BUDGETING, ACCESS TO SUSTAINABLE DEVELOPMENT

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**Abstract:** *Gender equality is one of the 17 Sustainable Development Goals of the United Nations as well as Vietnam. One of the barriers to achieving this goal is the lack of financial resources. Therefore, gender-responsive budgeting has been used as an effective approach in many parts of the world to ensure that public financing policies and programmes promote women's rights and gender equality. However, the implementation of gender-responsive budgeting in Vietnam still faces several challenges due to incomplete legal frameworks, insufficient prioritization of gender equality goals, limited data and planning capacity, and restricted gender-responsive budgeting. Based on this situation, the article proposes some recommendations to create an enabling environment and favorable conditions for implementing gender-responsive budgeting in Vietnam in order to achieve sustainable development goals.*

**Key words:** *sustainable development, gender equality, state budget, gender-responsive budgeting.*

## 1. INTRODUCTION

The Sustainable Development Goals (SDGs), also known as Global Goals, are universal objectives designed to end poverty, protect the planet, and ensure peace and prosperity for all people by 2030 in each member state of the United Nations. The SDGs are based on six themes: human dignity, people, planet, partnership, justice, and prosperity. There are 17 SDGs, identified by 169 specific targets and 232 indicators. These goals go beyond and promote social development, including targets related to climate change, economic inequality, innovation, sustainable consumption, peace, and justice.

Vietnam has developed a National Action Plan towards the UN's Sustainable Development Goals. The sustainable development goals were approved by the Prime Minister in 2019, and there are also 17 common goals with 119 specific targets. Vietnam's sustainable development goals are quite similar to the UN's goals, aiming to "maintain sustainable economic growth with progress, social equity, and ecological environmental protection; manage and efficiently use resources; actively respond to climate change; ensure that all people can realize their potential, participate and benefit equally from development achievements; build a peaceful, prosperous, inclusive, just, democratic, civilized, and sustainable Vietnamese society."

Gender equality is the fifth goal among the 17 SDGs, striving to "achieve gender equality and empower all women and girls. End all forms of discrimination against all women and girls everywhere, eliminate all forms of violence against women and girls, including trafficking and sexual exploitation, and eliminate harmful practices such as child marriage and female genital mutilation. Ensure women's full and effective participation and equal opportunities

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for leadership at all levels of decision-making in political, economic, and public life. Enhance the use of enabling technology, in particular, information and communications technology, to promote the empowerment of women.”

Despite some positive results, gender equality remains a significant challenge worldwide, including in Vietnam, where there is a lack of financial investment to fulfill gender equality commitments within the current legal framework. Gender-responsive budgeting (GRB) has been used as an effective approach in many countries around the world to ensure that fiscal policies and public financial management genuinely promote women’s rights and gender equality. GRB is “an approach to budgeting that uses fiscal policy and *administration to promote gender equality and girls’ and women’s development*” (Stotsky, J. 2016).

GRB makes gender an integral part in fiscal and budgetary decision making and brings focus to the recognition that fiscal policies (both expenditures and revenues) have differentiated impacts and that analysis and review of fiscal policies and practices should take this into account. GRB is intended to ensure that PFM can contribute to addressing gender specific needs and closing gender gaps in men and women’s opportunities for economic, social, and political participation and thus development outcomes.

GRB uses gender mainstreaming and gender impact analysis during budgeting processes to ensure that all budget plans promote or respect the goal of gender equality. GRB provides tools to assess the different needs and contributions of men and women, and boys and girls, within existing revenue, expenditure and allocation estimations, and it calls for adjusting budget policies to benefit all groups.

GRB is not about creating separate budgets for women. Nor is it simply intended to increase spending on women’s programmes. Rather, it is an approach that integrates gender equality into government planning and budgeting processes, and analyses how budgets impact gender equality and the empowerment of women. This entails examining not only actual allocations and revenue raising measures but also budgeting systems and the roles of various actors throughout the process. GRB helps policymakers understand how budget decisions are made and how these decisions either support gender equality outcomes or exacerbate existing gender gaps.

Closing gender gaps requires public financial management institutions, systems, and processes that are conscious of gender needs, and impacts on gender, throughout the budget cycle: from *planning* and design of budgetary policies that promote gender equality; to the *allocation* of resources to implement them; to *tracking* resources to ensure that funds are spent and policies are implemented as intended; to *monitoring and evaluation* of the efficiency and effectiveness of policies including their impacts on gender and gender equality.

## 2. RESEACH METHOD

This report was developed following the Guidance on the application of the *PEFA Supplementary Framework for Assessing Gender Responsive Public Financial Management (GRPFM)* developed by the PEFA Secretariat in 2020<sup>1</sup>.

<sup>1</sup> For more details, please refer to the following website: <https://www.pefa.org/gender>

Based on GRPFM's indicators, the research team conduct interviews with representatives from several ministries including Ministry of Planning and Investment, Ministry of Finance, Ministry of Labour - Invalids and Social Affairs, Ministry of Education and Training, Ministry of Health and Ministry of Agriculture and Rural Development. These agencies were chosen as they are either directly responsible for budget planning and gender equality goals or directly affected by gender equality. Besides information and data collected by interviewing representatives of the above-mentioned agencies, data are also collected through reports which are mainly published on websites of ministries. The main findings of the study were discussed with experts and representatives of ministries at the consultation workshop.

### **3. RESEARCH RESULTS**

#### **3.1. Gender-Responsive Budgeting in Vietnam - untangling the constraints**

In recent years, Viet Nam has made remarkable progress in the exercise of gender equality and already has a fairly comprehensive legal framework on gender equality. The Vietnamese Constitution over the years has affirmed that women have equal rights with men in the spheres of politics, economy, culture, society and family. In particular, the principle of "Gender equality" is clearly enshrined for the first time in Article 26 of the 2013 Constitution, stating that *"men and women citizens are equal in all respects. The State has policies to ensure equal rights and opportunities; The State, society and family create conditions for women to develop comprehensively and promote their roles in society; Gender discrimination is strictly prohibited"*. To concretize the provisions of the Constitution and internalize relevant international conventions and instruments to which Viet Nam is a State Member, the contents of GE have been increasingly specified in laws and codes governing all spheres of social life.

Viet Nam's commitment to GE is clearly reflected in the plan for realization of such international commitments as the Beijing Declaration and Platform for Action, and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and the Sustainable Development Goals (SDGs). Most recently, the Labour Code has devoted a whole chapter (Chapter X) to stipulating the issues related to women workers and gender equality, with a robust shift of the "protection-of-women-workers" approach to a more comprehensive GE-guarantee approach.

Despite the progress made, issues pertaining to gender equity and for the advancement of women encounter continual challenges, including the lack of financial investment to implement GE commitments within the current legal framework. Regarding financing for GE, in June 2015, the National Assembly approved amendments to the Law on State Budget and the Law on Promulgation of Legal Normative Documents (Law on Laws). A notable change compared to the past is that gender equality has been considered one of the principles of results-based state budget management. Mainstreaming GE issues in all stages of the state budget processes has been a significant improvement in the regulatory framework on GE.

However, gender and gender equality aspects are still largely overlooked throughout the budgeting process. The practices of public financial management are not commonly applied

in budgeting, execution, settlement, monitoring, supervision, and auditing of budgets used in various ministries, sectors, and units (Ton Thu Hien, 2022).

The new revenue and expenditure policies do not include information on gender impact or are not thoroughly evaluated. For large investment projects, social efficiency and social impact assessments are required by the public investment law, but gender impact assessments are not conducted.

The government's budget documentation does neither include an overview of the government's policy priorities for improving gender equality, nor details of budget activities aimed at strengthening gender equality, nor an assessment of the impact of budget policies and gender equality.

The existing budget classification does not have a separate code that allows mapping budget lines to specific gender outcomes, but it does have a separate code to account for targeted programs and specific objectives for gender equality and the advancement of women in accordance with the Law on Gender Equality.

For most ministries, there are no gender-disaggregated data in the sector work plan, budget proposals and annual or year-end budget implementation reports. Some other ministries such as the Ministry of Health, Ministry of Education, and Ministry of Labor, Invalids and Social Affairs (areas with many closely related planning indicators on gender or state agencies responsible for gender equality) include gender-related targets at the level of results, outputs, and activities in their plans and activity reports. In addition, the VSDG gender index and the national gender statistical index identify specific gender indicators for agriculture, health, education, and labor, but not for other areas.

Data analysis on gender equality results, gender-related expenditure figures, data on the implementation of budget policies, and their impact on gender equality are also not included in the annual budget implementation reports of the ministries.

Most ministries do not conduct assessments of the impact of public services on gender and gender equality, except for some projects required by donors.

The National Assembly's Finance and Budget Committee is an agency with the function of verifying the central budget allocation plan, supervising the implementation of budget estimates and budget settlement. However, the Government's reports on the estimate, implementation and finalization of the central budget did not mention gender equality. Consequently, the gender impact could not be verified by the National Assembly.

The reason for the above situation is that there is no mandatory requirement as well as no specific guidelines from responsible authorities in the budget development process.

The State Budget Law (2015) clearly states one of the principles of state budget management is to ensure budget allocation for gender equality goals. In particular, Decree 34/2016/ND-CP of May 14, 2016, guiding the issuance of legal normative documents, stipulates that gender impact assessments, if any, are conducted based on the analysis and expected socio-economic

impacts related to opportunities, conditions, capabilities, and enjoyment of benefits for both men and women in the process of formulating legal normative documents. However, until now, no specific legal normative document has been enacted to implement this principle in the state budget process.

The guidelines for formulating the state budget do not require budget units to provide information on the gender impact of new expenditure proposals and reductions in expenditure, nor do they require analysis and provision of gender-disaggregated data on expected outputs and outcomes of service delivery.

The lack of mandatory requirements and specific documents under the law, methodologies, and guidelines from competent authorities is a major barrier in the application and practice of gender-responsive budgeting (Ton Thu Hien, 2022).

This seems to reflect two clear limitations: (i) a lack of capacity, including inadequate knowledge of gender concepts and the necessary skills to conduct gender impact assessments within the responsible public officials; and (ii) a lack of motivation, stemming from a failure to fully see the socioeconomic benefits of gender equality, as well as cultural aspects and traditional standards related to the role of women in society.

These limitations result in inadequate attention to budget policies for gender equality, and insufficient financial resources to achieve gender equality goals.

### **3.2. Recommendations for enhancing gender-responsive budgeting in Vietnam**

#### *Firstly, carry out an institutional review*

The insufficient legal framework for implementing gender budgets is the most direct and significant reason limiting the practice of gender-responsive budgeting. Therefore, it is essential to review and continue to improve the institutional framework, documents, and guidance tools for assessing and monitoring the gender-responsive budgeting process. Besides the international documents and conventions related to gender issues to which Vietnam has committed, it is necessary to review the legal documents related to planning and budgeting, laws, and sub-law documents related to promoting gender equality and women's progress. This will help identify the gaps and starting points for integrating gender-responsive budgets into the existing system, aiming to effectively implement the National Strategy on Gender Equality.

#### *Secondly, set policy priorities for gender equality*

The impact on gender equality and sustainable development is a long-term effect and often receives less prioritization in the budget allocation process of various ministries. To address this, there needs to be guidance from the legislature (the National Assembly) to prioritize the state budget for the inclusion of gender equality goals in the Socio-Economic Development Plans, including specific indicators of the outcomes, outputs, and activities is crucial. The National Assembly should issue a Resolution on socio-economic development targets, in which some targets on gender equality are added or a requirement for gender-disaggregation data for other relevant socio-economic performance indicators is made; then



gradually considers mandatory integration of gender responsive budget report in the current budget cycle.

Additionally, there should be guidance or mechanisms to evaluate the effectiveness of coordination between strategies/plans implementing gender equality by different ministries and the cooperation among these agencies in promoting gender equality. The instructions on the formulation of the Socio-Economic Development Plans and annual budget estimates of the Prime Minister, as well as the guidance on the formulation of the budget estimates of the Ministry of Planning and Investment, and the guidance on the formulation of annual budget estimates of the Ministry of Finance should include mandatory reporting requirements on this matter.

The Ministry of Finance should issue specific guidelines for budget allocation to implement the National Strategy on Gender Equality, as stated in the strategy, and includes on the guideline a reporting requirement on actual implementation..Gender impact assessment should be treated as a mandatory content in any impact evaluation of revenue and/or expenditure proposals, and in review of pre-feasibility and feasibility studies for large scaled public investment projects, and as an encouraging element of project appraisal for B- and C-grouped public investment projects.

*Thirdly, improve inter-ministerial coordination on gender issues*

Government authorities including the MPI, the MOF, the Ministry of Justice (MOJ), the MOLISA should coordinate to develop step-by-step guidelines, tools and checklists to assess and incorporate gender equality in the planning and state budgeting process. The key factor for the success of gender-responsive budgets is political support, mandatory requirements from the legislative body, and active support from the Ministry of Finance.

It will be wasteful and overlapping if ministries do not sit together to work out who should what in a coordinated manner to set up a commonly used monitoring and reporting system and database. In the long term, using the National Strategy on Gender Equality as a center for developing inter-sectoral monitoring and evaluation system and for dividing responsibilities in information collection and reporting among ministries is worth considering.

*Fourthly, improve databases and datasets*

The database systems of sectors need to contain sex-disaggregated data to provide more evidence of gender impact for demonstration of the effectiveness of promoting gender equality of a particular policy, or a specific sector plan or programme. To do this, there need to be legal documents or guidance from the Ministry of Planning and Investment and the Ministry of Finance on how to disaggregate data by gender, and budget lines directly promoting gender equality or contributing to the industry's gender equality goals. Particularly in the sphere of expenditure tracking, the scope of gender-related activities in programs and projects recorded in TABMIS should be widened so that the current budget classification and expenditure recording structure can help Treasury to better monitor all gender expenditure items.

*Fifthly, strengthen statistical capacities*

Statistics, reporting, and data collection for developing and planning policies in general



and gender-responsive budgeting in particular should be strengthened in all ministries and provinces. Different national statistical indicators such as gender development indicators and sustainable development indicators of Vietnam need to be reviewed to be harmonized in the planning and budgeting process. In addition to enhancing capacity, there should be specific guidelines for implementation.

The General Statistical Office (GSO) should review and supplement gender-separated data on statistics of all relevant socio-economic performance indicators. At the same time, they should develop guidance, strengthening capacity and improving data archive templates and software to integrate gender-separated information on socio-economic development and budget from sector statistical system into the national statistical information and data.

*Sixthly, pilot gender-responsive budgets in selected entities*

Collaborating with international organizations such as the World Bank, UN Women, and other non-governmental international organizations to pilot gender-responsive budgets in some ministries, departments, and localities will help gain experience and improve the process before adjusting the legal framework.

*Seventhly, strengthen gender budget oversight function*

The National Assembly is the agency responsible for monitoring budget implementation. Additionally, the State Audit is a body under the National Assembly that helps independently evaluate the results of budget implementation. Therefore, the Committees of the National Assembly, especially the Social Affairs Committee and the Finance-Budget Committee, need to closely coordinate with each other in the budget estimation and monitoring process of the implementation of gender-responsive budgets. To do so, the Ministry of Finance needs to amend the current budget proposal templates and explanations to integrate information about gender-responsive budgets.

The State Audit should integrate gender-responsive budget issues into its auditing content. They should incorporate gender budgeting into their auditing plans, procedures, and reports to ensure that gender considerations are taken into account during budget implementation assessments.

*Eighthly, raise awareness and enhance capacity for gender-responsive budgeting*

Leaders and experts directly involved in budgeting need to be made aware and receive in-depth training on the technical aspects of gender-responsive budgeting. They should be equipped with sufficient knowledge and skills to effectively implement gender-responsive budgets and ensure the proper deployment of these budgets.

#### **4. CONCLUSION**

GRB is an important instrument that governments have at their disposal to operationalize fiscal policies that promote gender equality and close gender gaps. GRB can help examine the impact of government policies on gender – and drive more informed decisions. The success of government policies and therefore the impact that GRB can have is influenced by many factors

including political support for gender equality, the consistency of GRB reforms as well as the country's cultural attitudes and social norms.

Despite a comprehensive set of primary legislation dealing with gender issues, existing Public Finance Management practices are currently not well-suited to promote and contribute to gender equality.

Several factors appear to contribute to this situation. There is a lack of secondary legislation, methodologies and guidelines that support the effective implementation of existing primary legislation aimed at promoting gender equality. It is also lack of capacity, including a lack of knowledge of gender concepts and a lack of skills required to carry out gender impact assessment among civil servants, and lack of motivation, founded both in lack of awareness of the socio-economic benefits of gender equality, as well as cultural aspects and traditional norms regarding the role of women in society. Overcoming these shortcomings critically requires strong champions among political decision makers and senior managers of public organizations.

GRB not about the radical reform of existing budgetary procedures, nor is it about creating a new or parallel budgeting system. Rather, it involves integrating additional tools into the existing budget system to analyse the differential impact of governments' budget on women and men, thereby translating the government's commitments on gender equality into budgetary commitments.

Closing gender gaps is complex and government policies play an important role - but achieving gender equality also requires progressively shifting cultural and societal norms. Governments can change legislation to improve gender equality and help to end discrimination, introduce public employment practices to encourage the hiring and promotion of women and change government machinery including budget processes. But government action alone cannot succeed in achieving gender equality, especially if countries have strong cultural and social barriers which reinforce inequality. Simply issuing guidelines, while being an important step, will not be sufficient without dedicated awareness raising to change people's mindsets and dedicated training to strengthen people's capacity.

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# INCREASE DIRECT INVESTMENT OF VIETNAM BUSINESS INTO AEC ECONOMIC COMMUNITY

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**Abstract:** *The goal of the study is to determine ASEAN's economic cooperation process and opportunities for Vietnamese businesses to invest in the ASEAN economic community in the period 1991 to 2020, and a vision to 2025-2030. To determine the investment trends of Vietnamese businesses in the AEC community according to specific fields, statistical and analytical techniques were used to conduct this research. An analysis of the study was presented in a table on the direct investment situation of Vietnamese enterprises to the AEC community according to each specific field in the period 1991 - 2020. On that basis, the author presents Analyzing the current investment situation of Vietnamese enterprises through two indicators: project and registered capital. From there, draw out opportunities and challenges for Vietnamese enterprises investing in the AEC market, and at the same time make recommendations for businesses.*

**Keywords:** *direct investment, AEC, Vietnam business, domestic enterprises, ASEAN*

## 1. INTRODUCTION

ASEAN's economic cooperation process has been promoted since 1992. In order to enhance trade, attract investment and regional cooperation, on November 22, 2015, ASEAN countries signed a declaration to establish an ASEAN economic community (AEC). Investors can participate in diversified investment projects across the region more conveniently as the regulatory and regulatory framework becomes more transparent, restrictions on foreign capital are relaxed, and regulations more effective investment protection. In particular, Vietnamese enterprises have investment opportunities in the region with high stability, transparency and lower risks. With a market size of more than 600 million users and a gross domestic product (GDP) of about 3 trillion USD, ranking 5th in the world in 2018 in terms of GDP, ASEAN has always been one of the strategic priorities in trade and investment activities of Vietnamese enterprises. In order to take advantage of the opportunities brought by the AEC, many Vietnamese businesses have actively invested in the ASEAN region in many different fields. The Government of Vietnam has also made changes in investment policies, in the direction of increasing support in terms of policies for domestic enterprises to make investments abroad, which has been gradually improved.

## 2. SITUATION OF FOREIGN DIRECT INVESTMENT OF VIETNAMESE ENTERPRISES TO COUNTRIES IN THE AEC COMMUNITY

### 2.1. According to the amount of capital and number of investment projects

Direct investment activities of Vietnamese enterprises into AEC began in 1991 with the joint venture of tourism business investment in the field of tourism business of Ho Chi Minh

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City tourism company (Saigontourist). In the period 1991 - 1998, overseas investment activities took place before the State's regulation in this field. Most of these investment activities are spontaneous, without guidance and official recognition from the legal system of the State. Therefore, Vietnamese enterprises are still quite hesitant in foreign investment, mainly state-owned companies establish joint ventures with foreign partners, investment activities are only market exploration, number of investment projects is quite low with 7 projects, total investment capital is 3.66 million USD, accounting for 0.88% of total registered investment capital. The average size of each project is about 0.5 million USD.

**Table 1: Direct investment of Vietnamese enterprises into the AEC community in the period 1991 - 2020**

Unit: Million USD

	Project		Investment registered capital	
	Amount	Proportion (%)	Amount (USD)	Proportion (%)
1991 - 1998	7	0,88	3.664.811	0,03
1999 - 2005	72	9,10	2.047.879.417	18,24
2006 - 2015	465	58,79	7.653.835.239	68,18
2016 - 2020	247	31,23	1.520.653.463	13,55
Total	791	100	11.226.032.930	100

(Source: Author's calculation based on data from Foreign Investment Agency)

Since 1999, the Government of Vietnam began to recognize the legitimacy of foreign investment activities by Decree 22/1999/ND-CP regulating foreign investment of Vietnamese enterprises and guiding documents such as Circular 05 /2001/TT- BKH guiding foreign investment activities of Vietnamese enterprises, together with other documents regulating related issues such as foreign exchange management, taxes applicable to foreign direct investment enterprises. These are the first legal bases, which are oriented for Vietnamese businesses in the process of foreign direct investment, in general and to ASEAN in particular. With the recognition of the law, since then, foreign investment activities have started to attract more enterprises to participate, and the activities of foreign investment to ASEAN of Vietnamese enterprises have made a lot of progress. First, businesses focused on investing in Laos, Cambodia, then gradually invested in Thailand, Singapore, Malaysia... By the end of 2005, Vietnamese businesses had invested in 6 countries, namely Singapore, Malaysia, Indonesia, Thailand, Laos, Cambodia. Particularly in the period 1999-2005, the total registered investment capital was 2.04 billion USD, accounting for 18.24% of the total registered investment capital. The average size of each project is over 28.4 million USD. The scale of investment capital in this whole period increased by about 551 times compared to the previous period, which proves the huge growth in the scale of registered investment capital.

In the period 2006-2015, the number of projects boomed thanks to the clearance of the 2005 Investment Law and Decree 78/2006/ND-CP guiding the introduction of foreign direct investment, leading to a sharp increase in foreign investment in terms of numbers, amount as well as the amount of registered capital. The reasons for the sharp increase in foreign investment activities include: the trend of international integration, the widespread dissemination of legal regulations on foreign direct investment, the certain growth of domestic enterprises. In addition, during this period, many state-owned enterprises carried out foreign investment according to the

Prime Minister's Decision 236 on encouraging foreign investment. SOEs' foreign investment projects are often in sectors requiring large capital (oil and gas exploration, mining, industrial crops, telecommunications, hydropower...) leading to a sharp increase in registered capital. FDI in this period. During the 8 years of this period, each year, an average of 58 new projects were registered by Vietnamese enterprises investing in ASEAN, with the average size of each project reaching 16.45 million USD. The scale of registered investment capital reached 7.65 billion USD, accounting for 68.18% of the total registered capital. The scale of investment capital in this whole period increased by about 3.7 times compared to the previous period.

Most of the projects are large-scale and concentrated in many fields requiring large capital and high technology such as oil and gas, mining, telecommunications, and banking. The number of countries receiving investment capital of Vietnamese enterprises has spread across all ASEAN member countries. This shows the growth of ICT activities to ASEAN in both width and depth.

From 2016 to 2020, the Investment Law 2015 and Decree 83/2015/ND-CP took effect, replacing the old regulations on foreign investment. Basically, the way of managing foreign direct investment has not changed, but it has changed from the principle of verifying the issuance of the Foreign Investment Certificate to the principle of recording the issuance of the Foreign Investment Registration Certificate, simplifying the administrative procedures for the issuance of the Foreign Investment Certificate.

In particular, the ASEAN Economic Community was established on December 31, 2015 which has brought opportunities for businesses such as accessing input sources (raw materials, intermediate goods) at lower prices due to low-priced goods. basic tariff barriers are eliminated and transaction and trade costs in ASEAN are reduced; benefit from reduced costs and more favorable export procedures, thanks to tariff reductions, flexible rules of origin and more favorable customs procedures, among many other advantages as a result of regional cooperation. area; have the opportunity to access the markets of other ASEAN member countries due to the elimination of discriminatory measures in ASEAN; Investors can participate in diversified investment projects across the region more conveniently as laws and regulations become transparent, restrictions on foreign capital are relaxed, and investments are protected. more effective; Skilled workers have many job opportunities in ASEAN.

In nearly 5 years of this period, it is quite short compared to the previous period, there were 247 projects with a total investment capital of 1.52 billion USD, the average size of each project reached 6.15 million USD. The reason is due to the decrease in the number of foreign investment activities of state-owned/state-owned enterprises in the fields of large capital scale. However, the number of investment activities remained stable and increased slightly (due to the increasing participation of state-owned enterprises and individuals) showing that the trend of foreign direct investment is still an inevitable trend along with the development of the country. and openness of the economy.

During this period, a number of information investment activities of Vietnamese enterprises to ASEAN with large registered capital of over 80 million USD must be mentioned: Investment and business project of telecommunications and information technology networks in Myanmar (Telecom International) Myanmar Co Ltd) of Viettel International Investment Corporation: USD 860 million; Project of Joint Stock Commercial Bank for Investment and Development



of Vietnam - Yangon Branch in Myanmar of Joint Stock Commercial Bank for Investment and Development of Vietnam: 85 million USD; The bank project with 100% capital of Vietcombank in Laos is 80 million USD.

## 2.2. By industry and investment sector

**Table 2.2 Direct investment of Vietnamese enterprises to AEC by investment sector in the period 1991 - 2020**

Stage	Investment field	Number of projects	Number of registered capital (USD)	Proportion (%)
1991 - 1998	Manufacturing and processing industry	1	306.811	8,37
	Other services	1	98.000	2,67
	Agriculture, forestry and fisheries	1	1.000.000	27,29
	Warehousing transportation	3	760.000	20,74
	Construction	1	1.500.000	40,93
	Total	7	3.664.811	100
1999 - 2005	Wholesale and retail; repair of cars, motorcycles, motorbikes and other motor vehicles	9	1.685.331	0,08
	Manufacturing and processing industry	29	20.152.561	0,08
	Other services	2	407.647	0,02
	Professional, scientific and technological activities	7	3.657.756	0,18
	Administration and support services	1	100.000	0,00
	Extractive	9	1.633.457.529	79,76
	Agriculture, forestry, fisheries	7	110.693.902	5,41
	Generation and distribution of electricity, gas, hot water, steam and air conditioning	1	273.110.000	13,34
	Information and communication	1	29.500	0,00
	Construction	6	4.584.191	0,22
Total	72	2.047.879.417	100	
2006 - 2015	Wholesale and retail; repair of cars, motorcycles, motorbikes and other motor vehicles	79	87.120.237	1,14
	Manufacturing and processing industry	59	234.156.840	3,06
	Water supply, management and treatment of waste and wastewater	2	7.920.000	0,10
	Other services	15	9.718.912	0,13
	Accommodation and catering services	11	105.211.448	1,37
	Education and training	3	1.846.700	0,02
	Professional, scientific and technological activities	21	217.258.957	2,84
	Administration and support services	14	6.048.129	0,08
	Real estate business	12	369.958.138	4,83
	Finance, banking, insurance	18	617.754.489	8,07
	Extractive	73	723.929.771	9,46
	Art, play, entertainment	1	1.000.000.000	13,07
	Agriculture, forestry and fisheries	88	2.776.015.792	36,27
	Production and distribution of electricity, gas, hot water, air conditioning	6	1.142.891.587	14,93
	Information and communication	21	246.537.594	3,22
	Warehousing transportation	18	52.668.000	0,69
Construction	21	40.828.230	0,53	
Health care and social assistance activities	3	13.970.415	0,18	
Total	465	7.653.835.239	100	



2015 - 2020	Wholesale and retail; repair of cars, motorcycles, motorbikes and other motor vehicles	65	77.893.751	5,12
	Manufacturing and processing industry	22	71.216.925	4,68
	Water supply, management and treatment of waste and wastewater	2	551.000	0,04
	Education and training	1	135.000	0,01
	Extractive	8	50.085.735	3,29
	Accommodation and catering services	2	469.019	
	Other services	4	28.389.232	1,87
	Professional, scientific and technological activities	26	6.415.077	0,42
	Administration and support services	8	1.503.916	0,10
	Real estate business	2	5.770.000	0,38
	Finance, banking and insurance	5	167.719.999	11,03
	Art, play, entertainment	1	82.000	0,01
	Agriculture, forestry and fisheries	11	134.960.756	8,88
	Production and distribution of electricity, gas, hot water, steam and air conditioning	2	70.545.000	4,64
	Information and communication	26	877.266.795	57,69
	Van loading and unloading warehouse	10	7.880.000	0,52
	Construction	49	17.749.258	1,17
	Health and social assistance activities	3	2.020.000	0,13
Total	247	1.520.653.463	100	

(Source: Author's calculation based on data from Foreign Investment Agency)

In the initial stage when conducting investment from 1991 to 1998, Vietnamese investors usually concentrated in a few fields such as wholesale and retail; transportation, warehousing or services with small capital, short investment period, often located in Laos, Thailand with a sparse number of projects, 1-2 investment projects per year. In 1994, there was an important investment project in Laos with a total investment capital of up to 1 million USD in the field of agriculture, forestry and fishery of Construction Corporation 11 (Thanh An Corporation, General Logistics Department, Ministry of Defense). This project marks the beginning of growth in scale and expansion of investment fields in the next phases. By the end of 1998, there was another important project in the field of construction, that is the project of Construction Company, COECCO Viet Laos, Economic Cooperation Company of Economic Cooperation Company - Military Zone 4, Ministry of Industry and Trade. National Defense in Laos, the goal of the project to build houses, bridges, roads, irrigation works and other works with the registered investment capital at that time amounted to 1.5 million USD. This is a project to build infrastructure for the people of Laos, creating a premise for the next projects.

In the 1999-2005 period, investment fields were expanded and diversified, including 10 fields, an increase of 4 fields compared to the previous period. Investment trend mainly focuses on Mining sector; Production and distribution of electricity, gas, hot water, steam and air conditioning; Agriculture, forestry and fisheries; Processing and manufacturing industry increased rapidly. The mining sector during this period accounted for 79.76% of the total investment capital to ASEAN (\$1.63 billion). The typical projects are, the project of Vietnam-Laos Salt and Chemical Company Limited with the goal of mining salt in Ban Nomg Lom, Nong Bok district, Kham Muon province, Laos of the Vietnam Chemical Corporation. ,

investment capital of 522.4 million USD. Project of Contract for Exploration and Production of Block PM 304-Malaysia in Malaysia of One Member Limited Liability Company-Petroleum Exploration Production Corporation, the investment capital is up to 804.2 million USD. The highlight of this period, in 2005, in the field of production and distribution of electricity, gas, hot water, steam and air conditioning was the only project of Xekaman 3 Electricity Co., Ltd in Laos of the company. Viet-Laos Electricity Joint Stock Company, with a registered capital of 273 million USD, this is the first project as a premise for future hydropower projects. The fields of production and distribution of electricity, gas, hot water, steam and air-conditioning increased rapidly with registered capital accounting for 13.34%. In the field of processing and manufacturing industry, the proportion of investment capital decreased, but the number of projects increased from 1 to 29 projects and increased investment capital from 0.3 million USD to 20 million USD.

The next period from 2006 to 2015, this is a boom in the number of projects, the total number of accumulated projects reached 465 projects, an increase of 393 projects compared to the previous period. In terms of investment, investment has been expanded to 18 fields, an increase of 8 investment fields compared to the previous period. The new investment areas are: Arts, entertainment and entertainment with a single project, Long Thanh-Vien Chan Special Economic Zone in Laos of Long Thanh Golf Business and Investment Joint Stock Company, registered investment capital of 1 million USD; Financial, banking and insurance activities (18 projects; 617.7 million USD); Real estate business (12 projects; 369.9 million USD); Transportation and warehousing (18 projects; 52.6 million USD); Health and social assistance activities (3 projects; 13.9 million USD); and Water supply, management and treatment of waste and wastewater (2 projects; 7.9 million USD). In which, the most notable are the fields of finance, banking & insurance and information & communication. Although it is a conditional foreign investment industry, due to being “untied” in terms of policies, during this period, the number of projects in the fields of finance, banking & insurance increased rapidly, up to 18 projects in Laos and Vietnam. Cambodia, partly support Vietnamese businesses when investing in these two countries in solving problems about investment capital. Projects in the field of information and communication with the participation of Vietnamese giants in the information and communication industry such as Viettel, Vinafone, Mobifone, FPT... have contributed to the outstanding growth of the company. projects in the industry in a short period of time. These projects accounted for 3.22% of the total registered capital for this period. These are projects that invest in infrastructure, information, improve living standards and people’s standards for local people. Next is the real estate business, which also has a strong growth, 12 projects with a registered capital of 369.9 million USD, accounting for 4.83% of the total registered capital. This is an industry that does not encourage foreign investment because most of the projects in this field are registered by individuals, with many potential risks as well as loss of national resources.

In the 2016-2020 period, the investment field will still be maintained in 18 areas compared to the previous period. This period is quite short, with policy highlights such as the 2015 Investment Law and Decree 83/2015/ND-CP, the ASEAN Economic Community (AEC) was established on December 31, 2015, thus managing foreign direct investment activities more

closely and transparently. The number of investment projects to ASEAN in this period is 247 projects, with a total registered capital of 1.55 billion USD. The field of Information and Communication rose to the top with a registered capital of 876.7 million USD, accounting for 57.69%; Finance, banking and insurance ranked second with 167.7 million USD, accounting for 11.03%; Agriculture, forestry and fishery ranked third with 134 million USD, accounting for 8.88%; Mining sector accounted for only 3.29%, with 50 million USD.

**Table 2.3 Direct investment of Vietnamese enterprises to ASEAN by investment sector in the period 1991-2020**

Investment fields	Number of projects	Registered investment capital (USD)	Proportion (%)	Average size of capital per project (USD/project)
Wholesale and retail; repair of cars, motorcycles, motorbikes and other motor vehicles	153	166.699.319	1,48	1.089.538
Manufacturing and processing industry	111	325.833.137	2,90	2.935.434
Water supply, management and treatment of waste and wastewater	4	8.471.000	0,08	2.117.750
Other services	22	38.613.791	0,34	1.755.172
Accommodation and food services	13	105.680.467	0,94	8.129.267
Education and training	4	1.981.700	0,02	495.425
Professional, scientific and technological activities	54	227.331.790	2,03	4.209.848
Administrative activities and support services	23	7.652.045	0,07	332.698
Real estate business	14	375.728.138	3,35	26.837.724
Financial, banking and insurance activities	23	785.474.488	7,00	34.151.065
Extractive	90	2.407.473.035	21,45	26.749.700
Art, play and entertainment	2	1.000.082.000	8,91	500.041.000
Agriculture, forestry and fisheries	107	3.022.670.450	26,93	8.249.257
Production and distribution of electricity, gas, hot water, steam and air conditioning	9	1.486.547.587	13,24	165.171.954
Information and communication	48	1.123.833.889	10,01	23.413.206
Warehousing transportation	31	61.308.000	0,55	1.977.677
Construction	77	64.661.679	0,58	839.762
Health and social assistance activities	6	15.990.415	0,14	2.665.069
Total	791	11.226.032.930	100	14.192.203

*(Source: Author's calculation based on data from Foreign Investment Agency)*

According to the data in the table above, Vietnamese enterprises focus on investing in the fields of agriculture, forestry and fishery the most with 107 projects and 3.02 billion USD, accounting for 26.93% of the total registered capital. investment signing. The second is the mining sector (90 projects and 2.4 billion USD, accounting for 21.45% of the total registered investment capital). The third is the production and distribution of electricity, gas, hot water, steam and air conditioning with 9 projects amounting to 1.48 billion USD, accounting for 13.2% of the total registered investment capital. Fourth is the information and communication sector with 48 projects and 1.12 billion USD, accounting for 10.01% of the total registered investment capital. The fifth is the field of art, entertainment and entertainment with 2 projects worth more than 1 billion USD, accounting for 8.91% of the total registered investment capital.

These are investment areas where Vietnam has strengths, however, in recent years, Vietnamese enterprises have also invested in many different fields and industries such as finance, banking and insurance; real estate business; manufacturing and processing industry; Education and training...

In addition, direct investment activities into ASEAN also expanded to a number of fields such as telecommunications, banking, real estate, manufacturing, etc., bringing higher added value. Many businesses have made investments according to their advantages, for example Viettel, based on its advantages in telecommunications technology, has invested in telecommunications networks and created its own brands to be positioned in the market of mobile phones. ASEAN countries such as: Metfone in Cambodia, Unitel in Laos, Mytel in Myanmar. Viettel has taken advantage of the advantages of technology ownership, the advantages of internalization of businesses and the advantages of economic policies in ASEAN countries to develop and create the current success. .

When AEC was established, many service areas were opened, creating opportunities for Vietnamese businesses. Therefore, most Vietnamese enterprises have shifted to the service sector, favoring the strengths of enterprises such as enterprises in transportation and warehousing, information, construction, tourism, etc. wholesale and retail with typical businesses such as Vietcombank, Viettel Post Joint Stock Company, Tri Viet Steel Building Co., Ltd., Viet Trans Link Forwarding Company Limited, AA Architecture Construction Joint Stock Company...

### **3. SOME LIMITATIONS IN FOREIGN DIRECT INVESTMENT ACTIVITIES OF VIETNAMESE ENTERPRISES TO COUNTRIES IN THE AEC COMMUNITY**

*Firstly*, most Vietnamese enterprises have not yet achieved the goal of making profits in foreign markets. The amount of profit remitted domestically is very modest. Businesses mainly only achieve the purpose of expanding the market, especially for enterprises like Viettel, whose market share is at the No. 1 position in the markets of Laos, Cambodia and Myanmar. With other goals such as finding a better input supply, it has not been really effective, especially in mining or agricultural projects of some enterprises such as Hoang Anh Gia Lai and Vinachem (with the same project). project on mining and processing potassium mines in the Lao People's Democratic Republic).

*Secondly*, a number of investment projects have not yet met the committed schedule, the number of investment projects mainly focuses on a few familiar markets.

A number of important and large-scale investment projects in the fields of hydropower and minerals have been delayed in implementation or the project implementation duration is longer than expected, affecting the investment progress, reducing the efficiency of the project. investment results; Some projects have not fully calculated the risk factors both in terms of capital size, market as well as conditions of legal procedures, language and cultural barriers, etc. difficulties and delays in the implementation; some other projects come into operation but the efficiency is not high.

*Thirdly*, the rate of implementation capital and business results of TT-I projects to ASEAN is still low, investment efficiency is not high.

In addition to the limited investment capital, the rate of implementation capital of ICT projects to ASEAN is still low. Many investment projects have been licensed but still cannot be implemented due to many reasons. In the process of implementing investment projects, Vietnamese enterprises still face many problems that need support from relevant state agencies of both sides (Vietnam and the host country) to find solutions. solutions to help businesses operate more efficiently.

*Fourthly*, the form of investment in ASEAN is still limited.

According to the current law, Vietnamese enterprises conduct foreign investment in five forms (establishing an economic organization in accordance with regulations in the host country; performing BCC business cooperation contract abroad; acquiring a part of it. or the entire charter capital of an economic organization in a foreign country; trading in securities or other valuable papers abroad and other forms of investment according to regulations in the host country), of which, the form of establishing economic organizations with 100% Vietnamese capital accounts for 73.9% of total investment projects to ASEAN. On the other hand, the investment projects to ASEAN mentioned above are all new investment projects, so they are more costly, time consuming and risky. This form of investment also has advantages such as being more flexible to create a business at will; It is easier to build an organizational culture for a new company than to change the culture from another old company. Currently, there is no Vietnamese enterprise conducting foreign investment in the form of mergers and acquisitions (M&A).

#### **4. SOME SOLUTIONS TO PROMOTE FOREIGN DIRECT INVESTMENT OF VIETNAMESE ENTERPRISES TO COUNTRIES IN THE AEC COMMUNITY**

*Firstly*, actively build an effective investment strategy.

In order to survive and compete effectively in the international market, businesses need to develop an investment strategy in ASEAN with appropriate steps and roadmaps based on the capacity of the business and the objectives of the operation. invest. For the traditional investment market, it is necessary to develop a more detailed investment strategy to take advantage of the advantages of Vietnam as well as the incentives of the host country to achieve the maximum investment efficiency. . Some of the strategies that some Vietnamese enterprises have successfully applied in ASEAN include: (i) The strategy of being a pioneer and leading the niche market; (ii) Strategy based on monopoly; (iii) Strategy to diversify investment fields; (iv) Investment strategy from near to far; (v) Strategy to penetrate from culture, spread the brand; (vi) Investment strategy in human resources...

*Secondly*, carefully prepare the conditions before investing in ASEAN.

Investing in ASEAN opens up a large space for businesses to develop, but there are also many difficulties and challenges because of the unfamiliar business environment, many differences, and a much higher level of risk than domestic investment. . In order to invest successfully, Vietnamese businesses must conduct a methodical approach, learn carefully about the investment environment and business environment such as the legal system, policies, education level, and demand characteristics. , people's tastes, infrastructure system, competition



level, people's income, culture, beliefs, customs... in the host country. In addition, businesses need to prepare well the conditions of capital, technology, personnel and management to ensure success in investment and business activities in ASEAN.

*Thirdly*, actively develop business strategies in the host country.

In order to survive and develop in the host country, businesses always have to find ways to improve their competitiveness to be able to win over competitors in the existing market that has been established - the red ocean. However, besides directly confronting competitors to survive and develop, businesses can still find their development direction in a new market where there is no threat from competitors. competition-blue ocean. Many businesses in the world and Vietnam have chosen this direction and are very successful such as Vinamik, TH True milk... To enter this market, businesses will have to create new value factors, which are consumer acceptance and appreciation.

**Conclusion:** In the context of integration and globalization, the AEC economic community increasingly has a voice in the region and in the world. Vietnamese enterprises need to step up investment in the bloc to take advantage of opportunities and strengthen their economic position.

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# THE INTERNATIONAL EXPERIENCES IN DEVELOPING GREEN REAL ESTATE MARKET AND THE LESSONS LEARNED FOR VIETNAM

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*Abstract: People increasingly tend to look for green living spaces, civilized and modern residential communities. That trend is spreading in developed countries around the world and is also gradually becoming inevitable for the real estate market in Vietnam. However, in Vietnam, green real estate is still a relatively new concept and the green real estate market in our country is still relatively young, just starting to appear in the past few years. Therefore, the authors have studied the trend of developing green structures and experiences of countries around the world, thereby drawing lessons for Vietnam to promote the development of the green real estate market. The study focus on using multiple figures that was given by Dodge Data & Analytics, WCED, IFC... Despite of the diversity of figures, the study only focus on countries that have the similarity of economic, social, cultural compare to Viet Nam such as Singapore, Malaysia, China... .*

*Keywords: green real estate, experience on development of green real estate, green real estate market.*

## 1. OVERVIEW OF THE DEVELOPMENT TREND OF GREEN REAL ESTATE MARKET IN THE WORLD

In 1987, in the Report “Our Common Future” of the World Council on Environment and Development (WCED) of the United Nations, “sustainable development” was defined as “development that meets the needs of the present, without impeding the fulfillment of the needs of future generations”.

The Earth Summit on Environment and Development held in Rio de Janeiro (Brazil) in 1992 and the World Summit on Sustainable Development held in Johannesburg (Republic of South Africa) in 2002 identified “sustainable development” is a development process with a close, reasonable and harmonious combination of three aspects of development. Include:

- Economic development (most importantly economic growth);
- Social development (most importantly, realizing social progress and equity, eradicating hunger and reducing poverty, and creating jobs);
- Environmental protection (most importantly, treatment and remediation of pollution, restoration and improvement of environmental quality; prevention of fire and deforestation; rational exploitation and economical use of natural resources).

Along with the rapid urbanization and industrialization and the explosion of high-rise buildings, concreting works have increased the greenhouse effect and global warming is

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more pronounced. These are the leading reasons promoting the “green building” revolution to develop strongly and widely on a worldwide scale. Over the past two decades, this wave has been spread to many regions of the world. According to research results from the report “World Green Building Trends 2021” (*Dodge Data & Analytics, 2021*), the green building market is expanding its influence to many global countries, but the most prominent are developing countries. Thirteen of the countries studied including the United States, Mexico, Brazil, Colombia, Germany, the United Kingdom, Saudi Arabia, Finland, South Africa, Australia, Singapore, China and India are predicted that there will be a significant increasing in number of companies having over 60% green buildings. Specifically, according to this report, the number of enterprises owning more than 60% of green construction reached 28% (with about 21% certificated) in the period of 2019 - 2021 and it is expected to increase sharply to about 42% (with about 33% certificated) in the period of 2022 - 2024. In which, the group of commercial buildings New commercial construction, New Institutional construction and Retrofits structures accounted for the highest share of green construction growth with 40% of participants sharing the same expectation of implementing green commercial projects by 2024, while this also are the top three groups of development works in eight of the 13 developing countries mentioned above.

According to the same report, more than 63% of study participants from the Asia-Pacific region said that social responsibility is one of the important reasons in addition to other factors such as regulations on environment, service life, operating costs... in the construction activities of green constructions. This rate reaches 72% in India, 71% in China and nearly 60% in Singapore. In just a short time, green construction is increasingly becoming an inevitable trend towards sustainable development, being environmentally friendly and using energy and resources economically and efficiently.

Particularly for Asia, Singapore and China are currently emerging countries as a good example of green construction. With measures to encourage the application of green architecture and energy-saving technologies, Singapore has built many of the world’s leading “green” technology applications such as installing solar panels on roofs or windows, energy-saving elevators and escalators, efficient air-conditioning systems, and fitted with software to monitor carbon dioxide (CO<sub>2</sub>) emissions.

In Singapore, buildings currently account for more than 30% of the country’s total energy consumption, of which 40-50% of the building’s energy is used to operate the air conditioning system. The Singapore Government has set a target that 80% of buildings in the country will meet green building standards by 2030. Since the implementation of the Green Mark (the process of developing green constructions of Singapore Government) planned in 2005, the number of green buildings in Singapore has increased from 17 to 2100 projects in 2014. Green buildings in this country account for 25% of the total number of projects with a total floor area of about 62 million square meters [11].

Or as in the case of China, although it has not been able to catch up with Singapore, the trend of green construction has shown great progress thanks to the intervention and support of the

Government and local authorities through preferential policies incentives for green buildings, financial support to encourage buying houses in green projects... As of December 31, 2021, the China Green Building Council has reported the number of certified green buildings in China. China. Accordingly, this country has 1121 green-standard-rated buildings with an area of more than 16,754,839 square meters LEED certified [12].

Base on the report “Green Buildings: A Financial and Policy Blueprint for Emerging Markets” of IFC published in December of 2019, there are about 1.2 billion square meters of signed green construction in the world and more than 800 million square meters of certified green construction. Specific, over 176 nations in the report, there are more than 34,632 residential projects; 19,236 office projects; 7,640 retail projects and 6,035 educational projects having received LEED certification - one of the first 6 prestigious certificates recognized internationally for certification for green building [13]. In the two typical Asian countries for green construction, there are more than 2000 buildings in Singapore that have achieved Green Mark certification and over 1,100 buildings in China that are certified LEED by 2021 [11] [12]. China is known for its dozens of cities. Ecological development with synchronous transportation system and energy and water saving strategies. This is also the country with the largest number of LEED-qualified residential areas in the world next to the United States. It can be seen that the green real estate market is showing more and more promising signs and development potential around the world. Also according to the report “World Green Building Trends 2021” (*Dodge Data & Analytics, 2021*), the number of green constructions in the world is expected to grow at 14%, with the percentage of green construction certified LEED at approximately approx. 33% in the period 2022-2024, leading to a change in the choices of the construction industry community as well as the needs of customers in this potential market.

## **2. INTERNATIONAL EXPERIENCES IN GREEN REAL ESTATE MARKET DEVELOPMENT**

### **2.1. Experiences in managing green resort hotels and protecting the natural environment in Malaysia.**

About green initiatives in designing, managing the construction of green resort hotels and protecting the natural environment inherent in Malaysia, we see: Malaysia tries to help its customers use green materials. and green services, offering the most optimal management solutions. Initiatives such as renewable energy, rainwater harvesting, bio-waste recycling, air conditioning usage monitoring or waste recycling, utilizing existing terrain to reduce environmental impact - the hotel’s design is environmentally friendly, ... According to them, energy-saving initiatives can reduce their energy costs in the long run. The same water-saving initiatives adopted by all operators include rainwater harvesting, low-flow toilet facilities and a towel reuse program. The goal of water reduction and management is to reduce water body pollution, avoid waste, and reduce costs. Regarding waste management, all operators use recycling, reuse and reduction waste management strategies such as waste separation, composting (Compost), purchasing raw materials in bulk and reuse materials for other purposes, wastewater is treated extensively until all harmful chemicals are removed and discharged into the sea.

Malaysia has also used many low-cost techniques such as soap from the living room which is recycled to be used as a cleaner for toilets, homemade organic mosquito repellent using

lemon juice, reuse of oil, etc. eating to make candles, biological control using coconut stalks as termites traps and neem leaves (Indian Bead tree) to control termites, raising guppies in ponds to control mosquitoes, recycling tree trunks in Assam ( a state located in northeastern India) as a key chain, recycling wood and tree trunks as signboards, providing water using pitchers and glasses instead of water bottles, old bathtubs being used as fertilizer containers and plants for vegetable gardens, ordinary aluminum inserts become spotlights, water harvesting into air conditioning units, fish ponds that use rainwater, poultry, use of natural ventilation at toilets, homes kitchen, living room and more.

## **2.2. Experiences in Thailand and Malaysia on investment attraction policies and incentives offered**

- First, on attracting investment capital: Thailand and Malaysia develop appropriate policies to attract foreign investment according to each stage of national development to ensure this resource is well served for development of domestic production, through the implementation of measures such as calling for investment and investment incentive policies. Investment management agencies in these two countries have mechanisms to support foreign investors in carrying out investment procedures, which is one of the key tasks of investment state management agencies. , namely: the Board of Investment (BOI) of Thailand, the Malaysian Investment Development Authority (MIDA) is the focal point to guide investors to carry out administrative procedures and perform the coordination function in the process of investors applying for other permits (production permits, factory construction permits...).

Currently, Thailand and Malaysia are promoting the attraction of high-tech investment projects, giving special investment incentives to these types of projects. Accordingly, in order to compete with these countries in attracting high-tech projects, Vietnam needs to research to make appropriate changes in investment incentive policies for high-tech projects.

The state management of foreign investment in Thailand and Malaysia is centralized and unified at the central and federal agencies (MIDA, BOI), not decentralized to local governments. This concentration is convenient for providing administrative services to investors and implementing policies to attract foreign investment at the national level.

- Second, about investment incentives: In Thailand and Malaysia, investment incentives include both tax incentives and non-tax incentives. Specifically, on corporate income tax incentives (corporate income): according to Decree No. 218/2013/ND-CP released in December 26, 2013 of Vietnamese Government, new investment projects in areas with social economic conditions particularly disadvantaged associations enjoy the tax rate of 10% for 15 years, tax exemption for 4 years, and a 50% reduction for the next 9 years; In Thailand, investment projects in zone 3 (the area enjoying the highest investment incentives) are entitled to an exemption from corporate income tax for 8 years, and are not entitled to tax incentives (common corporate income tax rates) in Thailand is 20%); In Malaysia, high-tech investment projects enjoy a tax-free period of 10 to 15 years, and are not entitled to tax incentives (the common corporate income tax rate in Malaysia is 25%).

The difference between the investment incentive policies of Thailand, Vietnam and Malaysia is that for some targeted projects, the Malaysian Government allows the Malaysian

Investment Development Authority to negotiate directly the investment incentive package for investors. Therefore, in some cases where it is necessary to especially attract investment, MIDA can develop the best and flexible support policies for investors.

- Third, about investment procedures: Foreign investors implementing investment projects in Thailand and Malaysia must carry out investment procedures with a strict process, with the participation of licensing and appraisal of many specialized ministries. In Thailand, there are more than 20 agencies of the Government of Thailand involved in the process of appraisal and establishment of companies to carry out the investment of foreign investors. Investment procedures in Thailand and Malaysia are: the state management agency in charge of investment (MIDA, BOI) separately issues investment incentive certificates to investors, not including investment incentive certificates and the business registration certificate into an investment certificate as prescribed in the investment law of Vietnam.

In addition to the business registration certificate, foreign investors also need to apply for a business license issued by the Ministry of Industry of Thailand and a production license issued by MIDA Malaysia. In Vietnam, only a few conditional business fields require a certificate of business eligibility before going into business. Thus, in this regard, Vietnam's regulations are more open than those of Thailand and Malaysia.

During the implementation of investment projects, investors in Thailand and Malaysia must comply with standards on construction, environmental protection, etc. Specifically: in Thailand, investors must obtain a construction permit before the construction of the factory.

### **2.3. Japan's experiences in sustainable development and becoming the country with the highest real estate transparency index in the world**

Real estate consulting firm Jones Lang Lasalle (JLL) has just released its Sustainable Real Estate Transparency Index report. Accordingly, Japan for the first time became one of the leading countries in sustainable real estate development and was classified in the group of high transparency along with France, Australia and the UK.

According to JLL, there are indications that the two cornerstones of transparent environmental enforcement - minimum energy standards and green construction certification - are already present in the majority of key markets.

To become the country with the highest real estate transparency index in the world, Japan has launched three new tools in the past two years, namely: A building energy consumption rating system for those non-residential projects based on primary energy consumption; Specific guidance to landlords and tenants interested in eco-friendly rental terms; Publication of mandatory design standards for energy efficiency for non-residential projects exceeding 2,000m<sup>2</sup>.

According to JLL, these efforts have been underpinned by Tokyo's Emissions Management program for large buildings, introduced by the Tokyo Metropolitan Government in 2010.

Japan's efforts through energy and emissions management programs have had certain results. In Asia-Pacific, the market has seen an increase in awareness and adoption of



environmental transparency measures such as minimum energy consumption standards and green construction certificates, depending on the market.

Markets, customer needs and government regulations have been crucial to the success of sustainability movements. The results of JLL's Sustainable Real Estate Transparency Index report are studied in 37 markets, accounting for a total of 97% of direct investment in global commercial real estate in 2015. The index tracks the performance of companies. the following sustainable development tools:

- + Report emissions.
- + Energy consumption standards.
- + Financial activities.
- + Certificate of green construction.
- + Environmentally friendly lease terms.
- + Minimum energy standards (for existing buildings).
- + Minimum building energy standards (for new construction buildings).

The natural green area is the trend of the world and becomes a new living trend. The market is recording a good signal when recent real estate projects have focused on building a green living space towards the goal of sustainable development.

### **3. LESSONS LEARNED FOR VIETNAM**

*First:* Realize reasonable land allocation and effective use of land resources before green resources are depleted and destroyed, and must regenerate sustainable resources.

Through the example of Malaysia, we could conclude that green structures are not only about the creation big buildings or significant environment friendly machinery systems, green structures are about creating systems which use resources effectively and generate the demand for green products as well as green structures, maximize the using of green materials, and minimize the using of unnecessary materials. As we can see, Malaysia developed the system of resorts and hotel that use low-cost techniques to make organic products to alter industrial products. That is economical strategies for the country, by using renewable material in making simple product which is used in normal life, they could provide more for using green material in other departments of economy. In additional, the number of industrial product that are made by using many chemicals could be reduced. These chemicals might cause multilevel of impact to the water resources and soil resources. These resorts and hotels of Malaysia are pioneers in saving and using and recycling the resources and their government created a green mindset for the citizens. Because of that, the constructions of green structures could be supported by many organizations, companies, people. As a result, developing the green structures was sync in national scale by doing small things.

Viet Nam as a country that have many similarity factors compare to Malaysia could consider to do the same. Government of Viet Nam could decrease the tax, increase the allowance or



introduce some law in order to support business that use the environment friendly products, which have been innovated such as fabric bag, Garbage bags automatically biodegrade, Bamboo straws, Bagasse box... The Government could also encourage the research of new eco-friendly materials, eco-friendly systems, support more for the traditional crafts that are made from natural materials...

**Second:** Respect the environment for sustainable development; take advantage of available land resources for development, take advantage of available materials but still ensure safety and sustainability during use.

In many countries, for reaching the sustainable development, the ratio of industrial departments of the domestic economy must be modified. It is necessary that using the land resources and fossil resources for development in developing country as Viet Nam. In the old period of development, Viet Nam using industrial development to encourage the domestic economy. As a result, the economy of Viet Nam was rapidly grown but that also led to a lot of waste and bad environmental impacts. There are a lot of areas could not be used for other economical purposes because of the depletion of resources or the irreversible impacts to the environment. For the sustainable development of Viet Nam in the future, the government must consider to encourage the development of eco-friendly structures or systems to exploit effectively resources and recreate the renewable resources for long term development.

**Third:** Construction density is closely related to the “green” factor in green real estate and green buildings. It is necessary to comply with regulations in green construction to ensure the quality of the work.

In Viet Nam, the most controversial problem is that how economic participants maximize the benefit while follow the compliance of construction density to reach the standards of green construction.

Companies and investors and people want to make money as more as possible by using most of the land resource for building real estate for rental purpose while resorts, which are close to green real estate, are not popular and only for the rich. For reaching the standard of green structures, buildings require eco-friendly materials and green space in construction. These could make the increasing in investment money at the beginning of construction. By using renewable energies, restriction of emission, reduce and recycle wasted materials the operation cost will be saved and contribution for the social will be enhanced; investors still consider their individual investment return as the first problem to tackle.

The law of construction of Viet Nam caps the maximum of space for building in various conditions. Despite of that, many investors keep ignore these compliances for profit purpose. That led to lots of social problems. To ensure the quality work the government need to ensure that the density of construction must be comply in hard way.

**Fourth:** A new market with high transparency creates an environment for green real estate development. In order for the market to be transparent, it is necessary to develop an accurate and reliable information system about green real estate.

As mentioned, to become the country with the highest real estate transparency index in the world, Japan has launched three new tools in the past two years to control the building energy consumption rating system for those non-residential projects, instruct landlords and tenants interested in eco-friendly rental terms, design standards for energy efficiency for non-residential projects.

The real estate market of Viet Nam need to learn that in order to enhancement of the real estate transparency index. The government of Viet Nam should create a standard of energy consumption as well as the return of investment ratio related to green constructions and use the technology to collect the information for the public to know. A special guidance should also be made for business and investors to reference and comply. The government should synchronize these into a system for surveillance and management of transparency index of real estate market.

**Fifth:** There should be really large resources for investment in green real estate, especially resources from abroad, advanced science and technology as well as awareness of the green environment for sustainable development: through experience in attracting foreign investment capital, shortening outdated procedures, offering investment incentives, etc.

Thai Land and Malaysia have policies to encourage investment for green construction through the taxation, especially on corporate income tax incentives. They also have investment procedures to control projects and investments with the participate of many government agencies.

Viet Nam also have that but it is hard to sign to the government for the tax incentives because of complicated procedures. The polices and the procedures must be synchronized to encourage the investment instead of prevent it. The responsibility should be handled to few government agencies that have ability to address, license, manage, check, supervise... the investment purposes and the construction of the building.

**Sixth:** It is necessary to build a synchronous legal document system on land management and green real estate construction, giving specific regulations on green real estate standards...

To develop the green real estate market sustainably and have truly green real estate, it is necessary to have macro solutions. In particular, state management agencies need to promulgate clear, specific regulations on green real estate standards so that project owners as well as investors are well understood.

At the same time, it is important to build a management and evaluation system for green products to effectively promote green construction. Transparency and objectivity in evaluating and certifying green real estate and green buildings will help the real estate market develop in the right direction.

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# FURTHER DISCUSSION ON ETHICAL RISK MANAGEMENT AT VIETNAM JOINT STOCK COMMERCIAL BANKS

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**Abstract:** *This paper aims to research on moral hazard and moral risk management in business activities of commercial banks. From theory to practice, we could recognize the reality that Vietnamese commercial banks have faced many risks, especially moral hazard. Through practical analysis, from the achievements, limitations and causes, the article proposes some solutions to strengthen the management of moral risks in business activities of Vietnamese commercial banks in the coming time.*

**Keywords:** *moral hazard, moral hazard management.*

## 1. POSED PROBLEM

Moral risk is one of the risks that needs special attention in today's thriving digital banking environment. Commercial banks' activities bring profits with risks. In business activities, commercial banks cannot eliminate risks and instead control, manage and limit risks. Therefore, commercial banks need to accept risks within a certain level for profit goals. Moral hazard is one of many risks that commercial banks may face. Moral risks occur in all business activities of commercial banks, affecting the ability of enterprises to access capital, thereby negatively affecting the growth and development of the economy. In recent years, the contribution of Vietnam's commercial banking system to the process of innovation and promoting economic growth, accelerating the process of industrialization - modernization is very large. Commercial banks not only continue to assert themselves as an important capital channel for the economy, but also contribute to stabilizing the purchasing power of money.

Along with the reform and renovation process, the number of Vietnamese commercial banks has increased rapidly, and has been gradually moving towards a compatible system of emerging and newly developed economies. Banking is a special business, sensitive, closely tied to money, and always facing many risks. In risk matters, it seems that Moral Risk is a growing risk for banks. In their operations, banks all face governance problems and the most important and difficult to control issue is the expertise and ethics of the bankers.

## 2. CONTENT

### 2.1. Theoretical basis

Moral hazard is an economic and financial term used to refer to the risk that arises when an economic entity's morals deteriorate; Moral hazard is a type of market failure that occurs in

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an asymmetric information environment; Moral hazard is the problem of information disparity that occurs after the transaction is made. Moral hazard arises when the party with an information advantage understands the asymmetric information situation between the transacting parties and naturally forms an incentive to act in the direction of self-benefit regardless of whether such action may be taken. harm the party with an information disadvantage.

The forms of manifestation of Moral Risk include: Moral risk due to customers and Moral risk due to commercial banks.

Causes: (i) Moral risk exists due to the loosening of controls, the lack of lending policies, the lack of clear standards, the lack of strict and scientific control from the bank; (ii) stemming from the lack of understanding of the bank administrator; (iii) due to lack of supervision from government agencies, shareholders and depositors; (iv) arising from the government's support to save large credit financial institutions from collapse, this is one of the factors that cause these institutions to carry out hidden investment acts. contains moral hazard...

Effects of Moral Hazard:

For commercial banks: Moral risk directly harms commercial activities of commercial banks; Moral risk leads to the deterioration of the bank's business reputation

For the economy: It can be affirmed that the harm caused by Moral Risk is serious to the economy in general and the banking system in particular.

Moral risk management is the practice in which management entities use a system of policies and measures to identify, measure, control and monitor risks in order to minimize ethical risks. Ethical Hazards can occur and what to do when Moral Hazards occur. Banking business has always been placed under a strict system of regulations issued by the Government and state agencies to control banking activities. Thus, the subject of moral risk management includes: (1) Macro-management agency (Central Bank) and (2) Commercial banks.

Moral risk management process:

Horizontal governance: Currently, there are many risk management models in the world, but it is proposed to apply IIA's 3-Line of Defense Model, the First Line of Defense is built in standard processes, with controls implemented by employees in departments; Second line of defense: Compliance; Third Line of Defense: Internal Audit

Vertical risk management: Identify risk causes to find preventive measures, a 7-step process: (1) Specify the entire system of the enterprise and the environment in which the enterprise operates; Describe these instructions in detail on the documentation. (2) Based on the detailed description, try to identify the threats that can come from inside and outside the system. (3) Based on the detailed description, seek to identify the vulnerable points through which the threat can enter the system. (4) Based on the results of step 2 and step 3, combine hazards and vulnerabilities to form a list of potential risks. (5) For each risk give possible controls. (6) Based on the actual situation, select one or several controls that are most feasible. (7) Plan for implementation of controls or plan for troubleshooting.

At commercial banks, the content of moral risk management is implemented such as: Compliance with corporate governance principles; Building an internal control and audit system; Conditions for granting credit and conducting investment activities; Requirements on loan security; Regulations on loan appraisal, approval, supervision of loan recovery; Incentive policies

Moral risk management tools: The State Bank (SBV), commercial banks must use many different tools: - Legal framework, system of policies, current legal documents of the State, Government government; decisions, regulations and implementation guidelines of the State Bank for all business activities in the field of banking business; Approve policies, regulations, regulations, procedures, documents guiding the implementation of commercial banks on banking business activities in accordance with the provisions of the State Bank and the law; Internal control and audit system of commercial banks; Independent audit reports of auditing companies that are qualified to audit commercial banks in accordance with the law; The most important tool is through the central bank's banking supervision agency from a combination of remote supervision and on-site inspection.

## **2.2. Current status of moral risk management in business activities of Vietnamese commercial banks**

### **2.2.1. *The process of approaching moral hazard in Vietnam***

Since the early years of the 21st century and especially after a series of collapses of US banks in 2008, the issue of moral risk management has been valued and built by commercial banks around the world as one of the pillars of the world. to ensure the sustainable development of the bank.

At some Vietnamese commercial banks, typically BIDV (which divides risks in banking activities according to Basel II into 3 main risk groups: credit risk, market risk and operational risk), risk Moral risk is understood as a risk arising from human factors

Most banks in Vietnam have not established a moral hazard management department, some small joint stock commercial banks only have a common risk management department that is not divided by risk segments. Some other banks have initially learned about Moral Risk and methods to limit Moral Risk, but not all banks have a methodical moral risk management system. Some large commercial banks such as BIDV, Vietinbank, Techcombank, Maritime Bank, VIB already have a moral hazard management department. At other banks, there have been initial negotiations with foreign auditing and consulting firms to develop moral risk management policies at the bank. Maritime Bank has put the Kondor+ system of Thomson Reuters into operation in risk management.

### **2.2.2. *Situation of Moral Risk in Vietnamese commercial banks***

The situation of moral hazard in the banking sector in Vietnam is very complicated, with its nature, scale and increasingly sophisticated tricks. Moral hazard is increasingly diverse, including Vietnamese and foreigners, operating within the country or across the country.

Considering 50 typical criminal cases that have been tried in the period 2011 - 2022, related to moral hazard in business activities of Vietnamese commercial banks, we see:



In terms of banking operations, in 50 cases we have: Credit accounts for more than half of the cases 54% and similarly the amount also accounts for more than half of 51%. In terms of deposits, which accounted for a quarter of the cases, 24%, but the amount of damage was up to 44%, which is approximately the same as the loss of credit operations. So sometimes we just get too involved in the credit management and forget about the deposit management...

In terms of economic sectors, out of the total of 50 cases, 31 cases belong to the state-owned commercial banks, accounting for 62% of the number of cases and 53% of the total amount of damage. It is also natural here that state-owned commercial banks account for a large proportion of lending and capital mobilization in the entire national economy. The thesis sums up the project tricks of the defendants in a total of 50 cases studied and shows that 11 cases are using tricks to make fake documents with seals and signatures. The rate of this case is only 32%. But money losses amounted to 9,824. Because and accounts for a very large percentage to 89%. This shows that in banking operations, the management of hidden records is extremely important. Recent cases also show that the use of fake seal signatures has created for defendants to appropriate huge amounts of money.

The fact also shows that one of the difficulties in investigating and handling ethical violations leading to risks in banking business is the criminal tricks of the very criminals. delicate. Some bank officers take advantage of their positions and powers to commit crimes. Criminal acts are carried out very sophisticatedly such as creating fake profiles, fake papers, forging signatures of customers depositing savings for embezzlement and fraud.

Because criminals are qualified, they often find ways to hide their crimes, destroy evidence, and use many tricks to deal with management agencies and procedural agencies. Due to the relationship with many leadership levels, the subjects when discovered and investigated through many “complex” relationships to influence and run away. These subjects made it difficult to investigate and prosecute.

### ***2.2.3. Status of ethical risk management in business activities of Vietnamese commercial banks***

Moral risk management through professional expertise: Vietnamese commercial banks always focus on the professional qualifications of bank employees, focusing on risk management, especially Moral risk, When the professional expertise of the bank’s management team is stable, the Moral Risks of other related entities will be detected in time. In fact, in recent years, weak professional skills rarely let property loss happen. Occurs in 4 out of 50 cases, accounting for 8% but causing damage of more than 1 billion, accounting for 9% of the total amount of damage.

Moral risk management through interest rate instruments: High interest rate lending is unwarranted in an economy. The user of capital is prone to losses due to the cost of using capital, hence the inability to pay the sender. On the other hand, high interest rates are lucrative prey for those who raise capital and perform scams.

Moral risk management through control of tricks: in these cases, it is necessary to draw up a trick to set up many companies to cheat: it is necessary to control the company’s establishment

records, to control purchase and sale records, regularly checking collateral corresponding to the loan amount is also a way for commercial banks to reduce risks.

Moral risk management through improving the appraisal capacity of loan capital management: Banks can implement controls right on the Core Banking system to know which branches lend beyond their jurisdiction with any customer. Although authorized to lend, the head office of commercial banks needs to perform the function of regularly checking all arising transactions.

Moral risk management through control of signatures and seals: Headquarters should not authorize transaction offices to directly sign loan contracts. Transaction offices should only focus on mobilizing customer deposits and personal savings. The control of the signature is also a lesson, the treasurer and accountant strictly control the signature.

Moral risk management through collateral management, loan customers: State agencies need a definitive decision on asset certificates, customer management.

Moral risk management through savings book management, end-of-day fund control: In the long-term, to limit moral hazard, commercial banks have focused on risk management in banking business. Moral risk is related to the human factor, so to manage this issue, attention should be paid to operational risk management.

#### **2.2.4. *These achievements***

Vietnamese commercial banks have paid attention to risk management in banking business. Regarding the issue of moral hazard, some commercial banks have initially implemented operational risk management in a methodical manner: (i) Establishing a department in charge of risk management, (ii) Developing policies and operational risk management process, (iii) Developing operational risk assessment criteria and initially building a loss database on operational risks, (iv) Carrying out a review and self-assessment periodically assess operational risks, (v) Pay more attention to human resource training and development, (vi) Take strict measures to deal with violators of Moral hazard, (vii) ) Change in organizational model, complete internal processes in the direction of separating functions: business, risk management and operations in order to avoid conflicts of interests between functions and limit risky behavior Ethical risk among managers and bankers

#### **2.2.5. *Limitations and reasons***

Despite these achievements, there are still some limitations, which are: (i) Inadequate awareness of the meaning, content, and principles of corporate governance, (ii) Control and audit work. There are still many internal limitations in banks, (iii) Implement professional processes, internal controls, and market discipline are not serious, (iv) Operational information of the banking industry has not been established. transparency, (v) Information system for customer assessment and rating, (vi) Unethical and professional staff arrangement

These limitations come from the following reasons: (i) Due to awareness, management and leadership skills, (ii) Insufficient and clean data, (iii) Limited information technology infrastructure, (iv) Due to unreasonable management model, process and plan.

### 2.3. Proposed solution

Firstly: Strengthening corporate governance and risk management culture in the bank

Commercial banks need to apply governance structures, processes and standards combined with a reasonable allocation of responsibilities, while paying attention to the quality of supervision and control. The Board of Directors is responsible for the entire operation of the bank, including approving and monitoring the implementation of the bank's strategic objectives, risk management strategies, strengthening corporate governance and improving corporate governance. company value. The Board of Directors is responsible for supervising the Executive Board; Board members should and should require qualifications, including training for their position. They should have a thorough understanding of their governance role within the bank and be able to assess the bank's objectives and financial position; The Board should identify governance practices that are appropriate for its work and have the means in place to ensure performance is monitored and periodically reviewed for continual improvement; Banks must have adequate information systems in place to measure, monitor, control and report risks. Risk reports must be made timely and reported to the Board of Directors, Board of Directors, and relevant departments.

Secondly: Tighten the management process, perfect the system, perfect the risk management structure

By promulgating strict and scientific regulations and business processes; policies, management regulations, strict inspection and control systems to prevent taking advantage of loopholes to take advantage of both customers and bank staff. In order to innovate risk management according to modern methods, it is necessary to innovate in methodology as well as perfect relevant mechanisms and policies.

For risk management policy, banks need to make it official in writing and have specific provisions on the following issues: The objective of the policy is to clearly define what needs to be done to limit and control the risk. risk control; Clearly define the departments and individuals responsible for risk management decisions; Provides for the establishment of a comprehensive risk measurement system; Determine the risk limits that the bank can accept, common to the entire business of the bank; Regulations on hedging strategies, measures and tools that the bank can use; Regulations on methods of assessing the level of damage that may occur in the event of bad market fluctuations beyond the bank's initial estimates; Regulations on the preparation and use of risk reports.

Thirdly: Strictly complying with information disclosure and transparency to improve market discipline

Basel II's International Capital Treaty (Basel II) is based on 3 main pillars, of which the third pillar: Compliance with market discipline. This pillar requires banks to disclose information in an appropriate, complete and transparent manner according to market principles. With this pillar, Basel II provides a list of requirements that require banks to disclose information, from information on capital structure, capital adequacy to information related to the sensitivity of the

banking system. the bank's credit risk, market risk, operational risk, and the bank's assessment process for each of these risks.

Fourthly: Building an internal control system associated with risk management and actual conditions

- Internal control should be everyone's job, at all stages of work: strengthen internal control through cross-checking and mutual monitoring mechanisms.

- Building corporate culture, setting up a special control system on the behavior of the bank's operations and letting this system work effectively, really avoiding the introduction of a control system. formally.

- Set up comment boxes at transaction points; setting up a hotline to receive fraudulent denunciations; use modern software to check logic in every business to bring up suspicious cases early...

- Periodically, the internal audit department checks the performance of all departments and finally the risk working group meets monthly to discuss and provide solutions to operational risk issues. the core of the bank.

Fifthly: Developing human resources with qualified qualifications and moral qualities

Recruit, employ and train quality human resources in accordance with their capacity; have reasonable and satisfactory remuneration policies and regimes for employees: ethics must be considered as a prerequisite criterion in the selection process.

Banking is a field that requires high transparency and professionalism. Therefore, it requires banks to focus on recruiting and training high-quality human resources - education on professional ethics - because weak resources not only affect efficiency, business goals business, but also potentially huge moral hazard.

In the process of using, the bank has a satisfactory remuneration system through accurate assessment of the different values of bank staff and the results of their efforts to help them be motivated to realize their full potential. and also contribute to the prevention of misconduct for personal gain.

Commercial banks should pay special attention to the recruitment, training and fostering of personnel. In recruitment, commercial banks need to select candidates who not only have high professional qualifications but also need to have good ethical qualities, suitable for the corporate culture. Ethics should always be considered a prerequisite in the recruitment process.

Sixthly: Develop a Code of Professional Ethics, strictly enforce and sanction.

To limit Moral Risk in business activities, many banks have developed codes of ethics to apply in banks. These standards are still not effective because these regulations are still general and have not gotten to the essence of the problem.

Therefore, to limit Moral Risk, banks need to develop a more detailed code of ethics, including specific regulations on the rights and responsibilities of each department, along with that. is to perform cross-checking to minimize the risk.

On the internal side, corporate governance is a group of internal agreements and commitments that define the relationships, powers and duties, roles and responsibilities of different groups in the company, including Board of Directors, Executive Board, controlling shareholders and group of minority shareholders. These agreements/commitments are reflected in the company's charter, internal governance regulations, labor rules and other internal regulations. In the external aspect, the internal corporate governance mechanism is strengthened by external laws, rules and regulations that help create a level playing field and strict discipline with the best practices. The internal treatment is not transparent and fair, whether from the management level or the Board of Directors. Internal forces (which determine the relationship between key members of the company) and external forces (typically policy, legal, regulatory and market issues) govern jointly. corporate governance, behavior and operations.

#### Seventhly: Upgrade and master the information technology system

The modern banking management model based on Basel principles can only succeed when it solves the problem of information exchange mechanism, ensures the separation of functional parts to realize specialization and improve the integrity of the banking system. objective, but without losing the ability of the risk management department to capture and control information. Management information systems are a key factor in supporting accurate and effective risk management decisions. In the process of information technology modernization, commercial banks need to build a complete management information system to identify, measure, monitor, control and report risks. To do so, critical information in the course of business operations needs to be periodically and/or ad-hoc updated by the customer relations department and forwarded to the risk management department for analysis, assess potential risks. Thus, the operation of the new model can be smooth and reduce the concerns of the credit risk management department in the credit assessment. At the same time, the bank needs to build a comprehensive information and analysis system, provide accurate and reliable information sources for relevant specialized departments. Industry and sector analyzes in the economy are being carried out by banks to build credit analysis data warehouses, but they are incomplete and lack connectivity and support between banks in sharing. information sharing. The comprehensive cooperation between banks in building and sharing information databases about businesses and industries is the shortest way to perfect the information system and reduce the cost of information exploitation. most reasonable way.

#### Finally: Focus on education and propaganda work

Focusing on education and propaganda to raise awareness of behavior, ethics and responsibility for all bank staff. More than ever, the banking industry must educate professional ethics as a top task in the restructuring process.

First of all, the bank must focus on building a working environment, in which leaders regularly train and guide to improve the capacity and knowledge of junior staff, helping to detect potential risks. may happen. Orientation program for new employees, warning of how fraud damages the bank, and responsibility.



### 3. CONCLUSION

The management of the macro management agency for commercial banks through a system of policies, laws, regulations, regulations... and the banking inspection and supervision agency helps commercial banks on that basis to build, promulgating policies, regulations and processes suitable to the actual situation of the bank, complying with the provisions of law in order to ensure safety in the operation of commercial banks; The good implementation of the above regulations helps commercial banks to limit the risks that may occur in the banking business. However, in order to minimize possible risks, especially Moral risk is the top concern for commercial banks in the current period.

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# THEORETICAL STUDY ON THE DEVELOPMENT OF CREDIT RATING MARKET FOR CORPORATIONS

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**Abstract:** *This study serves as a comprehensive review, delving deeply into pivotal theoretical frameworks associated with the development of the corporate credit rating market. By emphasizing cornerstone principles such as information symmetry, risk management, and corporate governance, it elucidates the central role of credit ratings in providing instrumental insights for investment decisions and optimizing capital structures. The research explicates the intricate interplay between credit ratings, risk mitigation, and the sustainable evolution of the financial market, fostering a conducive environment for both corporate entities and the broader financial sector*

**Keywords:** *credit rating, enterprises, theory, sustainability*

## 1. INTRODUCTION

In an era of globalization and continuous development in the financial market, the assessment and management of financial risks have become increasingly vital for businesses and investors. Within this context, the corporate credit rating market has emerged as a significant tool for evaluating the creditworthiness of enterprises and providing crucial information for investment decisions. The theoretical exploration of the development of the corporate credit rating market contributes not only to a deeper understanding of its operational mechanisms but also presents important opportunities and challenges for both businesses and the global financial system.

This paper focuses on presenting key theories relevant to the development of the corporate credit rating market. We will analyze and elucidate fundamental principles such as information symmetry, risk and benefit theory, risk management and capital structure optimization, as well as the interaction between credit rating and corporate governance. By mastering these theories, we can better comprehend the significance of credit rating in the process of managing financial risks for businesses and the global financial system.

## 2. RESEARCH METHODOLOGY AND LITERATURE REVIEW

### 2.1. Research Methodology

**Research Design:** A comprehensive literature review. This involves systematically searching, evaluating, and synthesizing existing literature to provide an overview of current knowledge on the subject, identify gaps, and propose directions for future research.

**Data Collection:** Given the nature of a review, primary data collection methods such as surveys, interviews, or experiments are unlikely. Instead, secondary sources such as peer-

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reviewed articles, reports, books, and other scholarly works related to the corporate credit rating market are utilized.

**- Data Analysis:**

+ Content Analysis: This method is employed to identify and interpret patterns, themes, and trends within the gathered literature.

+ Comparative Analysis: Contrasting various theoretical perspectives and empirical findings to derive a comprehensive understanding of the subject matter.

**- Key Variables and Concepts:**

+ Dependent Variable: Not explicitly mentioned since it's a review paper.

+ Independent Variables: Information symmetry, risk management, and corporate governance.

+ Mediating Variable: Credit ratings.

**- Theoretical Frameworks:**

The study likely refers to established theories and models concerning information symmetry, risk management, and corporate governance to anchor its discussion and derive insights on the role of credit ratings.

## **2.2. Literature review**

According to Ponce (2012), the Credit Rating Agencies (CRA) play an intermediary role in the Credit Rating Market, which serves both sides of the market, including issuers and investors, creating a two-sided market. Therefore, the development of the Credit Rating Market is assessed from perspectives of both issuers and investors, focusing on the rational business model of CRAs within the Credit Rating Market. White (2013) suggests that the expansion of the Credit Rating Market involves attracting full participation from entities on both the supply side (CRAs) and the demand side (rated businesses, information users). The development of the Credit Rating Market requires the formation of profit-generating models for CRAs and effective market evaluation of their opinions through market reactions to rating outcomes.

European Union (2016) emphasizes the importance of continued relevance and reputation of CRAs in the context of an already established Corporate Credit Rating Market in Europe. Effective measures are recommended to enhance competitiveness and encourage the development of existing CRA strengths, while facilitating the rapid establishment of new CRAs to gain credibility in the market. For emerging economies with nascent Credit Rating Markets, Todhanakasem (2001) states that market development is evidenced by the formation and expansion of credible CRAs within that market.

In this study, the viewpoints of White (2013) combined with Todhanakasem (2001) are employed to clarify the development of the Corporate Credit Rating Market in Vietnam. The assessment of the extent of full participation from entities on both the supply and demand sides is highlighted, creating positive reactions towards the efficiency of Credit Rating activities and the expansion of CRA operations within the market.

Ashcraft, Schuermann (2008), White (2002), and White (2013) underscore the significance of developing the Credit Rating Market, wherein CRAs play a vital role. Specifically, the Credit Rating Market efficiently functions as an information service and monitoring provider in the financial market and the economy. The fundamental and primary function is to provide information services, which CRAs execute by offering independent assessments of the financial obligation repayment capacity of entities. This reduces information costs, fosters financial markets, and enhances market liquidity. CRAs promote information transparency by evaluating credit quality ratings, representing risk levels for issuers' financial obligations. CRAs significantly influence investment decisions by assessing credit risks, impacting interest rates that issuers must pay to investors. This effect extends to reducing or elevating market volatility and liquidity stability. The role of CRAs also extends to contract formation for organizations and regulatory compliance.

Furthermore, the continuous monitoring role of CRAs is considered essential by Ashcraft, Schuermann (2008), White (2002), and White (2013). This continuous impact on rated entities necessitates ongoing remedial actions to prevent credit downgrades. The role of continuous supervision has been highlighted by Boot, Milbourn & Schmeits (2005), which emphasizes the importance of this often overlooked aspect. CRAs interact continuously with the companies they assess, as per contractual obligations, and publicly disclose their rating regulations. CRAs assess changing risks in a company's characteristics or market conditions that could impact its rating. Monitoring functions enable CRAs to take specific actions to minimize credit risk deterioration through their ratings, assisting investors in making more accurate decisions. This supervisory role is supported by other studies like An & Chan (2008) and Bannier & Hirsch (2010). In developing markets, the continuous supervisory role of CRAs significantly influences market reactions when rating changes occur.

In addition to the aforementioned roles, Frost (2007) and Hand, Holthausen & Leftwich (1992) emphasize CRAs' role in fostering the development of the corporate bond market and the broader bond market. The presence of reputable CRAs is recognized as an important factor in the success of bond markets, with key benefits including establishing consistent risk metrics for bonds, advising organizations on improving their financial positions through bond issuances, enhancing information quality, and increasing the volume of corporate bond issuance. Mckague & ctg (2011), ADB (2013) assert that the primary purpose of Credit Rating Agencies is to provide investors with objective and independent opinions on relative credit risk of bonds. This function contributes to the transferability of corporate bonds in secondary markets, promoting depth and liquidity in the corporate bond market.

In this scientific study, the perspectives of White (2013) combined with Todhanakasem (2001) are utilized to elucidate the development of the Corporate Credit Rating Market in Vietnam. The evaluation of complete participation from entities on both the supply and demand sides is emphasized, resulting in positive reactions towards the effectiveness of Credit Rating operations and the expansion of CRA activities within the market.

### **3. RELEVANT THEORIES REGARDING CREDIT RATING MARKETS FOR ENTERPRISES**

#### **3.1. Asymmetric Information Theory and Signaling in Credit Rating**

The establishment and functioning of Credit Rating Agencies (CRAs) within the Credit Rating Market (CRM) can be attributed to a fundamental flaw in financial markets - asymmetric information. As financial markets evolve, the significance of information - often likened to a commodity - becomes more pronounced, exacerbating the issue of information asymmetry and diminishing overall market efficiency. The concept of asymmetric information was formally conceptualized by three prominent economists: George Akerlof, Michael Spence, and Joseph Stiglitz. Asymmetric information occurs when information is unevenly distributed among market participants (Philips, 1988). This phenomenon typically results in increased transaction costs, heightened business risk, and negative market consequences, sometimes even leading to market failure (Akerlof, 1970). It manifests through problems such as Adverse Selection (AS), Moral Hazard (MH), and Principal-Agent (PA) challenges.

In markets with imperfect debt instruments, like the foreign exchange market, the presence of diverse market products, intricate parties involved, and the difficulty of accessing information perpetuate the occurrence of information asymmetry as an inherent market imperfection. To mitigate its adverse repercussions, achieving a balance between information held by issuers and investors becomes imperative. However, obtaining genuinely valuable financial information often poses challenges due to high costs, vague reliability, or an overwhelming volume of information to process within limited timeframes. In such scenarios, the “lemons market” threat undermines transaction trust (Akerlof, 1970) and impedes market efficiency as information fails to freely circulate between investors and businesses. This, in turn, leads to suboptimal investment decisions (Myers & Majluf, 1984). As a response, the inception and progression of the CRM, including CRAs, aim to address this asymmetry. CRAs act as intermediaries connecting investors/creditors and issuing companies/debtors, providing each party with valuable information to inform their decision-making processes. Businesses seek credit ratings to facilitate domestic and global market access, bolstering their credibility with creditors. This demand is further supported by investors’ preference for investing in rated securities, and even maintaining exclusively investment-grade bonds in their portfolios. CRAs offer market participants a relative credit assessment system through credit rating outcomes. Nevertheless, the decision to invest in rated entities ultimately hinges on individual investors (Kräussl, 2003).

The foundational study of signaling theory by Spence (1973) employed the labor market to model education’s role as a signaling mechanism. Prospective employers lack information about candidate quality, prompting candidates to invest in education to signal their quality and mitigate information asymmetry. This underpins the significance of signaling to balance information asymmetry. Kirmani and Rao (2000) provide a general example illustrating a basic signaling model. Analogous to most signaling instances, they differentiate between two entities: high-quality and low-quality firms. While firms might know their true quality, external parties (e.g., investors, customers) do not, leading to information asymmetry. Consequently,

each firm can opt to signal or not signal their actual quality to external entities. This mechanism directly parallels the CRM, where CRA actions correspond to market signaling. If these signals prove effective, they induce responses and additional signals for market participants, including issuers and CRAs themselves. Conversely, if information disseminated by CRAs fails to incite change or responses, it indicates an unmet market expectation (David & Steinmueller, 1996).

In this context, trust plays a pivotal role in the market, as the presence of false information or proliferation of high-risk entities threatens market viability, flooding it with inferior products and displacing authentic market offerings (Akerlof, 1970). Thus, establishing an information intermediary, effective market signaling, and accurate information dissemination are of paramount importance. The persistence and development of CRM activities and CRAs are integral to market stability and functionality (David & Steinmueller, 1996).

In summary, CRAs and the broader CRM address the challenge of asymmetric information intrinsic to financial markets. Their emergence and operations are driven by the need to counteract the adverse effects of information asymmetry, providing valuable signals to market participants and fostering efficient market operations. By serving as intermediaries, CRAs contribute to aligning information between issuers and investors, thereby enhancing market transparency and efficiency. The evolution and ongoing development of the CRM contribute to the sustainable and effective functioning of financial markets (David & Steinmueller, 1996).

### **3.2. Agency Theory, Transaction Costs, and Information Intermediaries**

A Strong Connection with Asymmetric Information Theory is Agency Theory, which was developed in 1976 by Jensen and Meckling (Karake-Shalhoub, 2002). This theory is grounded in the assumption that humans are rational, risk-averse, and driven by their own will, preferences, and desires. Conflicts between parties can arise when there is incomplete information, an asymmetry between owners and agents within a company, or differing interests among stakeholders. Agent costs are incurred due to imperfect information between agents and principals. In the absence of effective monitoring mechanisms, principals may suspect agents of withholding information, leading to concerns about moral hazards. Furthermore, agent costs may diminish the overall value of an organization. This issue is mitigated through the establishment of appropriate incentive structures for managers and the implementation of effective monitoring mechanisms to constrain unfavorable managerial behavior (Karake-Shalhoub, 2002). Shah (2015) asserts that within the complexity of the financial market, especially the banking sector, a fertile ground for conflicting interests among parties emerges. In this context, Credit Rating Agencies (CRAs) have emerged as information intermediaries to reduce agency costs between investors and issuing entities. Thus, CRAs are deemed instrumental in enhancing market efficiency by providing cost-efficient information to investors (Hartwall and Petterson, 2005). Mutual trust plays a vital role in transaction cost studies. Karake-Shalhoub (2002) posits that trust acts as a catalyst for buyers to engage in transactions with sellers. By trusting the seller, the buyer reduces concerns about transactional risks and vice versa. Building trust within economic relationships necessitates the seller to demonstrate professionalism, the ability to fulfill commitments, an understanding of the actual



transaction context, and effective information communication to counterparts. Simultaneously, to establish trust, reputation and a suitable scale are imperative. Reputation pertains to historical background, and the buyer's trust in the seller's authenticity and dedication to their goods or services. The scale of the seller serves as a signal to the buyer and investors, indicating the seller's cautious approach to safeguarding the best interests of their clients. Therefore, the birth and development of intermediary organizations aim to address these issues. Credit Rating Agencies (CRAs) play a significant role in bridging the information asymmetry gap between investors and issuing entities by providing valuable information and reducing informational uncertainties (Hartwall and Petterson, 2005). An intermediary organization serves to search for information, connect buyers and sellers, determine appropriate transaction prices, support the establishment of contractual terms, and promote liquidity for the respective market commodities (Spulber, 1996). Intermediary organizations offer utility by increasing successful transaction opportunities between buyers and sellers. Hence, intermediaries are essential to alleviate inefficiencies in the market, resolving disputes and market shortcomings (Cosimano, 1996). An information intermediary is an individual or organization designed to assist users in processing information (Lee and Choo, 2005). Information intermediaries impact the ability, quantity, and quality of information for users. Information intermediaries emerge to address issues of information asymmetry, unofficial information, and phenomena like distrust and high transaction costs (Rose, 1999). Thus, with the emergence of specialized intermediary organizations, both agency costs and transaction costs are reduced, positioning intermediaries as entities conducting business to mitigate market transaction costs (Cosimano, 1996). Moreover, they can act as mechanisms to control uncertainty and share risks to reduce agency costs.

### **3.3. Theory of Organizational Reputation**

The theory of organizational reputation is a conceptual framework that delves into the intricacies of how an entity's standing and perception in the eyes of stakeholders shape its interactions, performance, and outcomes within a given environment. This theory postulates that an organization's reputation serves as a complex and multifaceted asset, influenced by a myriad of factors including its historical actions, behavior, communication, and the overall quality of its products or services.

At its core, the theory of organizational reputation contends that reputation is not merely a passive outcome, but an active and dynamic construct that plays a pivotal role in guiding organizational behavior, decision-making, and relationships with various stakeholders. Organizational reputation is intertwined with the concepts of trust, credibility, and legitimacy, forming a critical foundation for fostering positive interactions and collaborations.

From a theoretical standpoint, organizational reputation is viewed as an intangible resource that can yield substantial advantages. A positive reputation enhances an organization's ability to attract and retain stakeholders, including customers, investors, employees, regulators, and partners. It can lead to competitive advantages, such as increased market share, higher customer loyalty, and improved access to resources and opportunities.



The theory further emphasizes that managing and safeguarding an organization's reputation is a strategic imperative. Organizations engage in reputation management activities to cultivate a favorable image, mitigate negative perceptions, and respond effectively to crises. This involves a combination of proactive efforts, such as ethical behavior, transparent communication, and quality assurance, as well as reactive strategies aimed at addressing reputation-threatening incidents.

In summary, the theory of organizational reputation underscores the pivotal role of reputation as a valuable and dynamic asset that shapes an organization's interactions, decisions, and overall performance. It underscores the significance of reputation management in fostering positive stakeholder relationships and driving sustainable success. As organizations navigate complex and ever-evolving environments, the theory of organizational reputation remains a foundational framework for understanding the intricate interplay between perception, behavior, and outcomes.

The foundational document on reputation theory can be traced back to Klein and Leffler in 1983 when they posited that the formation of reputation can support the provision of a reliable basis for assessing product quality in markets characterized by noisy information. In a state of equilibrium, suppliers are incentivized to provide high-quality products (at higher costs) when the expected future value outweighs the current profits from supplying lower-quality goods. This mechanism operates similarly in reputation-based industries, where the credibility of suppliers, such as Credit Rating Agencies (CRAs) and auditing firms, plays a crucial role (Craswell, Francis, & Taylor, 1995).

The formation of reputation in a context of shared market information shares similarities with signaling theory. Each participating company in signaling behavior communicates information about its capabilities. Companies with greater capabilities and, consequently, higher quality, send corresponding higher-quality signals that are more likely to be noticed by other market participants. However, evaluating the quality of signals presents a challenging question. Many factors, such as superior financial performance or product quality, are used, and current discussions focus more on evaluating organizational reputation (Lange, Lee & Dai, 2011). When a company engages in signaling behavior, the signal recipient draws aspects of the company's reputation to assess the quality of the sent signal. Jensen and Roy (2008) and Dimov, Shepherd, and Sutcliffe (2007) suggest that reputation acts as a signal from the past, projected for stakeholders to consider future actions.

From a managerial perspective, Herbig and Milewicz (1995) define reputation as a time-dependent estimate of the consistency of an entity's attributes, emphasizing that a company may have multiple reputations - one for each attribute such as pricing, product quality, innovation, management quality - or a global reputation. Fombrun (1996) regards a company's reputation as the cognitive representation of an organization in the minds of its key stakeholders. Ferris & ctg (2003) assert that reputation is an individual perception formed from the collective perception of others, reflecting a complex combination of characteristics, notable achievements, behavior, and images observed over a period, through direct observation and/or secondary sources. This mitigates the ambiguity regarding expected future behavior.

Shapiro (1983), Mailath and Samuelson (2001), Bar-Isaac (2005) demonstrated, in various industries, users always prioritize output quality under standard conditions. A company has a good reputation if customers believe their products are of high quality. However, they can evaluate the quality only after use, leading to inaccurate decisions due to a lack of information. In these studies, reputation is usually linked to relationships in different periods of asymmetrical information when customers cannot easily observe product quality. This implies that proving high product quality when information is imperfect will not achieve equilibrium in the one-shot purchasing model. However, if interactions are repeated, trust in high product quality will be sustainably maintained in equilibrium. A simple approach is to test and subsequently make additional purchases dependent on the information acquired after the initial transaction. However, this approach incurs high costs and time-consuming efforts for customers, minimizing the possibility of error in choices.

Experimental studies examining reputation effects through repeated-game variations with complete and incomplete information have shown a strong relationship between signaling and the formation of organizational reputation (Brandts and Charness, 2003). Therefore, the evolution of reputation research is often based on a vision of an imperfect information world, relying on signals to make reasonable assumptions about the intentions and behavior of other entities in the future (Fombrun and Shanley, 1990). Consequently, reputation models assume a strong link between signals about past, present actions, future expectations regarding characteristics, and evaluations of organizational activities (Weigelt and Camerer, 1988).

#### **3.4. Theory of Planned Behavior**

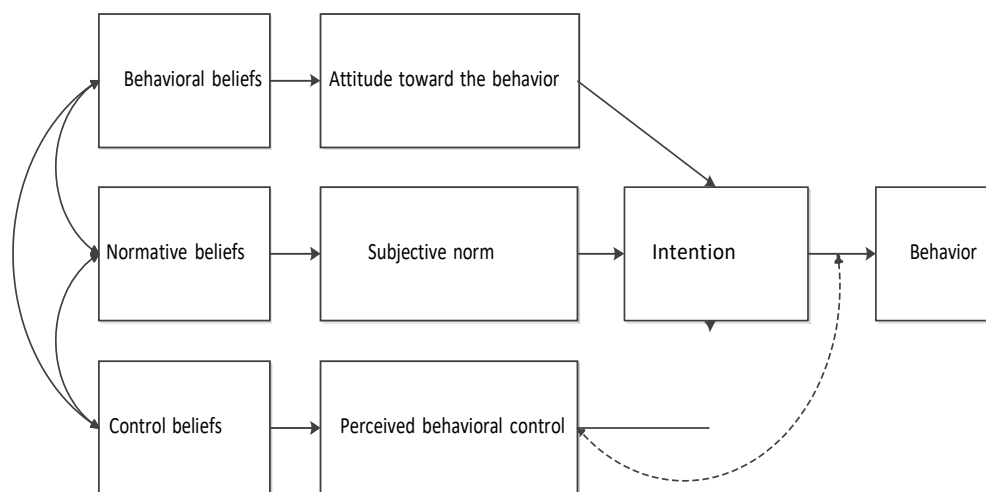
The Theory of Planned Behavior (TPB), introduced by Ajzen in 1985 and further developed in subsequent works (Ajzen & Madden, 1986; Ajzen, 1991), originates from the Theory of Reasoned Action (TRA), initially formulated by Ajzen and Fishbein in 1967. TPB is regarded as a fundamental framework for understanding intended behaviors. In this model, two factors influence behavioral tendencies and subsequently shape actual consumer behavior: attitude and subjective norm. Attitude is gauged through consumers' knowledge and understanding of product attributes. The subjective norm factor is expressed by individuals associated with consumers (family, friends, colleagues, etc.) and measured by their approval or disapproval.

TPB builds upon TRA by focusing on attitudes and beliefs of individuals, incorporating the additional element of perceived behavioral control. This extension enhances predictive and explanatory capabilities compared to TRA when analyzing user behavior within the same context and circumstances. Cooke & Sheeran (2004) suggest that TPB is widely applied and cited in the realm of behavior theory, particularly well-suited for new financial market services in developing countries, such as microfinance services.

The TPB model posits that behavior can be forecasted or explained by intentions to perform that behavior. Ajzen (1988) asserts that intentions are influenced by three determining factors: firstly, attitudes toward the behavior, conceptualized as an individual's positive or negative evaluation of the behavior. Secondly, subjective norms refer to how individuals perceive societal opinions on whether they should or should not engage in the behavior. Thirdly,

perceived behavioral control, defined as an individual's assessment of the difficulty or ease of performing the behavior. Ajzen (1991) proposes that perceived behavioral control directly impacts behavioral intentions, and in cases where individuals accurately perceive their level of control, it also predicts behavior. Including the element of perceived behavioral control enhances the explanatory power of the TPB model (Mathieson, 1991; Taylor & Todd, 1995), facilitating a more straightforward understanding of its impact on individual behavior.

**Figure 1. TPB Model Diagram**



Source: Ajzen (2006)

Despite limitations, such as the exclusion of individual and demographic variables, ambiguity in defining behavioral control, and uncertainties surrounding the temporal relationship between intended behavior, behavior, and unconscious motives (DeBono, 1995; Godin & Kok, 1996), the TPB and its precursor continue to be widely applied across various domains. It seamlessly aligns with theories such as asymmetric information and transaction costs (Vallerand et al., 1992), effectively explaining market behavior. Studies by Lynne et al. (1995), East (2000), and Bosnjak et al. (2005) have successfully employed TPB to investigate behaviors including technology adoption, consumer complaints, online survey participation, demonstrating its adaptability and efficacy in various contexts.

#### 4. ENTERPRISE REPUTATION RANKING MARKET DEVELOPMENT

The development of enterprise reputation within the market is a multifaceted endeavor necessitating the integration of numerous interrelated factors. This article elucidates a range of meticulously formulated solutions to cultivate and fortify the credibility of businesses in the realm of reputation rankings.

**Augmenting Service Quality:** The cornerstone of reputation building resides in a meticulous commitment to delivering high-quality products and services. Adherence to stringent quality standards and ensuring product safety and efficacy underscore this principle.

**Transparent and Honest Information Dissemination:** Enterprises must diligently furnish comprehensive and reliable information pertaining to their products, services, and business operations. Transparent communication fosters trust among customers and stakeholders alike.

***Forge Robust Customer Relations:*** The establishment of strong customer relationships hinges upon impeccable customer service, active solicitation and response to feedback, and adeptly resolving issues. A contented and trusting customer base serves as the bedrock of enterprise credibility.

***Adherence to Legal and Ethical Standards:*** Conformance to pertinent legal regulations governing the industry and business activities is imperative. Simultaneously, upholding ethical considerations in business decisions underscores the commitment to ethical integrity.

***Investment in Human Resource Development:*** The continuous training and development of personnel constitute a vital facet in ensuring product and service quality. Ethically driven and highly skilled staff members contribute significantly to establishing customer and market trust.

***Engagement in Social Responsibility and Environmental Stewardship:*** Active participation in societal initiatives and proactive environmental conservation efforts leave a positive imprint on the enterprise. Demonstrating a sense of vision and responsibility through environmentally conscious practices is pivotal.

***Crafting Communication and Advertising Strategies:*** Thoughtful employment of communication and advertising strategies effectively transmits the enterprise's values and messaging to the target audience. Genuine and quality-driven advertising leaves a reliable and lasting impression.

***Participation in Certification and Credibility Rankings:*** Engagement in reputable certification programs and credibility rankings bolsters transparency and equity in assessing enterprise trustworthiness.

***Fostering Strategic Partnerships:*** Collaborating with reputable strategic partners can significantly elevate the enterprise's image and standing within the market.

***Continuous Improvement and Innovation:*** Enterprises should continuously enhance products, services, and business processes to address the ever-evolving market demands. The pursuit of innovation and improvement is pivotal in maintaining and elevating enterprise credibility.

It is important to recognize that the process of constructing and perpetuating enterprise trustworthiness is a protracted endeavor that demands unwavering commitment and steadfast perseverance.

## **5. CONCLUSIONS:**

In conclusion, the study on enterprise reputation ranking presents a comprehensive framework for understanding and enhancing the credibility of businesses within the market. Through an intricate interplay of various strategies and principles, the endeavor to establish a strong and positive reputation emerges as a cornerstone of sustainable business success.

The research underscores the pivotal role of service quality as the bedrock of reputation building. Adherence to stringent quality standards and transparent dissemination of reliable

information engenders trust and confidence among consumers and stakeholders. Moreover, the establishment of robust customer relations, coupled with ethical business practices, contributes significantly to cultivating a favorable reputation.

The study's insights into the significance of investment in human resource development and engagement in social responsibility initiatives further emphasize the multifaceted nature of reputation enhancement. By aligning business operations with ethical values and environmental stewardship, enterprises are poised to not only enhance their reputation but also contribute positively to society.

The exploration of communication and advertising strategies as tools for conveying an enterprise's values and messaging provides actionable insights into effective reputation management. Leveraging strategic partnerships and active participation in certification and credibility ranking programs further solidify an enterprise's position in the market.

As the business landscape continues to evolve, the pursuit of continuous improvement and innovation emerges as an imperative. By consistently addressing changing market demands and harnessing innovative solutions, enterprises can perpetuate their reputation and resilience.

In essence, the study affirms that the development of enterprise reputation ranking is a dynamic and intricate process requiring unwavering commitment, ethical integrity, and a strategic blend of multifaceted approaches. The insights gleaned from this research contribute to a deeper understanding of how businesses can navigate the intricate realm of reputation to thrive and succeed in a competitive market landscape.

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# OPPORTUNITIES AND CHALLENGES FOR VIETNAM AIRPORT INDUSTRY IN THE NEW CONTEXT

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**Abstract:** *In the face of constant changes in the domestic and international business environment, Vietnam's aviation industry's stability and sustainable development will have a solid foundation through the synchronous implementation of many solutions to enhance its competitiveness in the recent context. The article focuses on analyzing the current situation of Vietnam's aviation industry development in the current context, thereby pointing out the opportunities and challenges that the industry is facing. On that basis, the article proposes some solutions to take advantage of opportunities and limit the negative effects of challenges for Vietnam's aviation industry in the next period.*

**Keywords:** *Opportunities and challenges, Vietnam's aviation industry, new context*

## 1. INTRODUCTION

Vietnam's aviation industry has made remarkable marks along with the transformation of the country's economy through the integration innovation period into the world economy. The aviation sector operates efficiently, proving its vital economic role and position. This is shown through statistics about the past 20 years; aviation growth is closely tied to the GDP growth rate. If GDP increases by 1%, the aviation industry will grow by 1.5% - 2%. Conversely, if GDP decreases by 1%, the aeronautics industry will also reduce accordingly. The development of Vietnam's aviation industry has always been accompanied by economic growth (*source: Sacombank - SBS, 2019*). This is the particular importance of the aviation industry in many aspects, including economy, security, politics, diplomacy, etc. The Government and the Ministry of Transport have closely directed the integration process of our country's aviation industry.

In recent years, businesses operating in the aeronautics sector have also had many active integration activities. The issue of improving service quality, ensuring civilized and modern service imbued with national identity, has been put into development goals by airlines. Profoundly, the core issue of Vietnam's aviation in the integration process is improving competitiveness. Facing new requirements, it is essential to develop a strategy for developing the aeronautics field with a more visionary, more sensitive, and more dynamic view toward effective operation. On the way to finding a sustainable development direction, Vietnam's aviation industry needs to improve its competitiveness in the current market with many opportunities and challenges, especially before the impact of the Covid-19 epidemic on the world airlines sector in general and Vietnam in particular. From there, it shows the proposal for solutions to improve the competitiveness of Vietnam's aviation industry in the new period.

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## 2. THE DEVELOPMENT SITUATION OF VIETNAM'S AVIATION INDUSTRY IN THE NEW CONTEXT

From 2015 to 2019, Vietnam's economy received many positive signals, with an excellent economic growth rate. Notably, in 2019, with 7.02%, total import-export turnover exceeded 500 billion USD, and inflation was below 3%. As expected, between 2021 and 2025, Vietnam will grow at least from 6.7% to 6.8% on average. As a result, Vietnam's aviation industry has achieved remarkable developments. In November 2019, the number of international tourists to Vietnam reached a record 16.3 million (up 15.4% over the same period in 2018). This is an impressive growth rate, significantly higher than the general average of the world and the region as assessed by the World Tourism Organization (UNWTO) (*source: Aviation Industry Report - Sacombanks - SBS, 2019*).

However, at the beginning of 2020, the Covid-19 pandemic caused the operation of global airlines to be delayed, and Vietnamese airlines were also severely affected. By the end of the second quarter of 2020, the number of flights of the whole airline decreased to 32,700 ones, down 88.2% compared to the plan; the quantity of passengers reduced by about 5.67 million people, down 89.3% compared to the aim; the output scale of Vietnam Airlines Corporation (Vietnam Airlines) in April 2020 was only about 2% of the goal. Many flights were cut down, and revenue decreased while airline enterprises still had to increase their fixed costs to maintain operations, such as aircraft rental and parking costs. The exploitation of flights was limited, and airlines' revenue also plummeted. Specifically, in the second quarter of 2020, Vietnam Airlines' revenue decreased by about 18,000 billion VND, equivalent to a drop of 96.1% compared to the target; nearly 6,400 billion VND reduced profit compared to the plan. Due to difficulties, the company had to cut more than 6,000 workers. In 2020, the revenue decreased by 49,300 billion VND; the loss could reach nearly 16,000 billion VND (*source: baoquangninh.com.vn/kinh-te*).

Despite being affected by the Covid-19 epidemic and world political and economic fluctuations, Vietnam's aviation industry is still trying to overcome the consequences and difficulties and restore flight routes, ensuring flight safety in the future. In 2022, when the epidemic is under control, Vietnam will continue to be one of the world's leading fast-recovering domestic aviation markets. Some typical contents of the recovery of Vietnam's aviation industry are shown below:

### \* *Market share*

Vietnam's aeronautics market is one of the most attractive in the world due to: (i) a high growth rate thanks to tourism potential, a low rate of passengers, and (ii) a low level of competition. In December 2019, Vietnam Airlines accounted for 33.3% of the market share, while Vietjet held 42.2% of the supply. The part of Jeta Pacific and Vasco accounted for 10.6% and 1.9% of the airline sector, respectively. However, most of these firms reduced the supply load market share compared to January 2019; only Bamboo Airways - the new airline, increased the provision compared to the beginning of 2019 with a 12.3% market share. Most airlines have to divide market share with new ones, which shows that Vietnam's aviation market share is still volatile and has yet to reach saturation point. In 2019, the airline market share showed a significant shift

in service provider selection habits for existing long-term customers. Entering 2020, this sector was expected to continue to witness many disturbances when Bamboo Airways announced to aim for a market share of 30% (*source: bambooairways.com*).

The domestic market started to recover in April 2022, grew again in May 2022, and had strong growth in June 2022 with 5 million visitors, an increase of 20.9% and 38.8% compared to May and June 2019, respectively (the peak summer month before the COVID-19 epidemic). The coefficient of seat utilization on domestic routes in June 2022 was very high, reaching 85% to 87%, depending on the airline. As of June 30, 2022, five airlines (Vietnam Airlines including Vasco, Vietjet Air, Bamboo Airways, Pacific Airlines, and Vietravel Airlines) were operating nearly 60 domestic routes connecting Hanoi, Da Nang, and Ho Chi Minh City with 19 local airports according to the network of trunk-nan, inter-regional and intra-regional routes nationwide. Vietnamese airlines promote exploiting routes to tourist destinations such as Da Nang, Quy Nhon, Phu Quoc, and Nha Trang. Typically, the current operating frequency to or from Phu Quoc reaches 100 domestic flights per day, compared to 2019, with only 72 international and domestic flights per day (*source: caa.gov.vn*).

For the international aviation market, there are more than 30 foreign airlines and 04 Vietnamese airlines (Vietnam Airlines, Vietjet Air, Bamboo Airways, and Pacific Airlines) operating 96 international routes connecting Vietnam with 21 countries or territories, including the United States, Japan, Korea, China, Taipei (China), Hong Kong, Singapore, Cambodia, Thailand, Malaysia, Laos, Philippines, Australia, Germany, France, UK, UAE, Qatar, Turkey, India, etc. Specifically, Vietnamese airlines have operated 68 international routes to 16 countries and territories (*source: caa.gov.vn*).

#### **\* *Financial capacity***

Many airlines in Vietnam have relatively stable growth in financial capacity, such as:

For the national airline Vietnam Airlines, in 2019, the holding company's total revenue and other income reached 74,694 billion VND (an increase of VND 1,467 billion VND compared to 2018). Profit before tax achieved 2,899 billion VND (reaching 108.3% of the plan and up 19.9% compared to 2018). Vietnam Airlines' cash reserves at the end of 2019 were optimistic. The capital structure continued to be improved in the direction of reducing debt; equity increased by 1.8% while liabilities decreased by 8.8%. Self-financing capacity rose from 24.8% at the end of 2018 to 27.0% at the end of 2019, and the debt ratio and capital structure improved positively in the direction of safety and sustainability (*source: Vietnam Airlines Annual Report, 2019*).

For Vietjet, consolidated revenue gained 50,603 billion VND (completed 105.1% of the target in 2019); profit after tax was 3,807 billion VND, and equity was 14,903 billion VND. Meanwhile, Bamboo is a newly established airline under Bamboo Capital Group (BCG); as of December 31, 2019, the total assets of BCG Company increased sharply from 5,321 billion VND to 7,255 billion VND (increased by 136% compared to 2018) (*source: Vietjet Annual Report, 2019*);

However, in 2020, the impact of the Covid-19 epidemic caused airlines in a difficult situation. Although Vietnamese airlines made many efforts to limit losses: cutting total costs by 50% to 70%, negotiating debt rescheduling partners, reducing loan interest, selling off airplanes, transferring financial assets, cutting down salaries of officers and employees, etc., the companies still suffered much damage. In the first six months of 2020, Vietnam Airlines achieved revenue of 24,934 billion VND, half of the same period in 2019; total accounting profit before tax was negative 6,542 billion VND compared to the positive net gain of 1,785.7 billion VND in the same period in 2019. Bamboo Airways recorded a loss of more than 1,500 billion VND in the first quarter of 2020 due to the impact of the Covid-19 epidemic. For Vietjet, in the first six months, the airline recorded 9,194 billion VND in revenue, down 54%, and a net loss after tax of 2,112 billion VND (*source: tapchitaichinh.vn*).

In 2022, Vietnam's aviation industry witnessed an impressive recovery after more than two years of difficulties, contributing mainly to airlines' recovery thanks to the boom of domestic tourism and the reopening of international airlines. However, in the context of significant political and economic fluctuations in the world at this time, airlines still faced many difficulties. Vietnam Airlines recorded a pre-tax loss of nearly 2,500 billion VND in the third quarter. Accumulated in nine months, the company lost about 7,600 billion VND. Although it was down year-on-year, it was enough to see how difficult the situation was. Bamboo Airways was just behind Vietnam Airlines with a pre-tax loss of more than 1,400 VND billion in the third quarter and an estimated 9-month loss of more than 3,500 billion VND (*source: vtv.vn/kinh-te*).

**\* Brand strength, product offerings, and marketing activities**

It plays a vital role in recognizing brand strength and improving the quality of products provided; many airlines have constantly affirmed their brands and products. Vietnam Airlines defines its core value as "safety number one, the foundation for all activities", with customers as the center. The determination is to become a socially responsible airline corporation. The goal of Vietnam Airlines is to reach the top 3 airline groups in terms of revenue in Southeast Asia, the top 10 favorite airlines in Asia, and the group of 3 airlines with the best scale in Southeast Asia. At the same time, the airline focuses on strengthening 4-star services and gradually bringing Vietnam Airlines to 5-star airline standards (*Source: Vietnam Airlines Annual Report, 2019*). Meanwhile, Bamboo Airways is a newly established airline in Vietnam. Still, it soon determined the strength of its brand and made efforts to improve product quality with the motto "competition by service quality, by safety, by many new products." Bamboo Airways' primary strategy is to exploit the niche market; instead of focusing on crowded airports such as Tan Son Nhat and Noi Bai, the airline aims to connect destinations that have tourism potential but have not yet been fully exploited (*source: <https://www.bambooairways.com/>*).

With continuous efforts, many airlines in Vietnam, such as Vietnam Airlines, Vietjet, and Jetstar, have received the certificate of approval of aviation safety supervision capacity level 1 (CAT 1) from the US Federal Aviation Administration (FAA). CAT 1 is an aviation safety monitoring standard approved by the FAA's international aviation safety assessment program.

The achievement of CAT 1 is essential, helping to improve the reputation of Vietnamese airlines in the global market. This is the assessment of the FAA and the world aviation on the capacity and level of flight safety management of Vietnam's aeronautics industry. CAT 1 certification means that the FAA assesses that the Vietnamese aviation industry complies with US and international aviation standards for safety management. This recognition shows that the efforts of the aviation authorities and Vietnamese airlines in consolidating and elevating the Vietnamese aviation industry on the world map have brought positive results and have been recognized by prestigious global organizations, affirming the quality and service of the whole industry.

At the same time, Vietnamese airlines have strived to build an image and strengthen corporate marketing activities. Each airline has defined a separate image expressed through its logo, slogan, or employee uniform, which creates a unique mark for each airline. The airlines also promote advertising activities on domestic and foreign media, aiming to improve market competitiveness.

#### ***\* Human resources in the aviation industry***

Recognizing the critical role of aviation human resources in the context of international integration, Vietnamese airlines have constantly increased the quantity and quality of their human resources (As of 31 December 2019, the total number of employees of Vietnam Airlines is 6,409. By the end of 2021, VNA has a total of more than 18,900 people; Vietjet has 5,092 staffs). The workforce of Vietnam's airlines continues to follow the trend of rejuvenation and professional enhancement, especially specialized workers such as pilots, flight attendants, engineers, and aircraft technicians, are focused on developing both quantity and quality, gradually reducing the rate of using foreign workers, meeting the requirements of air transport production and business. However, Vietnamese airlines still face difficulties when there is a shortage of high-quality workers due to the problem in training human resources, and the situation of "human bleeding" for pilots is causing airlines several obstacles in development. Meanwhile, the aviation safety supervisory team also needs to increase in quantity and quality; according to the Ministry of Transport's forecast, from 2019 to 2025, aviation safety supervisors will have to increase from 49 in 2019 to 86 people (an increase of 37) in 2025 to oversee a fleet of 384 aircraft. In order to ensure this sufficient workforce, the Civil Aviation Administration of Vietnam has used specialized and concurrent safety supervisors from airlines and aircraft maintenance organizations. However, in 2019 alone, if you wanted to have 10 flight supervisors, you needed four more specialized supervisors and 19 concurrent supervisors (because contemporary supervisors only met 30% of the job) (*source: laodong.vn*)

Regarding human resource training, there are currently two models in which businesses in the industry are recruiting, training, and coaching aviation industry personnel. (i) Model 1: Enterprises often recruit workers who have been trained from general training institutions, then provide additional knowledge at specialized aviation training institutions and then coach according to the profession and the work they undertake; (ii) Model 2: Businesses recruit employees who have been coached from aviation training institutions and then train according



to the profession and work they undertake. Some Vietnamese airlines recently have shown signs of “hot” development while not preparing resources, leading to a shortage of highly specialized human resources such as pilots and aircraft technicians. Training needs to catch up with action, so there is a shortage of human resources in the pilot force and other forces, such as flight monitoring, air traffic management, and aircraft engineers. Due to the Covid-19 epidemic, many current aviation workers have had cut wages, reduced working hours, or even quit, which significantly affects the labor market of Vietnam’s aviation industry.

#### *\* Aviation infrastructure*

According to the Civil Aviation Authority of Vietnam (2019), the total designed capacity of 21 airports under the Airports Corporation of Vietnam (ACV) is about 96.05 million passengers per year, while the current throughput of people has exceeded the design capacity (over 100 million). Only in the past six years the total design capacity of the whole system has nearly doubled. Tan Son Nhat Airport increased from 18 million passengers per year to 28 million ones per year; Noi Bai Airport from 6 million travelers per year, increased to 25 million ones per year; Da Nang Airport from 6 million people per year to 10 million ones per year; Cam Ranh Airport from 2.5 million visitors per year to 6.5 million ones per year. However, this needs to meet the current demand (*source: Aviation industry report - Sacombank SBS, 2019*).

The more airlines participating in the market, the more passengers passing through airports will increase. This is an opportunity to help increase profits for airports. Currently, the five largest airports in Vietnam have all operated beyond capacity. By 2025, the growth in the number of customers via Vietnam’s air transport is forecast to reach 9.5% annually. The number of international visitors increases rapidly with the positive coming from two factors. Firstly, the open economy creates the need for international links to be rapidly comprehensive. Secondly, foreign tourists to Vietnam rose at a CAGR of 23% in the period 2014 - 2019, and this number is expected to continue to increase sharply due to the potential of Vietnam’s tourism industry. This will push up the demand for aviation infrastructure. It is a big challenge for Vietnam’s aviation industry in the coming period (*source: Aviation Industry Report, Sacombank SBS, 2019*).

### **3. OPPORTUNITIES AND CHALLENGES FOR VIETNAM’S AVIATION INDUSTRY IN THE NEW CONTEXT**

#### **3.1. Opportunities**

*In terms of the market:* Vietnam’s aviation market is on the rise in remarkable growth in Southeast Asia with a solid tourism infrastructure. Ho Chi Minh City and Hanoi have prime locations, only 4-5 hours by flight from 17 other countries. In recent years, Vietnam’s aeronautics industry has grown significantly compared to others, and many new airlines have appeared. Vietnam has a population of more than 96.2 million people, being the 15th most populous country in the world; it is a golden age of the population, per capita income, and the middle class is growing, which drives the demand for air transport to increase. At the same time, FDI inflows into Vietnam are still rising (in 2019, FDI reached a record of over 20 billion USD). These are opportunities to drive demand for passenger and freight transport.



The aviation industry is overgrowing, but the aeronautics market is entirely under control, creating a healthy and competitive market, bringing many benefits to passengers regarding travel opportunities, fares, and service quality. The growth potential of Vietnam's aviation industry is expected to continue to increase, which shows that the "piece of cake" in Vietnam's aviation service supply is still substantial; this is an opportunity for new airlines to enter the market.

*In terms of policy:* The Vietnamese government has been setting a goal of sustainable development of the economy in general, including the aviation industry, showing that this is a crucial condition for Vietnamese airlines to take off. Vietnam has officially approved the National Green Growth Strategy - a vision to reach net zero emissions by 2050. These efforts have been recognized with the imprint of the United Nations Development Program (UNDP), ranking Vietnam as one of the three countries with the fastest global implementation of sustainable development goals. It is worth noting that Vietnam also committed to tackling climate change at the United Nations Climate Change Conference (COP26). Accordingly, the development policies of Vietnam's aviation industry are also towards sustainable development.

At the same time, Vietnam has supported aviation businesses in many forms. These support measures are implemented through many different programs and "support packages". Facing the impact of Covid - 19, the stagnation of the aviation industry brought negative impacts on the development of critical economic sectors. In order to assist in reducing the financial burden on air transport businesses, contributing to reviving the air transport industry from the crisis caused by the Covid-19 pandemic, the Ministry of Finance submitted to the Government and the National Assembly Standing Committee for promulgation a Resolution on the environmental protection tax rate for jet fuel until the end of December 31, 2020, according to the order and shortened procedures.

The Vietnamese government is also very interested in opening air routes to many other countries and completing institutions related to developing Vietnam's aviation industry. Multiple infrastructure improvement projects at larger airports, such as runway additions, new terminals, aprons, and taxiway improvements, meet projected traffic growth at major international airports to enhance Vietnam's competitive position in Southeast Asia.

*In terms of international cooperation:* in the context of global integration, Vietnam has diversified its partnerships with countries worldwide in many fields, including aviation. Industry-wide collaboration to increase network operational efficiency can reduce emissions by up to 10%. Boeing is a pioneer in realizing sustainable aviation fuel, continuing to promote strategic partnerships with Vietnam. Boeing's investments in Vietnam have provided Vietnam with more opportunities to develop the aerospace industry, create jobs, and foster innovation and cooperation for Vietnam's sustainable development. Therefore, strengthening collaboration between airlines, government agencies, air navigation service providers, and airports will improve operational efficiency.

### **3.2. Threats**

*Firstly,* the aviation industry is a sector with many barriers to entry so far; airlines that want to enter the market need to make efforts to improve capacity to meet the requirements of

the entry process. Airlines should adopt the right strategy to stay competitive and achieve high profits with the ongoing price and growing customer demand.

*Secondly*, human resources for the aviation industry currently need more quantity and qualified workers. The shortage of technical and professional employees remains because some of these subjects lost their jobs during the epidemic and cannot immediately return to work. This shortcoming will be less severe if the aviation industry recovers gradually but will have a significant impact if this recovery happens quickly.

*Thirdly*, it is the challenge of aviation infrastructure. Overcrowding inside and outside the airport caused difficulties for air transport, making it difficult to grant additional flights to international and domestic airlines and increase flights and new routes (this happens most often at Tan Son Nhat Airport). Suppose challenges related to infrastructure development still need to be resolved early in the coming years. In that case, Vietnam's air transport industry may step on the "fallen path" of the Indonesian aviation industry when many airlines operate. Still, airports need to be upgraded appropriately, creating too much pressure on management, leading to the risk of unsafety and widespread delays and cancellations. Although the state has to take care of the infrastructure and aviation management capacity, the development of the infrastructure depends on each country's ability.

*Fourthly*, the impact of the Covid-19 epidemic has negatively affected Vietnam's aviation industry in particular and the world's aviation in general. International tourism is currently a sector that is expected to be challenging to recover in the next three years (the assessment is made on the limited number applied to prevent the spread of Covid -19 between countries). Therefore, from now to 2025, there will be significant challenges for the air transport service industry when the number of international tourists decreases.

*Fifthly*, it increases competition in the aviation market. In the new context, Vietnam will have new aviation enterprises and many aeronautics businesses from other countries to deploy business activities in the Vietnamese market. Compared with Vietnam, most international airlines have more advantages in terms of finance, technology, human resources, etc. This puts much competitive pressure on Vietnamese airline companies.

*Sixthly*, the impact of international disputes and conflicts makes fuel prices very high, and airlines to Europe must avoid the airspace of some relevant countries, causing high transportation costs. For instance, the Russia-Ukraine war occurred, leading to the EU, US, UK, and Canada closing the sky with Russia, including taking off, landing, and flying over the airspace of these countries. Russia also took similar actions to these countries. This has a direct impact on passengers and airlines and increases flight costs even for airlines that are not participating in the embargo because the aircraft has to change its operating route, raising problems of insurance, payment, and risk provision (currently, Vietnam Airlines are operating routes to, from Russia and Bamboo Airways are using ways to Europe and the US that are directly affected).

In addition, due to this dispute, the number of customers from Russia and Europe to Vietnam also decreases sharply. At the same time, the embargo between countries adversely

affects global supply chains, including those directly related to the aviation industry, making them slow to be overcome or only replaced by new supply chains that are inefficient and of low quality compared to the traditional supply chains of the past.

#### **4. SOME RECOMMENDATIONS TO IMPROVE THE COMPETITIVENESS OF VIETNAM'S AVIATION INDUSTRY IN THE NEW PERIOD**

Based on analyzing the advantages, disadvantages, opportunities, and challenges, the article proposes several recommendations to improve the competitiveness of Vietnam's aviation industry by 2025 as follows:

*It is improving the quality of aviation services, promoting marketing activities, and building a brand of Vietnam's aviation industry in the context of international economic integration.* It is necessary to raise service quality, ensure absolute flight safety, and best satisfy customers' needs from check-in and waiting for flight time to using flight service. In the context of extensive economic integration, many 4-star and 5-star airlines have increased opening routes to Vietnam, especially in the post-Covid-19 period, and competition in service quality has become an essential factor. In orientation to 2025, Vietnam's aviation industry needs to affirm its brand and compete for market share in transportation.

*It is increasing the quantity and quality of aviation human resources,* associating training with coaching and practice, and strengthening linkages between aviation human resource training institutions and enterprises to bring training closer to social needs, linking theory with practice. It supports cooperation with other countries in the training and coaching aviation personnel according to high-quality programs.

*It is improving financial potential;* the aviation industry needs to effectively use existing capital and increase capital accumulation through many different measures, including effective use of aircraft fleet, organizational activities, reduction of cumbersome parts, and programmatically managing investment projects to save investment capital.

*Setting up a price competition strategy,* it is necessary to build synchronously with package tourism products, typical service quality with flexible and competitive prices compared to competitors. The formulation of pricing policy in aviation needs to ensure workable competition and sustainable market development, in line with the income level of customers between the domestic market and the international market, to effectively exploit the air transport service market, creating a premise for economic recovery and development activities in the future.

*The Government should have policies to support Vietnam's aviation industry to overcome challenges and difficulties.* State policies should continue to focus on supporting aviation businesses to recover and develop, namely, price support policies, support for aviation workers who have lost their jobs due to the impact of the epidemic, etc. It reforms main cargo procedures and creates an effective investment environment to attract investment capital to upgrade aeronautics infrastructure, train human resources, and promote the development of the aviation industry. It is necessary to accelerate aviation infrastructure development in the coming years and increase investment resources for aviation infrastructure; the state needs to promote socialization and call for private capital to participate.

## 5. CONCLUSION

In the face of the negative impact of Covid - 19 and the world's political-economic fluctuations on Vietnam's aviation industry, when the short-term outlook is still dark, the size of the sector shrinks - as well as what we have seen in previous significant recessions will help boost growth and benefit firms that may not survive the second half of the decade. If Vietnamese airlines take advantage of opportunities in the post-Covid era, overcome barriers, and strive to improve the competitiveness, they can create a breakthrough in the upcoming growth period.

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# THE RULE OF LAW – THE FACTOR WITH GREAT INFLUENCE ON INNOVATION IN VIETNAM

Dr. Vu Thi Thu Huong<sup>1</sup>

**Abstract:** *Innovation is a factor ensuring sustainable economic development in the context of the industrial revolution 4.0. To promote innovation, it is necessary to improve economic institutions, including the rule of law. In Vietnam, the improvement of the rule of law has had a great influence on the results of innovation in the economy in recent years. The results of this analysis will suggest solutions on the aspect of perfecting the rule of law to promote innovation in the Vietnam's economy.*

**Keywords:** *the rule of law; innovation; institutions for innovation*

## 1. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

There are many research projects on the rule of law in Viet Nam and around the world. Research works have introduced the concepts, characteristics, and values that the rule of law brings for human. The World Justice Organization establishes criteria and measures them in many countries from 2015 up to now.

Some research works on the relationship between the rule of law and economic growth. Barro (1991) shows that political instability has a negative effect on economic growth. The study by Alesina, Özler, Roubini, and Swagel (1996) also showed similar results. Knack and Keefer (1995) found the positive impact of property rights on economic growth. The study uses risk assessment criteria for investors such as contract enforceability and risk of expropriation as a proxy for property ownership. Research results by Barro (1996) in 100 countries in the period 1960 to 1990 show that the rule of law variable has statistical significance and has a positive influence on economic growth. This result is also proved by Dollar and Kraay (2003); Mehlum, Moene, and Torvik (2006); Rodrik et al. (2004) demonstrate that in countries where the higher compliance with the rule of law, the better the economic growth.

Soumitra Dutta, INSEAD (2011) in The Global Innovation Index 2011 mentioned the relationship between the rule of law and innovation and identified the rule of law as a criterion of the institutional pillar - the input pillar when calculating innovation index. In their view, innovation is not only including new products but also new processes in many aspect of society, which are formed from inputs. One of the input pillars is that institutions and institutions that promote innovation need to create favourable policies and legal frameworks for start-ups and doing businesses. The rule of law indicator captures perceptions of the extent to which agents have confidence in, and abide by, the rules of society, and in particular the quality of contract

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enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. If this indicators is improved, the risk of business will be reduce and more favourable businesses environment will be created, thereby promoting innovation.

## **2. METHODOLOGY**

The paper uses analytical method to point out the relationship between the rule of law and innovation in theory. The paper also uses data from the Global Innovation Index Report 2015-2022 and from the World Justice Project to describe, analyse, and calculate the correlation coefficient between the indicators to clarify the relationship between the rule of law indicator and innovation index in Vietnam from 2015 to 2022.

## **3. THEORETICAL FOUNDATIONS OF THE RULE OF LAW**

The rule of law is not a concept indicating the nature of the state, but these are methods of organizing state power scientifically and rationally, controlling each other among different types of legislative, executive and judicial organizations. The law is the most important, highly legal, and ultimate means of regulation, where all subjects, including the people and the state, are governed by the law and must comply with the law. That law must be formed in a democratic way, must aim at protecting fairness and justice, protecting human rights and citizens' rights. Therefore, the rule of law is humanitarian, fair, all benefit for people, and contains national and international values.

The values of the rule of law aim to be:

Freedom is extended to each individual in society. Everyone is free to do anything that is not prohibited by law, and state agencies and public servants can only do what the law allows. The state's deep and specific interference in the activities of society and individual life is limited, but the role and social responsibility of the state is increasing as a public organization.

Justice is one of the social values of the rule of law. The application of handling measures must be consistent with the nature and severity of the illegal act; stipulate that the level of enjoyment must be commensurate with the contribution and dedication. Equity is not only in the legal provisions themselves but also in the application of the law.

Equality before the law in the terms of the rule of law not only includes between individuals and organizations, but also between the state and individuals.

Humanity is a common trend of progressive mankind, as well as the principle and expression of the rule of law. In the economic field, humanitarianism is the untying for individuals to be legally enriched, the respect and protection of the interests of producers and consumers, the replacement of rigid measures with new ones. a more humane, educational measure

After all, the highest purpose and permanent duty of the rule of law is none other than for people. The human factor, the system of human rights and freedoms must be enshrined in the law, have an effective mechanism to ensure the implementation on the principle of unification of rights and obligations, freedom and responsibility, and promote the positivity and creativities. All benefits for people is a criteria to identify the rule of law.

The rule of law in Vietnam socialist state is under the leadership of the Vietnam Communist Party. The rule of law in Vietnam also has all the characteristics of the rule of law, oriented to



the values of the rule of law and be under the leadership of the Communist Party of Vietnam. The leadership of the Party that is the main factor to ensure the socialist rule of law state operates on the principles of democracy, freedom, by the people, for the people, towards the values of equality, justice, progress and development.

The rule of law is identified by the following criteria:

- The organization of the state must have a clear division, arrangement and coordination among legislative, executive and judicial institutions, in order to create a mechanism for mutual control and restraint each other, minimizing autocracy, abuse of power and violations of human rights.

- In the rule of law, the Constitution and law have the leading position, the dominant role in regulating basic social relations. That domination requires that the state must base on the objective requirements of the society to make laws, and the state itself must also obey them

- Legislative activities in the rule of law are reflected in the quality, science and humanity of its products - laws of the right and in the supreme effectiveness and efficiency of supervision by the National Assembly .

- The judiciary in the rule of law state must be clean and strong enough to judge totally base on law. Particularly, the investigation and adjudication of judicial agencies must be truly independent, avoiding any outside interference by individuals or organizations.

- In the rule of law, the national administration must ensure basic criteria such as: purity, elites, efficiency, thrift, lawfulness, reasonableness, prompt response and good solution to problems arise in society.

#### **4. THE RULE OF LAW - A FACTOR THAT CREATES A FAVOURABLE ENVIRONMENT AND ENCOURAGES INNOVATION IN THE ECONOMY**

The rule of law has a close relationship with economic development and innovation. In the market economy, the economic legal system should be established and implemented in the direction of respecting and promoting the positive effects of the market rule, regulating economic relations base on market rule, overcoming and limiting the negative aspects of the market.

There is a close relationship between the rule of law and politics and economy. The stability of security and order, the spirit of rule of law will enhance the stability of the political system and the effectiveness of the government and vice versa. In addition, the rule of law is respected and enforced, which will create a favourable business environment, fair competition, thereby promoting innovation towards effective goals. And conversely, the effectiveness of economic development and innovation further demonstrates the necessary in improving and enforcing the rule of law more effectively.

The elements of the rule of law have a close relationship with the business environment, specifically:

- If the rule of law is recognized, respected and enforced it, the enterprise are free in business. Businesses and people are free to do all things that the law does not prohibit, while the state cadres and civil servants only do the things that are allowed by the law. It is the

free in business that will encourage the wave of entrepreneurship, free competition, thereby promoting innovation and creativity. The values of freedom, democracy, fairness, transparency and equality of the rule of law state will create a fair competitive environment for businesses. This is the driving force behind innovation in the economy.

- The rule of law has a mechanism to constraints the power of the state. Government agencies and public servants also operate and obey the law and are equal to the citizen in adjudication if they violate the law. This has limited the abuse of power, harassment and bossiness of the civil servants, and created a legal basis to combat negative phenomena, corruption, and harassment for businesses.

- Thanks to the construction of a rule-of-law state, the state administration is clean, compact, and efficient, serving the people and businesses. This is towards a state with creation and development

**5. CONTRIBUTION OF THE RULE OF LAW TO INNOVATION IN VIETNAM’S ECONOMY FROM 2015 TO 2022**

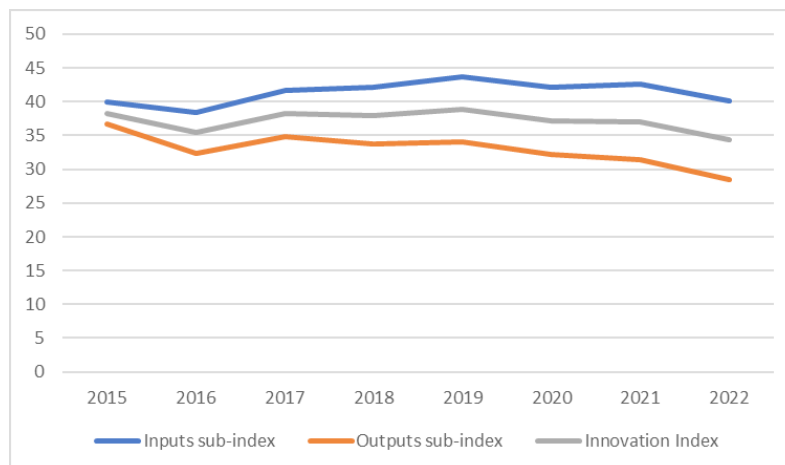
According to a report of the World Intellectual Property Organization (WIPO), from 2015 to 2022, the “Innovation” index of the Vietnamese economy decreased by 4 points, from 38.3 score in 2015 to 34.5 score in 2022. The “Inputs” sub-index has a higher value, contributing more to the “Innovation” overall index than the “Outputs” sub-index. The decrease in the score of the Innovation index from 2015 to now is due to the decrease of the “Inputs” sub-index and the “Outputs” sub-index.

**Table 1: Score of innovation indexes in Vietnam in the period 2015-2022**

*Unit: score*

Index/sub-index	2015	2016	2017	2018	2019	2020	2021	2022
Inputs	40	38.4	41.7	42.2	43.7	42.1	42.6	40.1
Outputs	36.7	32.3	34.9	33.7	34	32.2	31.4	28.4
Innovation	38.3	35.4	38.3	38	38.9	37.2	37	34.3

*Source: Calculated from data in WIPO’s Global Innovation Index 2015-2022*



**Figure 1: Innovation indexes in Vietnam for the period 2015-2022**

The innovation sub-index “Inputs” is determined by averaging the score of the following five pillars: Institutions; Human capital and research; Infrastructure; Market sophistication; Business Sophistication. In the period from 2015-2022, these pillars have the following scores:

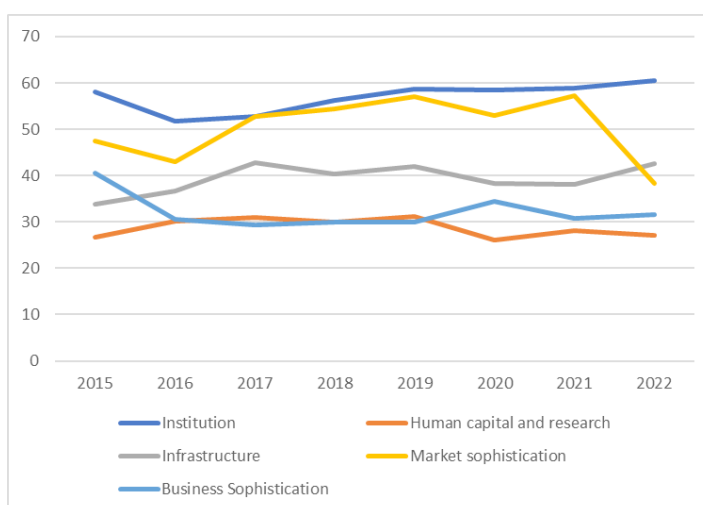
**Table 2: Score of five pillars of the Innovation Input sub-index**

*Unit: score*

Pillars	2015	2016	2017	2018	2019	2020	2021	2022
Institutions	58.1	51.7	52.8	56.2	58.6	58.5	58.8	60.6
Human capital and research	26.6	30.1	31	30	31.1	26	28.1	27.2
Infrastructure	33.9	36.7	42.7	40.4	42	38.4	38.2	42.5
Market sophistication	47.4	43	52.8	54.3	57	53	57.2	38.4
Business Sophistication	40.5	30.6	29.4	30	30	34.5	30.8	31.6

*Source: Global Innovation Index 2015-2022*

Among the input pillars contributing to the innovation “Input” sub-index, “Institutions” is the pillar with the largest contribution and tends to increase. The “Infrastructure” factor also has an increased value, the remaining 3 pillars have a decrease in scores.



**Figure 2: Sub-factors determining the innovation “Input” sub-index**

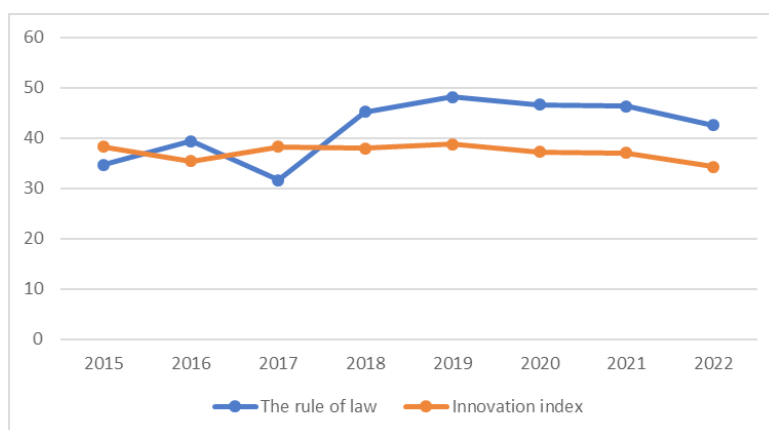
Among the indicators contributing to “Institutions”, “The rule of law” is a indicator whose contribution score has decreased since 2019, along with the downward trend of the Innovation index, especially from 2018 to 2022.

**Table 3: Score of Rule of Law Indicator and Innovation Index for the period 2015-2022 in Viet Nam**

*Unit: score*

Indicators/Index/ Sub-index	2015	2016	2017	2018	2019	2020	2021	2022
Rule of Law	34.7	39.4	31.6	45.2	48.2	46.6	46.3	42.6
Innovation	38.3	35.4	38.3	38	38.8	37.2	37	34.3

*Source: Global Innovation Index 2015-2022*



**Figure 3: Innovation Index and Rule of Law Indicator in Vietnam for the period 2015-2022**

Looking at Figure 3, we can see that the fluctuations of the Rule of Law indicator and Vietnam’s Innovation Index from 2018 to 2022 are basically in the same direction. From 2019 to 2022, the Rule of Law indicator dropped and Vietnam’s Innovation Index also dropped. The correlation coefficient between these two indices from 2018 to 2022 is 0.88. This proves that the Rule of Law sub-factor has a strong correlation with Vietnam’s Innovation Index

Does the Rule of Law indicator have a big weight in the calculation of WIPO’s Innovation Index? To calculate the innovation index, WIPO uses all 80 indicators and the Rule of Law is only 1/80 of the indicators, so its weights are small. If the contribution of this indicator to the Overall Innovation Index is calculated, its score is very small.

So why is the indicator of the Rule of Law so strongly correlated with Overall Innovation Index from 2018 up to now? Although the Rule of Law is only 1/80 of the indicator to calculate the Innovation Index, this indicator affects many other sub-pillars and indicators, especially the Political Environment sub-pillar and the Business Environment sub-pillar.

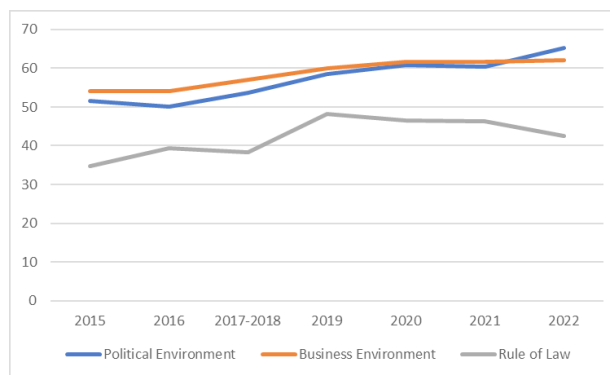
**Table 4: Score of Vietnam’s Political Environment, Business Environment and Rule of Law indicator for the period 2015-2022**

*Unit: score*

Sub-pillar/indicator	2015	2016	2017-2018	2019	2020	2021	2022
Political Environment	51.5	50	53.6	58.6	60.8	60.5	65.2
Business Environment	54.2	54.2	57	59.9	61.6	61.6	62
Rule of Law	34.7	39.4	38.4	48.2	46.6	46.3	42.6

*Source: Global Innovation Index 2015-2022*

From 2015 to 2022, the correlation coefficient between the Rule of Law indicator and the Political and Business Environment sub-pillar is relatively strong, 0.82 and 0.7 respectively. It proves that there is a positive relationship between the Rule of Law indicator and the Political and Business Environment sub-pillars. Therefore, if there is a progress in the rule of law indicator, there will be an improvement in the political and business environment, which promotes economic growth and innovation.



**Figure 4: Vietnam’s Political Environment, Business Environment sub-pillar and Rule of Law indicator for the period 2015-2022**

Analysing specifically the relationship between each sub- indicator of the Rule of Law and the sub- pillars of the political environment, we see that the sub-indicator of the Rule of Law- Regulatory Enforcement - correlates quite strongly with the sub- pillar of the Political Environment -Government Effectiveness-, which is 0.74. It proves that strictly complying with the enforcement of the law will contribute to improving the performance of the government, thereby promoting innovation.

**Table 5: Viet Nam’s 2015-2022 Government Effectiveness sub-pillar and Regulatory Enforcement sub-indicator**

*Unit: score*

Sub-pillar/sub-indicator	2015	2016	2017-2018	2019	2020	2021	2022
Government Effectiveness *	33.3	37.3	44.6	46.6	50.1	51.5	54
Regulatory Enforcement **	0.41	0.43	0.45	0.45	0.45	0.44	0.44

Source: \*Global Innovation Index 2015-2022 \*\* World Justice Project’s data

For the Business Environment sub-pillar, there are 2 sub-indicators of the Rule of Law that have a big correlation coefficient with the Business Environment sub-pillar. That is the Open Government sub-indicator (correlation coefficient = 0.98). The sub- indicator of the Rule of Law - Due Process is respected in Administrative Proceedings- has a strong correlation with the Ease in Starting a Business Factor (an indicator of the Business Environment sub-pillar) with correlation coefficient 0.9. Especially this sub-indicator has a strong correlation with the Output Innovation sub-Index with a correlation coefficient of 0.9.

**Table 6: Sub-indicator of Open Government, Due Process is respected in Administrative Proceedings, Ease in Starting Business sub-pillar and Output Innovation sub-Index for the period 2015-2022 in Vietnam**

*Unit: score*

Sub-indicator/sub-pillar/sub-index	2015	2016	2017-2018	2019	2020	2021	2022
Open Government **	0.43	0.43	0.44	0.46	0.46	0.46	0.46
Due Process is respected in Administrative Proceedings **	0.44	0.38	0.46	0.41	0.38	0.36	0.33
Ease in starting business *	77.7	81.3	81.9	84.8	85.1	85.1	63.3
Output Innovation Index *	36.7	32.3	34.3	33.9	32.2	31,4	28.4

Source: \*Global Innovation Index 2015-2022 \*\* World Justice Project’s data

**Table 7: Correlation coefficient between the Rule of Law indicator, the sub-indicator and sub-indexes, sub-pillars of Innovation from 2015 to 2022 in Vietnam**

	Innovation Index	Political Environment	Government Effectiveness	Business Environment	Ease in starting business
Rule of Law	0.88	0.82		0.7	
Regulatory Enforcement			0.74	0.66	
Open Government		0.93	0.92	0.98	
Due Process is respected in Administrative Proceedings					0.9

*Source: Calculated from data on Global Innovation Index and World Justice Project 2015-2022*

## 6. CONCLUSION AND PROPOSED SOLUTIONS

Thus, it is clear that the rule of law has a great correlation with innovation in Vietnam from 2018 to 2022. This correlation is not only due to the mere contribution of the rule of law itself but also that the rule of law affects other sub-pillar, indicator of innovation index, namely the political environment and the business environment. The improvement of the rule of law will improve the political and business environment in a more favourable way, thereby promoting innovation in the economy. So, solutions to promote innovation in Vietnam are solutions to improve the rule of law, especially those that are highly related to Output Innovation sub-index. More Open Government, administrative procedure reform, creating favourable conditions for doing business that is of great significance in promoting innovation in Vietnam in the coming time.

Proposed solutions include:

- Improving the effectiveness of law enforcement on entrepreneurship and business in Vietnam: especially simplifying administrative procedures; publicize administrative procedures, settle administrative procedures in the electronic environment; implement a monitoring mechanism and strictly handle officials who violate regulations

- Publicizing the government data and regulations: develop a government disclosure mechanism from local to central levels, identify what information needs to be made public to the public, including : regulations, plannings, projects, activity programs, expected changes in business policies...; implementing a mechanism to inspect and supervise information disclosure and strictly handle agencies and organizations that fail to fully disclose prescribed information.

- Expanding people's right to information: expanding the information that needs to be publicized, especially information about the business environment, business policies, administrative procedures on tax, investment, trade; administrative procedures and mechanisms to access capital and land resources; build a mechanism to disclose information on the website and on the internet so that people can easily access it

- Improving a mechanism to increase people's participation in government activities at all levels: the people through professional organizations, socio-political organizations, self-



governing organizations must be a part of this process, having the right to give opinions and monitoring those activities; implementing an independently auditing mechanism in public investment and expenditure projects.

- Building and implementing a mechanism to receive and respond to people's complaints more effectively: It is necessary to innovate forms of meeting people to be more friendly and closer; Improving a mechanism to supervise public agencies in the implementation of regulations on meeting people; Quickly and promptly settling people's legitimate aspirations and interests; Building an effective mechanism to deal with anonymous denunciations; Strictly enforcing the regulatory on protecting people from detecting and reporting corruption.

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# THE IMPACT OF OWNERSHIP STRUCTURE ON THE RISK OF COMMERCIAL BANKS IN VIETNAM

PhD. Nguyen The Anh<sup>1</sup>

**Abstract:** *This study examines the impact of ownership structures, foreign ownership, and concentrated ownership, on risk in Vietnamese commercial banks. We employ panel data analysis, considering financial metrics (ROA, ROE, ADZ), control variables (SIZE, LOA, LIQ, EFF), and macroeconomic conditions ( $\delta t$ ). Results indicate that foreign ownership reduces risk, seen in lower standard deviations of ROA and ROE. In contrast, concentrated ownership increases risk, particularly in ROA. This paper discusses state ownership's dual impact on risk, contributing context-specific insights to the literature. This research sheds light on how ownership structures affect risk in Vietnamese commercial banks, emphasizing the significance of local contexts and governance mechanisms.*

**Keywords:** *ownership structure, the risk of commercial bank.*

## 1. INTRODUCTION

The Commercial Banking System in Vietnam has undergone a transformation from a centralized management mechanism to a market-oriented socialist-oriented economic mechanism. This transition involved two main stages: first, the separation of functions within the Commercial Banking System, resulting in state-owned Commercial Banks; and second, the diversification of ownership through the partial privatization of state-owned Commercial Banks and the establishment of other Commercial Banks with diverse ownership, including domestic private ownership, foreign investor ownership, and other economic organizations.

The process of ownership structure transformation was carried out with a consistent policy and a rigorous approach. While significant achievements have been made in the development of Vietnam's Commercial Banking System, there remain issues that require careful consideration based on scientific and practical grounds. This necessitates the collection of comprehensive and reliable data and the utilization of credible research methods to refine the ownership structure of the Commercial Banking System. The objective is to enhance efficiency while ensuring the stability and soundness of the system, thereby contributing to the realization of macroeconomic goals.

This study focuses on the impact of Ownership Structure on the Operational Risks of Commercial Banks in Vietnam. The aim is to assess the influence of ownership structure on the level of risk faced by commercial banks in Vietnam. This will shed light on the relationship between ownership structure and risk management within the banking sector, leading to policy recommendations that enhance the effectiveness and stability of Vietnam's banking system.

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The research will present findings based on statistical analysis and modeling, examining the impact of various factors in the ownership structure on the risk management and mitigation abilities of commercial banks in Vietnam. Moreover, the article will address current challenges and potential opportunities to optimize the ownership structure, ensuring the sustainable and resilient development of Vietnam's commercial banking system amid the increasingly complex and evolving economic landscape.

## 2. LITERATURE REVIEW

Risk in the banking sector stands as a perennial concern for policymakers, given its pivotal role in ensuring financial stability and the broader economy's health. Substantial risks within the Commercial Banking System can precipitate financial crises and undermine the entire financial system. The ownership structure plays a crucial role in influencing risk, as per the principal-agent theory, where controlling shareholders wield power and possess incentives to maximize their interests. This dynamic can elevate risk levels and prompt efforts to diversify investment portfolios to mitigate potential losses.

**State Ownership and Risk:** The impact of state ownership on risk within commercial banks has garnered substantial scholarly attention. Researchers, exemplified by Andres and Vallelado (2008), contend that state ownership can contribute to enhanced financial stability and bolstered management capabilities within commercial banks. Moreover, state ownership has frequently been hailed as a catalyst for economic and financial development, particularly in less developed countries (Berger et al., 2005). However, an opposing viewpoint suggests that state-owned banks may grapple with lax managerial control, potentially resulting in diminished effort and resource misallocation for personal gain (Laeven & Levine, 2009). This ongoing debate serves as the foundation for our first hypothesis.

**Hypothesis 1:** Higher levels of state ownership are positively correlated with increased risk in Vietnamese commercial banks.

**Foreign Ownership and Risk:** Another facet of ownership explored in the literature pertains to foreign ownership. Research, such as the work conducted by Micco, Panizza, and Yañez (2007), has probed the impact of foreign ownership on bank performance and risk. Our study aligns with this existing literature and extends its applicability to the Vietnamese context. As elucidated in subsequent discussions, our findings imply that foreign ownership could act as a mitigating factor for risk in Vietnamese commercial banks.

**Concentrated Ownership and Risk:** Concentrated ownership, characterized by significant ownership stakes held by a select few individuals or entities, has also been subject to investigation. While concentrated ownership can confer concentrated decision-making authority, it can also introduce vulnerabilities and escalate risk levels (Yeyati & Micco, 2007). Our second hypothesis, detailed later, pertains to this facet of ownership.

**Hypothesis 2:** Increasing levels of concentrated ownership are positively associated with higher risk in Vietnamese commercial banks.

Many studies concerning the impact of ownership structure on Commercial Banks' risk have typically stopped at descriptive analyses, quantitative studies employing various

approaches, or have been based on small data samples with limited study duration. Some studies have narrowly focused on one form of ownership, such as the influence of foreign ownership on bank risk, without comprehensively examining the effects of diverse ownership structures on bank risk.

This paper takes a specific focus on the Vietnamese banking market, enhancing the relevance and contextuality of our research. This approach provides deeper insights into the Vietnamese situation, catering to educators and researchers with an interest in this particular market. These unique contributions add value to comprehending the relationship between ownership structure and risk within the banking industry, especially in the Vietnamese context. Moreover, they may pave the way for further research and the development of enhanced risk management practices

### 3. METHODOLOGY

#### 3.1. Research Model

##### 3.1.1. *Dependent Variable*

There are various ways to measure the overall risk of a bank. Currently, there are two typical models to assess the overall risk in the business operations of a commercial bank: the Stress-Test model to examine financial stress and the Z-score model to assess the solvency of the commercial bank. The Stress-Test model often relies on the VaR (Value at Risk) estimation method to measure risk, making it quite complex and requiring further validation of its accuracy. To meet the criteria of applying a simple yet accurate model that can be widely used, the author has chosen the Adjusted Z-score (ADZ), the standard deviation of ROE (Return on Equity), and the standard deviation of ROA (Return on Assets) to analyze the overall risk of the commercial bank.

##### a. **Adjusted Z-score (ADZ)**

The Z-index is used by Berger et al. (2009), Soedarmono et al. (2013) and Schaeck and Cihák (2014) as the main measure of the overall risk of commercial banks.

The theoretical basis of the Z-index is based on the work of Roy (1952), this index measures the risk of default of commercial banks. Insolvency is defined as a state in which losses exceed equity ( $E < -\pi$ ) (where E is equity and  $\pi$  is profit). Therefore, bankruptcy risk (probability of insolvency) can be expressed as a probability ( $-ROA > CAR$ ), where ROA ( $= R/A$ ) is the rate of return of the asset and CAR ( $= E/A$ ) is the asset-equity ratio (assets/equity). If returns are normally distributed, then the inverse ratio of the probability of insolvency is equal to  $(ROA + CAR)/\sigma(ROA)$ , where  $\sigma(ROA)$  is the standard deviation of ROA. According to the literature review, the Z-index is defined as the inverse of the probability of insolvency. The higher the Z-score, the lower the risk of commercial banks.

$$Zscore = \frac{(ROA + CAR)}{\sigma_{ROA}}$$

##### b. **Standard Deviation of ROE ( $\sigma(ROE)$ ), Standard Deviation of ROA ( $\sigma(ROA)$ )**

In place of the Z-score, the first introduced measure in Goyeau and Tarazi's (1992) study is the standard deviation of Return on Equity ( $\sigma(ROE)$ ), which provides a similar consideration

for explaining the probability of default. Similarly, in recent research, the standard deviation of Return on Assets ( $\sigma(\text{ROA})$ ) is also commonly used in studies related to risk probability.

The standard deviation is a measure of sample variability, where a higher standard deviation indicates higher risk, while a lower standard deviation signifies lower risk. As the standard deviation decreases, the probability distribution becomes narrower, resulting in lower risk.

### **3.1.2. Independent Variable**

#### **a. Ownership Structure (OWN)**

- SO (State Ownership): The proportion of state ownership is the percentage of shares held by the state or state representatives out of the total issued shares, measured by the state's ownership ratio (including state-owned enterprises and direct state ownership) to total equity.

- DO (Domestic Ownership): The proportion of domestic investor ownership is measured by the percentage of shares held by individuals and domestic organizations out of the total equity.

- FO (Foreign Ownership): The proportion of foreign ownership is the percentage of shares, voting rights, and contributed capital held by all foreign investors, measured by the percentage of shares held by foreign individuals and foreign organizations to total equity.

- CO (Concentrate Ownership): The level of concentrated ownership is measured by the percentage of shares held by large shareholders out of the total equity. Large shareholders are shareholders holding at least 5% of the total outstanding shares of the bank.

#### **b. CONTROL Variables**

CONTROL variables are specific variables related to the characteristics of banks that may influence their profitability and risk and are also related to the ownership structure. To eliminate the possibility of the dominating impact of bank-specific characteristics on the relationship between ownership structure and the profitability and risk of commercial banks, the author includes these specific variables as controls in the regression model to isolate the net effects of ownership structure on the profitability and risk of commercial banks.

When bank-specific control variables are not included in the model, the estimated coefficients of the independent ownership structure variables in the regression model will include the influence of these bank-specific control variables, not solely the effects of ownership structure. Furthermore, the omission of these bank-specific control variables in the model may lead to the issue of omitted variable bias. The identification of bank-specific control variables is based on previous studies such as Saunders et al. (1990); Bonin et al. (2005); Micco et al. (2007); Berger et al., Za (2008); Barry et al. (2011), Westman (2011),... The specific control variables of commercial banks impact risk in various ways.

The CONTROL variables that influence the risk of commercial banks include: Bank size (SIZE), Loan-to-Asset ratio (LOA), Operating efficiency (EFF), Return on Equity (ROE), and Liquidity ratio (LIQ).

**Table 1: Summary of Variables**

No.	Variable	Abbreviation	Calculation Formula	Expectation sign
1	State Ownership	SO	(State-owned shares + Directly-owned by individuals and entities)/ Total Equity	+/-
2	Foreign ownership	FO	Percentage of ownership of foreign individuals and organizations/Total equity	+/-
3	Owning local investors	DO	Ownership rate of domestic individuals and organizations/ Total equity	+/-
4	Centralized ownership	CO	Ownership ratio of major shareholders/Total equity	+/-
CONTROL variables				
1	Size of the bank	SIZE	Log(Total Assets)	+/-
2	Loan rate	LOA	Loan balance/total assets	+/-
3	Operational efficiency	EFF	Total operating expenses/total operating income	+
4	Profitability	ROE	(Profit after tax/Total equity)	-
5	Liquidity ratio	LIQ	Total loan balance/Total deposit	+

Source: Author's research

To analyze the impact of ownership structure on the risk of commercial banks, the author based on the panel data regression model as follows:

$$\text{Risk}_{it} = \beta_0 + \beta_1 \text{OWN}_{it} + \beta_2 \text{CONTROL}_{it} + \theta\theta_i + \delta_t + \varepsilon_{it}$$

In there:

**Risk<sub>it</sub>**: Dependent variable measuring the risk of Commercial Banks, assessed through the Z-adjusted index, the standard deviation of Return on Assets (ROA), and the standard deviation of Return on Equity (ROE).

**OWN<sub>it</sub>**: Independent variable measuring ownership structure, including the ownership ratios of state ownership (SO), foreign ownership (FO), domestic institutional ownership (DO), and concentrated ownership (CO).

**CONTROL<sub>it</sub>**: Specific control variables of Commercial Banks encompassing the bank's size (SIZE), equity-to-assets ratio (EQU), loan-to-assets ratio (LOA), return on equity (ROE), operating efficiency (EFF), and liquidity ratio (LIQ).

**θ<sub>i</sub>**: bank fixed effect

**δ<sub>t</sub>**: year fixed effect

**ε<sub>it</sub>**: estimated error of the model

The regression model also includes the fixed effect of the bank (**θθ<sub>i</sub>**) to control for the dominant effect of each bank and the fixed effect of the year (**δt**) to control for the dominant effect of time (specifically, the effect of each year on the sample) on the effect of ownership structure on commercial bank risk.

### 3.2. Research data

The main source of information used in this study is secondary data collected from audited financial reports, annual reports, disclosure statements, and operating charters of Vietnamese



Commercial Banks during the period 2010-2022. The research data does not include 100% foreign-owned banks due to their distinct business nature, accounting financial characteristics, and management requirements, which significantly differ from Vietnamese commercial banks.

As of the end of 2022, there are 31 operating Vietnamese Commercial Banks. However, due to some banks not disclosing data, especially before their equitization process, and Vietnamese Commercial Banks providing incomplete and inconsistent information, the author could not collect complete data for all operating Vietnamese Commercial Banks. The data used in this study comprises an unbalanced panel data of 26 Vietnamese Commercial Banks over a 13-year period from 2010 to 2022, consisting of 338 observations.

#### 4. RESEARCH RESULTS

Table 2. presents the Pearson correlation coefficient matrix between variables used in this research. The variables include the adjusted Z-score (ADZ), standard deviation of return on assets (ROA), standard deviation of return on equity (ROE), state ownership ratio (SO), foreign ownership ratio (FO), domestic institutional ownership ratio (DO), concentration of ownership (CO), and control variables, namely EFF, LOA, SIZE, and ROE. The definitions and measurements of these variables are provided in Section 3.1. The study sample consists of 26 Vietnamese Commercial Banks over the period from 2010 to 2022

**Table 2: Correlation Coefficient Matrix**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)SDROA	1.000											
(2)SDROE	0.760	1.000										
(3)ADZ	-0.613	-0.577	1.000									
(4)SO	-0.048	-0.042	0.002	1.000								
(5)FO	-0.088	0.063	-0.029	-0.219	1.000							
(6)DO	0.083	0.020	0.007	-0.921	-0.176	1.000						
(7)CO	-0.001	-0.037	-0.047	0.862	0.026	-0.882	1.000					
(8)LOA	-0.124	-0.048	0.130	0.286	-0.034	-0.275	0.171	1.000				
(9)EFF	-0.084	-0.046	0.102	-0.349	-0.059	0.377	-0.353	0.004	1.000			
(10)LIQ	-0.064	-0.052	0.056	-0.015	0.033	0.001	-0.014	0.226	0.015	1.000		
(11)SIZE	-0.344	-0.120	0.257	0.256	0.348	-0.398	0.221	0.191	-0.103	0.048	1.000	
(12)ROE	0.056	0.126	-0.267	0.240	0.163	-0.305	0.211	-0.02	-0.693	0.012	0.285	1.00

Source: Author's research

Table 2, which presents the Pearson correlation coefficients between variables used in a research model. This table presents preliminary findings on the correlation between ownership structure and the risk of commercial banks. Specifically, state ownership and domestic ownership have a positive correlation with the adjusted Z-score (ADZ), this means that the higher the state ownership and domestic ownership, the lower the risk of the commercial bank. Conversely, foreign ownership and concentrated ownership have a negative correlation with the ADZ, indicating that the higher the foreign ownership and concentrated ownership, the higher the risk of the commercial bank.

Furthermore, through Table 2, it is observed that most of the correlations between dependent and independent variables are at a relatively low level (<0.8). According to the “rule of thumb” based on experience, it can be concluded that multicollinearity between pairs of independent variables in the research model is not a serious issue (Gujarati, 2003).

#### 4.1. Impact of local investor ownership on the risk of Vietnamese commercial banks

Table 3: State Ownership and Risk of Vietnamese Commercial Banks

Variables	Standard Deviation ROA	Standard Deviation ROE	Adjusted Z-Coefficient
SO	0,009*** (3,60)	0,057*** (2,98)	-0,572* (-1,91)
SIZE	-0,002*** (-2,89)	-0,005 (-1,10)	0,216*** (2,93)
LOA	-0,001 (-0,47)	0,022 (1,47)	0,111 (0,47)
LIQ	-0,000 (-0,66)	-0,001 (-1,05)	0,029 (1,36)
EFF	0,001 (0,59)	0,027* (1,68)	-0,873*** (-3,46)
ROE	0,010** (2,46)	0,083** (2,54)	-2,546*** (-4,96)
Constant	0,024*** (3,02)	0,058 (0,91)	-0,579 (-0,58)
$\delta_t$	Y	Y	Y
Observation	296	296	296
Adjusted R2	31,88%	15,67%	29,94%

Source: Author's research

$Risk_{it}$ : represents the risk of the commercial bank measured by the adjusted Z-score (ADZ), the standard deviation of ROA (SDROA), and the standard deviation of ROE (SDROE);  $SO_{it}$ : stands for the state ownership ratio; Controlit: encompasses control variables including EFF, LOA, ROE, SIZE, and LIQ. The regression model also includes bank fixed effects ( $\alpha_i$ ) and year fixed effects ( $\delta_t$ ). Robust standard errors are used and clustered at the bank level. \*, \*\*, \*\*\* denote significance levels of 10%, 5%, and 1% respectively. Definitions of the variables are presented in Section 3.1. The study sample consists of 26 Vietnamese commercial banks during the period 2010-2022.

Table 3 presents the regression results of the research model investigating the impact of state ownership on the risk of Vietnamese Commercial Banks. The model includes the variables of state ownership (SO), standard deviation of return on assets (ROA), standard deviation of return on equity (ROE), adjusted Z-score (ADZ), and control variables.

The results of the model show that the estimated coefficient of the state ownership variable (SO) is positively correlated with the standard deviation of ROA and ROE, while it is negatively correlated with the adjusted Z-score (ADZ). Specifically, the estimated coefficient of state ownership for the standard deviation of ROA is 0.009 ( $t$ -statistic = 3.60) with a significance

level of 1%. The estimated coefficient of state ownership for the standard deviation of ROE is 0.057 ( $t$ -statistic = 2.98) with a significance level of 1%. Additionally, the estimated coefficient of state ownership for the adjusted Z-score is -0.572 ( $t$ -statistic = -1.91) with a significance level of 10%.

These results confirm a positive relationship between state ownership and the risk of Vietnamese Commercial Banks.

#### 4.2. Impact of Local Institutional Ownership on the Risk of Vietnamese Commercial Banks

**Table 4: Local Institutional Ownership and Risk of Commercial Banks in Vietnam**

Variables	Standard Deviation ROA	Standard Deviation ROE	Adjusted Z-Coefficient
DO	-0,006***	-0,029*	0,106
	(-3,01)	(-1,69)	(0,39)
SIZE	-0,002***	-0,010**	0,269***
	(-4,32)	(-2,24)	(3,92)
LOA	-0,002	0,018	0,122
	(-0,85)	(1,19)	(0,51)
LIQ	-0,000	-0,002	0,031
	(-0,83)	(-1,20)	(1,45)
EFF	0,002	0,030*	-0,875***
	(0,98)	(1,84)	(-3,39)
ROE	0,012***	0,091***	-2,624***
	(2,82)	(2,79)	(-5,08)
Constant	0,039***	0,154***	-1,503*
$\delta_t$	(5,49)	(2,68)	(-1,67)
	Y	Y	Y
Observation	295	295	295
Adjusted R2	31,54%	14,25%	28,77%

Source: Author's research

For domestic institutional ownership, Table 4 shows the inverse impact of domestic institutional ownership on the standard deviation of return on assets (ROA) and the standard deviation of return on equity (ROE). This result confirms that as domestic institutional ownership increases, the risk of Vietnamese Commercial Banks decreases. Specifically, in the model assessing the impact of domestic institutional ownership on the standard deviation of ROA, the estimated coefficient of the domestic institutional ownership variable is -0.006 ( $t$ -statistic = -3.01) with a significance level of 1%. The estimated coefficient of the domestic institutional ownership variable for the standard deviation of ROE is 0.057 ( $t$ -statistic = 2.98) with a significance level of 1%. However, the estimated coefficient of the domestic institutional ownership variable for the adjusted Z-score is -0.572 but lacks statistical significance.

Based on the estimated coefficients and statistical significance of domestic institutional ownership on the standard deviation of ROA and ROE, it can be concluded that there is an inverse relationship between domestic institutional ownership and the risk of Vietnamese Commercial Banks.

### 4.3. Impact of Foreign Ownership on the Risk of Vietnamese Commercial Banks

Table 5: Foreign Ownership and Risk of Vietnamese Commercial Banks

Variables	Standard Deviation ROA	Standard Deviation ROE	Adjusted Z-Coefficient
FO	-0,006** (-2,06)	-0,056** (-2,29)	0,808** (2,08)
SIZE	-0,002*** (-3,10)	-0,005 (-1,11)	0,204*** (2,73)
LOA	-0,001 (-0,66)	0,021 (1,41)	0,076 (0,32)
LIQ	-0,000 (-0,72)	-0,001 (-1,07)	0,028 (1,34)
EFF	0,002 (0,82)	0,027* (1,67)	-0,833*** (-3,24)
ROE	0,011*** (2,62)	0,084** (2,56)	-2,515*** (-4,87)
Const	0,035*** (4,67)	0,113* (1,90)	-0,925 (-0,99)
$\delta_t$	Y	Y	Y
Observation	295	295	295
Adjusted R2	32,38%	15,61%	29,66%

Source: Author's research

The results of the model in Table 5 show that the estimated coefficient of the foreign ownership variable (FO) has an inverse impact on the standard deviation of return on assets (ROA) and the standard deviation of return on equity (ROE), while it has a positive impact on the adjusted Z-score (ADZ). Specifically, the estimated coefficient of the foreign ownership variable for the standard deviation of ROA is -0.006 (t-statistic = -2.06) with a significance level of 5%. The estimated coefficient of the foreign ownership variable for the standard deviation of ROE is -0.056 (t-statistic = -2.29) with a significance level of 5%. Additionally, the estimated coefficient of the foreign ownership variable for the adjusted Z-score is 0.808 (t-statistic = 2.08) with a significance level of 5%.

### 4.4. Impact of Concentrated Ownership on the Risk of Vietnamese Commercial Banks

Table 6: Concentrated Ownership and Risk of Vietnamese Commercial Banks

Variables	Standard Deviation ROA	Standard Deviation ROE	Adjusted Z-Coefficient
CO	-0,001* (1,82)	-0,001 (-0,10)	-0,170* (-1,78)
SIZE	-0,003*** (-7,78)	-0,009*** (-3,00)	0,251*** (5,02)
LOA	-0,001 (-0,40)	0,011 (0,84)	0,235 (1,11)
LIQ	-0,000 (-0,82)	-0,001 (-1,04)	0,026 (1,12)

EFF	0,001 (0,62)	0,024 (1,57)	-0,879*** (-3,46)
ROE	0,012*** (3,01)	0,121*** (4,04)	-3,252*** (-6,68)
Const	0,045*** (8,70)	0,131*** (3,31)	-1,111* (-1,72)
$\delta_t$	Y	Y	Y
Observation	271	271	271
Adjusted R2	0,1904	0,0572	0,1703

*Source: Author's research*

For concentrated ownership, Table 6 shows a positive impact of concentrated ownership on the standard deviation of return on assets (ROA) and a negative impact on the adjusted Z-score. This result confirms that as the level of concentrated ownership increases, the risk of Vietnamese Commercial Banks also increases. Specifically, in the model assessing the impact of concentrated ownership on the standard deviation of ROA, the estimated coefficient of the concentrated ownership variable is 0.001 (t-statistic = 1.82) with a significance level of 10%. The estimated coefficient of the concentrated ownership variable for the standard deviation of ROE is -0.001, but lacks statistical significance. Additionally, the estimated coefficient of the concentrated ownership variable for the adjusted Z-score is -0.170 (t-statistic = -1.78) with a significance level of 10%.

Based on the estimated coefficients and statistical significance of concentrated ownership on the standard deviation of ROA and the adjusted Z-score, it can be concluded that there is a positive relationship between concentrated ownership and the risk of Vietnamese Commercial Banks.

## 5. DISCUSSION

The research findings presented in section 4 support the viewpoint that higher state ownership leads to higher risk for Vietnamese Commercial Banks. This content explores the mechanisms through which state ownership can influence risk. There are two perspectives concerning the impact of state ownership on risk in commercial banks. The first perspective suggests that state ownership ensures financial stability and enhances better management capabilities for commercial banks. Moreover, in less developed countries, state ownership is deemed necessary for economic and financial development, ultimately promoting growth. Through participation in commercial banks, the government achieves its socio-political objectives. According to the second perspective, managers in state-owned commercial banks are not as tightly controlled as those in privately-owned banks. As a result, they may exert less effort or divert resources for personal gains compared to managers in private sector-owned banks. Political objectives can also alter the functions of state-owned commercial banks as the government may fund inefficient projects due to political reasons or occasionally corruption (through bribery). Thus, state ownership and corporate governance can play a complementary or substitutive role when influencing the risk in commercial banks.

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# **COST ALLOCATION, MANAGEMENT ACCOUNTING IMPLEMENTATION TO IMPROVE PERFORMANCE MANAGEMENT IN BANK FOR INVESTMENT AND DEVELOPMENT OF VIETNAM (BIDV)**

**Masters. Bui Thi Hoa<sup>1</sup>**

***Abstract:** The essay discusses the implementation of management accounting, cost allocation, and finance transformation in BIDV. It highlights the importance of reliable and timely cost and profit information for decision-making. The management accounting methodologies and multi-dimensional profitability analysis (MPA) system are presented. BIDV's approach includes top-down cost allocation and a focus on efficiency and effectiveness. The essay emphasizes the role of finance business partners (FBPs) in supporting business decisions. Despite challenges, BIDV aims to increase profit and productivity through its management accounting system. The application of balanced scorecards and Key Performance Indicators (KPIs) is also emphasized in measuring performance. By using survey research, interviewing experts, and accessing documents, the authors point out the contributions that cost allocation, management accounting brings to BIDV in particular and commercial banks in general, especially clearly showing the effects of these methods. In-depth, multi-dimensional analysis reports that the multi-dimensional profit analysis (MPA) system of Management Accounting brings.*

***Keywords:** Management accounting, Performance management, Cost allocation, Finance transformation, Profitability measurement*

## **1. INTRODUCTION**

Businesses are facing increasingly complex markets, customers, and suppliers, and cope with global competitive pressures in digital age. Costs rise in line with the company complexity. Which factor can generate more profit, reduce cost, which customers make more income for the company, which products is efficient? In order to make the right answer/decision more quickly, accurately and fact based, management accounting system implementation is the one of some methods, which can improve the speed and quality of decision making and enhance the performance management.

## **2. METHODOLOGY**

### **2.1. Urgency of the study**

#### **2.1.1 Management accounting and its development**

Management accounting, which emerged in 1910, involves gathering, analyzing, and communicating information to support organizational goals. It encompasses decision-making, planning, performance management, and financial reporting. In a narrow sense, it aids in achieving objectives, while in a broader context, it includes control and strategic functions.

In the early stages of development, sometimes, management accounting had been overshadowed by financial accounting standards like GAAP- Generally Accepted Accounting Principles (United

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States); International Financial Reporting Standards (IFRS). However, by the times, the Management accounting has been proving its own distinct set of principles and practicality.

- Firstly, financial accounting focuses on preparing report based on historical performance. On the other hand, management accounting collates information like revenue, cash flow and cost to analyze and generate timely trend reports and statistics which is primarily forward-looking.

- Secondly, financial accountancy information is in line with reporting requirements such as general financial accounting standard while management accounting is to serve the core needs of internal management to improve decision support objectives, internal business processes, resource application, customer value, and capacity utilization needed to achieve corporate goals in an optimal manner.

- Thirdly, the company is viewed as a whole in financial accounting with general information on the balance sheet, the income statement and so on. On the other hand, management accounting breaks down the company business into different types of product, individual activity, division, operation. It will assess each part and then provide specific information about them, which is useful to support generic decision making and drive business success.

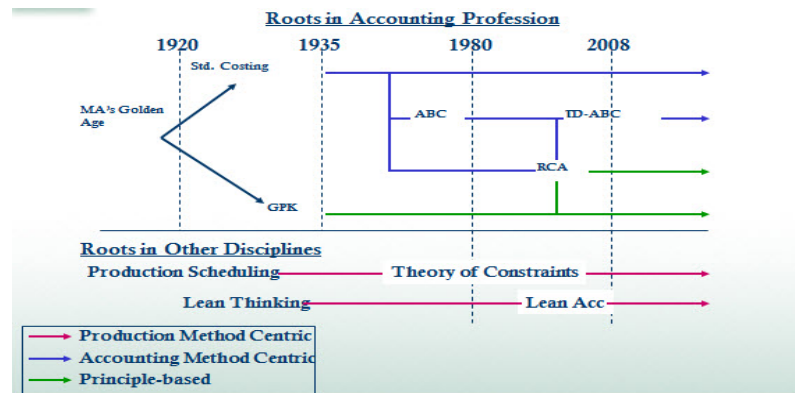
- Fourthly, financial accounting produces the required financial information for use of shareholders, creditors and public regulators who are outside the organization. Therefore, the information from financial accounting is public. In contrast, the management accounting uses both of the financial and non financial information to create a complete picture of the business. Only managers with the organization can exposure to the management accounting information.

- Fifthly, differing from financial accounting, management accounting is also focus on the cost measurement and allocation which is often known as Management costing approach. Management costing is to connect the operational resources and processes with their monetary value to provide information not only in cost accounting area but also in performance evaluation and analysis; planning and decision support. There is a wide range of Management costing approaches such as the traditional standard costing (TSC), activity -based costing (ABC), German Management costing (GPK), throughput costing, lean accounting, and resource consumption accounting (RCA).

- Last, the application of Quality Management Tools (MA) in commercial banks refers to the use of tools to facilitate quality management activities. Nowadays, experts often emphasize the adoption of new management tools over traditional ones. One powerful application currently being implemented is Multi-dimension Profitability Analysis (MPA) software, used by some banks. This software allows for the exploration and analysis of bank profitability from various diverse approaches, enabling managers to make sound and timely economic decisions.

### **2.1.2 Cost allocation:**

The history development of these approaches can be presented by the Management costing timeline from A.van der Merwe at at the Institute of Management Accountants 2011 Annual Conference.



**Figure 1: Roots in Accounting Profession**

Traditional Standard Costing (TSC), introduced in the 1920s, compares actual ratios of labor and materials used in production with “standard” ratios. Variance analysis is a crucial aspect of TSC, helping management accountants identify and address cost discrepancies from the plan. TSC is widely used in management accounting for financial reporting but relies on volume-based cost drivers and is less suitable for non-standardized products and services.

Activity-Based Costing (ABC), developed since the 1970s and clearly explained in 1987 by Kaplan and Bruns, assigns costs to activities and links them to products and services based on actual consumption. ABC differs from TSC by focusing on activities, cost drivers, and cost complexity. It establishes cause-effect relationships between activities and cost objects, aiding cost control and multi-dimensional profitability analysis.

Other management costing approaches, such as German Management Costing (GPK), Lean Accounting, Resource Consumption Accounting (RCA), and Throughput Accounting, build upon previous methods with innovations to provide better cost allocation information. These approaches continue to evolve to meet changing business needs.

### **2.1.3. Urgency of the study:**

- *Firstly, regarding the necessity of the research topic:*

#### **Management accounting**

##### *- Importance role of Management accounting:*

+ Management accounting plays a vital role in decision-making and providing information for internal management within organizations.

+ Neglecting Management accounting can hinder effective management activities in businesses.

##### *- Importance of role of Management accounting in Banking:*

+ Intense competition among credit institutions in Vietnam necessitates enhancing internal management and risk control capabilities.

+ International integration requires banks to adopt modern MA systems to understand income allocation and cost factors.

- *Legal Requirements for Management Accounting*: The Accounting Law of 2015 emphasizes the role of Management accounting, guiding its application in various business sectors.

- *Global Adoption of Management Accounting*: Many banks worldwide have implemented MA systems, providing multi-dimensional profit information and competitive advantages.

- *Affirming the Values of Management Accounting with MPA*:

+ MPA helps determine profit reporting requirements for different management entities.

+ It aids in assessing business efficiency by product, customer, and business unit.

+ MPA standardizes cost allocation methods and procedures, improving cost control effectiveness.

+ The system supports the establishment of reasonable reward policies and innovation in management.

### **Cost Allocations**

- *The Importance of Cost Allocations*

The objective of the cost allocations process is to allocate the cost of resources consumed within an organisation to those lines of business that actually use these resources. If the relevant lines of business were not accountable for these costs it is highly likely that they will not adequately consider their resource utilisation in relation to the cost thereof. According to E&Y, relevant cost allocation is important to a profitability measurement framework for the following reasons:

+ The result reflects a more accurate P&L, allowing optimisation of economic performance

+ Support costs are charged ultimately to customer-facing lines of business to reflect the true costs of sale

+ Product costs include all support costs allowing product prices to be set or validated

+ Line of business heads are held accountable for services provided to them

+ The cost allocation process fosters a more commercial relationship between service providers and service users

+ The cost allocation process enhances the quality of data for product, customer segment and customer profitability

- *The Benefits of Cost Allocation*

According to E&Y, the benefits of including a cost allocation framework within a multi-dimensional profitability model are as follows:

+ Business ownership, and improved understanding of support costs and their drivers

+ Business accountability for profit and loss within the business unit

+ Provides a management tool to provide clarity on the total costs of front office business operations

+ Provides a framework to drive the appropriate management behaviors in managing costs in support of the corporate strategy

- *The Downside of Cost Allocation*

According to E&Y, there are downsides to implementing a cost allocation framework, and some of these include:

- + Complexity can become onerous to maintain
- + Multiple levels of cost allocation can reduce transparency of the result
- + Finance may need to spend significant effort in “managing the noise” if the receivers of cost allocations have little or no control over spending by the service provider

➤ ***Secondly, about the urgency of the topic:***

- *Bank operations using management accounting are increasingly healthy, transparent, and make timely decisions.* Especially, banks using the MPA system can briefly gain a competitive edge. Business performance reports offer detailed financial and non-financial data for analysis and decision-making, which is often absent from ledger records.

- *The practice of applying MPA in management accounting is quite diverse, a summary is needed to see the level of development of management accounting through MPA to have the next development direction.* Large domestic banks have successfully adopted MPA, yielding positive outcomes with the system functioning smoothly. Some banks face challenges in implementing it effectively, while many others show little interest in its potential benefits. Consequently, there has been no comprehensive study to evaluate MPA in commercial banks after approximately a decade of its application.

➤ ***Thirdly, about the theoretical meaning***

- *First, Management Accounting is increasingly important*

Management accounting is gaining recognition for its importance, with finance departments shifting towards roles like Business Partner. However, there's a lack of research on the current application and effectiveness of MPA in commercial banks, which is essential for informed decision-making.

- *Second, research on management accounting in commercial banks will systematize theory and create a basis for the development of management accounting in commercial banks.*

There is a significant lack of books or specific studies on management accounting methodology in commercial banks, resulting in limited public understanding of this field. Investigating the methods of management accounting applied through MPA in commercial banks is crucial to highlight MPA's importance in bank management.

➤ ***Fourthly, about the practical meaning***

- *First, the practical application of management accounting through MPA is still limited*

+ The current application of management accounting is still in its infancy, many banks consider management accounting to simply detail financial accounting data, and have no intention of using financial accounting to serve internal management.

+ Accounting personnel in commercial banks are mainly trained in financial accounting but have not been properly trained in management accounting, so it is difficult to implement management accounting, and the preparation of management reports is therefore also sketchy and has little information.

+ Many bank leaders are not aware of the importance of management accounting, do not



boldly invest in MPA, and even if they invest, it does not always meet expectations.

- *Second, the significance of comprehensive and serious research on management accounting according to MPA has important effects on commercial banks.*

Researching management accounting at commercial banks using the MPA method aims to spread knowledge and emphasize its importance, offering practical guidance based on experiences from VCB, BIDV, and Vietinbank to assist other banks in implementing MPA effectively and efficiently.

- *Third, it is an opportunity to review the appropriateness of legal regulations*

Currently, management accounting is gaining importance, especially in the banking and finance sector. However, there is a lack of specific legal regulations for management accounting in this industry, unlike financial accounting, which has clearer guidelines. Circular No. 88/2015/QH-13 calls for appropriate guidance on management accounting for various sectors, including financial and banking institutions, but specific regulations are still lacking.

**2.2. The experience in applying cost allocation, management accounting in banking sector:**

- Cost allocation practices in banking have evolved over time:

+ Late 1990s to early 2000s: Banks adopted activity-based costing (ABC) for precise allocation but later abandoned it due to complexity and cost.

+ Similar period: Some banks explored full cost allocation to customer account level, but it proved too complex and affected accounting speed.

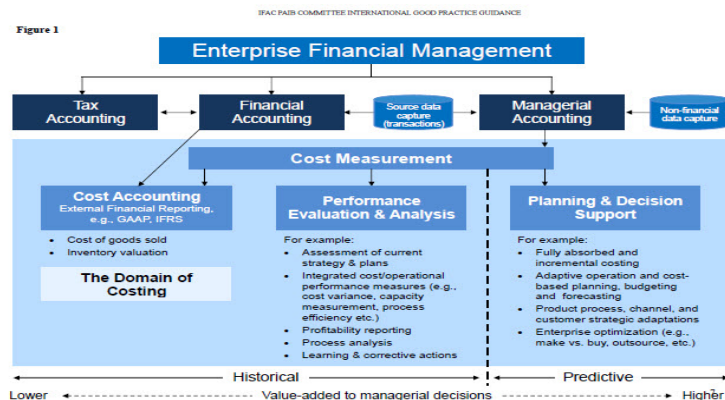
+ Wholesale Banking: Cost allocation to customer and relationship manager levels was found less impactful, so focus shifted to product and customer segments.

+ Retail Banking: Detailed cost allocation was discontinued in favor of top-down allocations to product and customer segments, with external data used for channel analysis.

+ Large banks: Head office costs are allocated to lines of business, customer segments, and products but not to branches or individual customers.

+ These shifts reflect the industry’s quest for efficient and practical cost allocation methods.

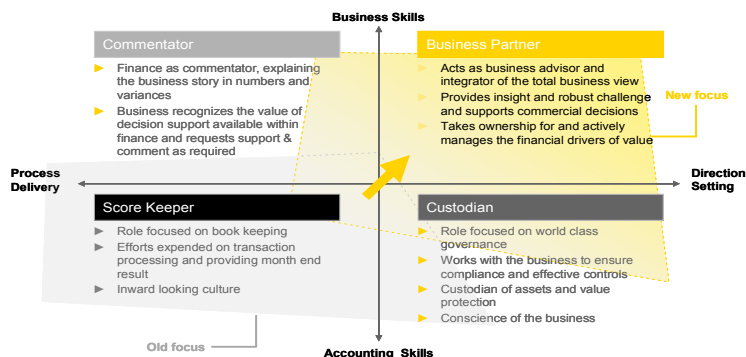
Beside cost allocation, according to the American Institute of Certified Public Accountants (AICPA), the management accounting extends to three areas which are strategic management, performance management and risk management.



**Figure 2: Three areas of management accounting**



- Historically, the role of accountant was just a score keeper with lots of reporting and quick statutory closing. He/she had an inward looking culture, and then less involved in front business operations. Today, with the development of management accounting, the accountant’s role is boarder with custodian function; commentator function and business partner function.



**Figure 3: Roles of management accountant**

- The accountant/finance staff should be much more knowledgeable about the business, to actively participate in business meetings. According to PWC, better practice finance business partner service consist of fact-based decision making, business planning, act on forecast variances, analysis, risk and performance management, change agent; which will affect the future of the organization.

- Management accounting and finance transformation has been applied widely in many banks in the world and shows the success in management.

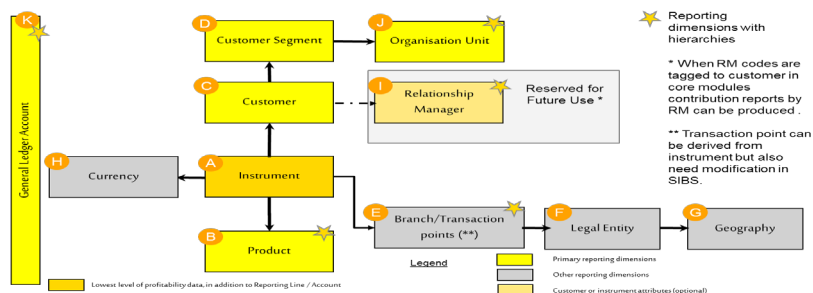
- Many banks have been developed management reports to be produced from a profitability system. The main reporting dimensions are Organization (or Line of Business), Product, Customer, Customer Segment and Branch. Besides, contribution by Relationship Manager and/or Account Officer is also common.

Organisation/ Branch	Main Branches (Profit Centres), including Departments and Transaction Points (direct cost only)								
	Product	Head Office – Profit Centres and Cost Centres							
Customer Segment	Deposits & Debt Instruments	Loans	Trade Finance	Treasury	Payments	Other Banking Services	Other Balance Sheet	Other P&L Items	
Consumer Banking									
Priority Banking									
SME Banking									
Corporate Banking									
Financial Institutions									
Admin									

$\Sigma$  Customer Segments =  $\Sigma$  Products =  $\Sigma$  Organisation Units = Total Bank

**Figure 4: An example of reporting dimensions**

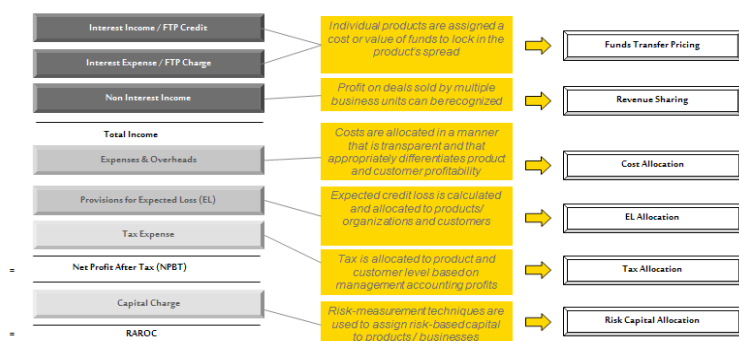
- In order to collect data and guarantee the same profit between other dimensions, the reporting dimensions derived from instrument level for profitability measurement and reporting. So, the balances can be assigned products, customers and lines of business for reporting purposes. The revenues can be assigned to instruments and lines of business where no direct relationship captured. Provisions, NPLs and corporate income tax expenses can receive appropriate treatment and reporting.



**Figure 5: How the reporting dimensions can be derived from instrument level for profitability measurement and reporting**

- Banks experimented with various cost allocation methods, including Activity-Based Costing (ABC), but many found ABC too complex and costly to maintain, leading to a shift back to simpler top-down allocation models. A Singapore-based regional bank adopted a simplified cost allocation approach for efficiency.

- With the help of financial driver, the bank can convert financial data to more meaningful management information which enable to make appropriate for the pursuit of an organization’s designs.



*Figure 6: Profitability framework*

- Although many banks in over the world and regional banks had applied management accounting, despites of strong application in Vietnamese enterprises, Vietnamese banks truly studied management accounting in recent years. The implementation of some big banks is considered not practical, even failed. Some banks invested in information support system but the methodology, especially cost allocation is not studied, built and fully understood by all stakeholders. Some banks did not mention in change management and finance transformation.

**2.3. Overview of research projects**

After a very long time of research, our group has now synthesized a lot of research papers, however, almost all the topics, articles, theses... are research on management accounting. International Economics) in general. Very few products that delve deeply into multi-dimensional profit analysis methods are currently being deployed in Vietnamese commercial banks. Among the products that are quite limited to learn, we boldly present an overview of the research to clearly indicate the research gap and the urgency of the topic as follows:

➤ ***First: About management accounting in commercial banks***

In recent years, the competition between domestic and foreign commercial banks has

intensified, necessitating a stronger focus on internal management capabilities within these financial institutions. The key to gaining a competitive edge, enhancing product and service development, and improving risk control lies in the development and operation of advanced accounting systems.

The urgency to adopt modern management accounting systems is further emphasized by the demands of international integration, which require banks to adhere to global best practices. However, despite the recognized importance of management accounting, limited awareness and financial resources within the commercial banking sector have hindered the effective implementation of these systems.

Several studies and research efforts have attempted to shed light on the significance of management accounting in commercial banks. These investigations have evaluated its application and impact, identifying areas where improvements are needed. However, despite these contributions, there remains a conspicuous gap in the literature when it comes to multi-dimensional profit analysis methods specifically tailored for Vietnamese commercial banks.

Addressing this gap in the research is critical because it will help fill the void of knowledge on this topic. Furthermore, by systematically examining and simplifying the theory and practical aspects of multi-dimensional profit analysis methods, this research endeavor aims to provide commercial banks with a clear path toward implementation. In essence, it seeks to support and guide other commercial banks that have yet to successfully deploy management accounting systems, especially those currently struggling in the implementation process.

➤ ***Second: About cost allocation methods in banking***

From a management accounting perspective, costing or allocating costs is to serve the decision-making of managers. Basically, there are currently 5 cost allocation methods (ACCA) to allocate overhead (indirect) costs:

+ Absorption Costing: does not care about variable costs or fixed costs, in which the general production cost will be allocated to the product according to a selected criterion through calculating the cost absorption rate.

+ Marginal Costing: Focusing on variable production costs, product costs will include: direct costs + variable costs

+ ABC (Activity-based costing): using many allocation criteria, determining the main activities to support the business, determining the most important influencing factors, so the allocation is quite accurate.

+ Life - cycle Costing (Calculating cost based on product life cycle): includes all costs related to the life cycle of the product.

+ Target Costing (Calculate cost according to target cost)

In some Vietnamese commercial banks, the Multi-dimensional Profit Analysis (MPA) approach combines absorption costing and partial activity-based costing (ABC) to allocate costs based on the recipient's ability to absorb costs and the activities that incur them. This method aims to enhance profit analysis accuracy. Additionally, modern analytical tools combining ABC and other cost accounting methods offer opportunities for improved profit focus, customer retention, and increased customer satisfaction..

➤ ***Third, about the Model used in MPA***

- Activity-Based Costing (ABC) is recognized as an effective method for allocating overhead costs. While it is often associated with the manufacturing industry, it is also suitable for service industries, including commercial banks, due to their high overhead and labor-intensive nature.

- Implementing ABC in commercial banks offers various benefits, such as determining transaction costs, specific customer costs, and measuring customer and product profitability. This leads to improved decision-making and supports the achievement of strategic goals.

- ABC can be complex, expensive, and time-consuming, especially for banks with numerous processes and departments. Continuous data updates are required to maintain the methodology effectively.

- The ABC method helps determine the cost of each activity and provides insights into process and product cost effectiveness and efficiency, facilitating improvement and adjustment.

- While full ABC implementation can be challenging for commercial banks, the Multi-dimensional Profit Analysis (MPA) approach combines Absorption Costing and partial ABC to better suit banking activities. This approach uses the waterfall cost allocation model, ensuring that costs of lower-ranked units are not allocated back to higher-ranked units.

➤ ***Fourth: Regarding MPA multidimensional profit analysis in commercial banks***

The Multi-Dimensional Profitability Analysis (MPA) is a system that provides diverse perspectives when evaluating an organization's profitability. It generates Profit Reports from various dimensions such as customers, products, organizational units, and employees. Implementing MPA can revolutionize the way banks manage and operate, enabling more effective tactical planning by customer, product, and geographical region. Despite some efforts to compile and review information, there is a lack of comprehensive research on multidimensional profit analysis, with most available materials being reference documents or knowledge shared from consulting companies and internal bank training materials.

- *At Vietcombank:*

+ Document on the ALM, FTP and MPA Technical Support Project co-organized by Oliver Wyman and Vietcombank (2017), which clearly states the purpose and aspirations of building MPA at VCB; The relationship between MPA's profit assessment results and other ongoing projects; Methodology for recording and allocating costs; Revenue recognition methodology.

+ Document implementing the multidimensional profit analysis system (2020), which confirms that MPA is a modern management method with a reliable and timely reporting system to measure income, costs, Profit and efficiency evaluation in dimensions such as organizational unit, customer, product, group of positions of staff.

- *At Vietinbank:*

+ MPA project summary report which mentions the General Principles of cost allocation; Usage model; types of cost centers and order of participation in the allocation model; Costs in the cost allocation model, Customer types in the allocation model; Product types in the attribution model; Allocation criteria and ratios in the attribution model.

+ Vietinbank's documents show that the bank currently follows the Absorption method because the ABC method has some difficulties in implementation such as: it is necessary to have a system to track and record revenue and expenses according to each expenditure activity. details of each transaction, difficulty in defining groups of activities and standard costs for each activity, and high complexity in cost measurement and allocation. Therefore, MPA is performing Absorption costing to allocate the overhead costs of the unit down to the product according to a predetermined common criterion.

#### **2.4. Research gaps**

Thus, it can be seen that the researches directly into multidimensional profit analysis methods at commercial banks so far are still very thin, not in-depth, not diversified, not synthesizing issues from principles to principles. to practical research. Some foreign research articles from a long time ago, often based on the case study of a bank, do not study on a large scale of commercial banks. Vietnam's research is also very limited, mainly looking at management accounting in banks, but not going into specific explanations. What is the current applied method, what is the role and effect on the bank's management activities. Causes can be as follows:

- This is really a difficult topic in expertise, complicated in interpretation,
- It takes a long time to fully synthesize the issues,
- This is a methodology, a system, a new tool that has emerged in Vietnamese commercial banks in recent years, which is a difficult problem, so it is often necessary to hire foreign experts to advise, many banks are still in the process of doing business. implementation process, so it is very difficult to summarize the experience.
- The implementation and use of MA's results and its application (MPA) in banking activities is still limited, bank officials have not seen the role and benefits of MPA, so they only consider MPA as a general data warehouse.

Therefore, a serious, general, thorough but easy to understand, accessible, easy to implement, share and build research topic on the superior management accounting method MPA...is urgently needed. set. This is really a new topic, not duplicated with any previous research, and has theoretical and practical significance at the present time.

#### **2.5. Research objectives and scope:**

➤ **General objective:** Research on Management accounting (including multi-dimensional profit analysis (MPA)), cost allocation and implementation process at some typical Vietnamese commercial banks to propose solutions to apply MA, cost allocation more widely in Vietnamese commercial banks.

➤ **Detail goal:**

- Clarify theoretical issues about Management accounting, cost allocation, especially MPA methods and systems. In which, the MPA's methodology for cost and revenue allocation is clarified; at the same time, clarify the MPA system, including issues such as organizational structure, database, multi-dimensional reporting system, the process of applying MPA's results to serve the management and administration in the provinces. Related units...

- Research experience in Management accounting, cost allocation, and focusing on MPA application at some banks in the world.



- Evaluation of practical application of MPA in some Vietnamese commercial banks.
- Analyze and clarify the lessons of success and failure and point out the causes.
- Proposing solutions to widely apply MA, cost allocation in general and MPA in particular in Vietnamese commercial banks.

➤ **Scope:** Commercial banks have been implementing MA, cost allocation in general and MPA in particular in the system, where it is possible to bring values, lessons, share implementation experiences, and widely apply MPA.

## **2.6. Research methods and research data**

The thesis uses a combination of qualitative research methods and quantitative research methods. For research data, graduate students collect data at financial institutions and businesses that have applied and deployed management accounting; In-depth interviews with 18 individuals representing departments of planning, finance, accounting, and performance management at Vietcombank, Vietinbank, and BIDV banks using pre-structured questionnaires. As follows:

- Firstly, for qualitative research method: The thesis uses research using in-depth interview method to identify typical influencing factors in the application and implementation of management accounting based on the factors that have been considered. considered in general financial access. At the same time, the thesis also uses qualitative research methods to evaluate management accounting application activities at financial institutions.

- Secondly, for quantitative research methods: The thesis is basically carried out on the basis of quantitative research, the author uses linear regression models including (1) Least squares regression method (OLS - Ordinary Least Squares) and (2) Multiple regression method in natural order Probit (Ordered Probit).

- Thirdly, for research data: The thesis uses primary and secondary data including (1) Secondary data collected through theoretical systems and data related to loan access; (2) Primary data of qualitative research is collected through panel method providing pre-built data and in-depth personal interviews; (3) Primary data of quantitative research is collected through the survey method using a pre-structured questionnaire.

- Fourthly, for data analysis and processing: Data analysis and research models are performed using R statistical analysis software.

## **3. APPLYING COST ALLOCATION AND ACCOUNTING MANAGEMENT IN BIDV:**

The Bank for Investment and Development of Vietnam (“BIDV” or “the Bank”) is a state-owned commercial bank established in 1957 as a specialized bank servicing construction and development activities, equitized in 2013 and has today grown into a universal bank with a wide network of branches covering all major cities and provinces throughout Vietnam. The Bank’s representation comprises 1 Head Office in Hanoi, 3 operation centers, 190 branches, more than 800 transaction points. BIDV’s mission is *Develop the bank into an international financial corporation of the same standards of other financial corporations in South East Asia. Its vision is becoming a finance-banking corporation with leading quality services, efficiency and effectiveness and prestige in Vietnam.* BIDV also wants to develop a modern IT infrastructure of the same standards as other banks in South East Asia.

### **3.1. The situation of the bank before accounting management implementation:**

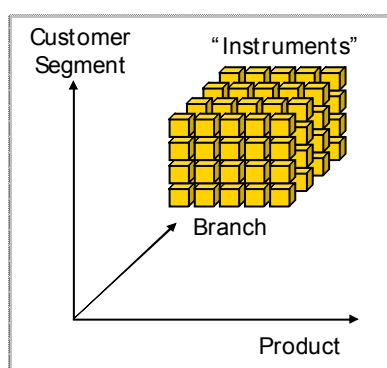
BIDV has wide network of branches with high CIR (Cost to Income) compared to other banks. After some years concentrating on asset volume growth strategy, total asset of the bank grew rapidly about 27% annually. Many products were launched, many transaction points were



opened and many staffs were employed. However, ROA and productivity is lower than other same peers. The bank wants to give insight in where the profits are generated, calculate the contribution to profit for customers and products. All current financial accounting reports cannot provide a business interpretation of financial results and trends for products, customers, customer segments and branch performance. Those reports also cannot provide information to support cost management. For this reason, BIDV requires defined management accounting methodologies that are consistent across the Bank so that management is able to interpret the data and compare results between areas of its business and over time. In 2011, the Bank decided to launch cost and revenue allocation, multi-profitability analysis project, which set up whole methodology and requirement for management accounting system. After methodology project and input data improvement process, in 2014, the bank selected a software solution and started management accounting system project, which called MPA (multi profitability analysis) project.

### 3.2. Management accounting methodologies:

Management accounting methodologies are determined based on the required uses of the data at a point in time. The methodologies reflect the level of detail and credibility / accuracy that will satisfy the users of the data. However, because the business is never static and accurate measurement of some profitability components can be very costly, it is accepted that representations provided in management accounting reports are derived based on defined and accepted assumptions and with regard to materiality (cost versus benefit). It is important that the data and analysis represented are as complete as possible. To that end, all revenue and costs are attributed to the lowest level instrument to most credibly reflect complete and “true” branch, product, customer, and customer segment contribution.



**Figure 7: Instrument Level Contribution**

a) **MPA Methodology Components:** To support multi-dimensional profitability analysis, the following methodologies are defined:

- ▶ Reporting Dimensions and Hierarchies
- ▶ Balance Sheet Assignment
- ▶ Revenue Assignment (includes product specific non-interest expenses)
- ▶ Provisions and Allowances Attribution
- ▶ Funds Transfer pricing
- ▶ Cost Management and Allocations
- ▶ Tax Attribution

▶ Reconciliation

b) **Principles Supporting the Methodology:** Cost and profitability information has to be reliable, relevant and timely in order for management to make the decisions in order to sustain and maintain organisational performance. This methodology for MPA is based on the following principles.

**Reliable cost and profit information:** Management is more confidence in the data they receive:

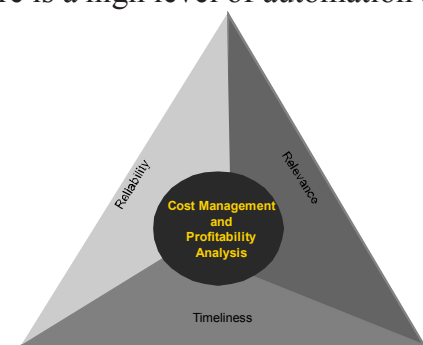
- ▶ There should be a single source of cost and revenue information at the lowest level of granularity for each kind of data
- ▶ Methodologies must be comprehensive and reflect the “complete” picture of product, customer, business group and branch contribution
- ▶ Data is credible with sufficient reconciliation and controls. The data is reconcilable to the general ledger
- ▶ Methodologies are inter-linked and specific elements should not be analysed independently
- ▶ Methodologies are continually refined as information is better understood and data gaps are reduced and management requirements change (with proper justifications and endorsements)

**Relevant cost and profit information:** Management needs their cost and profit information at the right level of detail:

- ▶ The data has to be integrated with the planning, budgeting and forecasting process
- ▶ The model provides consolidated or disaggregated information according to the needs for cost and profitability information expressed by stakeholders
- ▶ Multi-dimensional Profitability Analysis is a reflection of past financial performance

**Timely cost and profit information:** The cost and profit information is available for management when decisions have to be made:

- ▶ “Centralised” data minimises data management effort
- ▶ Data is manageable:
  - Consideration should be given to materiality / cost-benefit of data storage / retrieval
  - As far as possible there is a high level of automation and ease of maintenance



**Figure 8: Principles Supporting the Methodology**

c) **Main reporting dimensions for MPA are listed below:**

- ▶ Product
- ▶ Customer
- ▶ Customer segment
- ▶ Organisation (vertical structure)
- ▶ Customer/Account Relationship Manager
- ▶ Branches and Transaction points

Other dimensions that is also available in MPA include: Legal entity, Geography (Countries), Currency, Industry sectors, Scenario (Actual, Budget or Forecast), Account, Time

### 3.3. Cost Allocation Options for BIDV:

Based on the current state and BIDV and observations of trends in the industry, the cost allocation options available to the Bank are broadly as follows:

Option	Summary	Advantages	Disadvantages
1. LOB, Product and Segment Allocations	<ul style="list-style-type: none"> <li>- Head Office costs will be allocated to LOB, product and customer segment</li> <li>- Retail Banking direct costs at branches will be allocated to product and customer segment</li> <li>- Wholesale Banking direct costs at branches will be allocated to product and customer segment</li> <li>- Branch overhead costs will be allocated to LOB, product and customer segment</li> <li>- Head Office costs will not be allocated to branches or transaction points</li> </ul>	<ul style="list-style-type: none"> <li>- Enables the provision of a Group Segmental Profit &amp; Loss Report in line with international practice, that reconciles with the Bank's financial statements</li> <li>- If the level of product and segment detail is appropriate, the allocations should correspond to the level of the organisation at which costs are able to be controlled and managed</li> <li>- Through the service level and cost allocation negotiation process that would be part of the annual budget exercise, LOB Heads would be in a better position to control costs at Head Office than would branch managers</li> </ul>	<ul style="list-style-type: none"> <li>- This approach can also become complex if the level of detail in the product allocation is excessive. The recommendation from other banks is to "keep it high level" and "keep it simple".</li> </ul>
2. LOB, Product and Segment, and Branch Allocations	Option 1, plus: <ul style="list-style-type: none"> <li>- Retail Banking LOB direct and allocated costs at Head Office will be allocated to branches</li> <li>- Wholesale Banking LOB direct and allocated costs at Head Office will be allocated to branches</li> <li>- Branch costs will not be allocated to Transaction Points</li> </ul>	<ul style="list-style-type: none"> <li>- Enables the provision of a Line of Business profit &amp; loss report, by branch</li> <li>- Information may be useful for decision analytics at Head Office</li> </ul>	<ul style="list-style-type: none"> <li>- If the results are to be used for performance management, the approach may lead to complaints from the branch managers that spending at Head Office is beyond their control</li> <li>- The trend at other banks is to measure branch performance based on branch "Contribution", which is the total of revenue less direct costs less expected loss or provision for credit losses</li> </ul>
3. Instrument Level Cost Allocations	Option 2, plus <ul style="list-style-type: none"> <li>- Retail Banking LOB costs at branch, product and customer segment level will be allocated to instruments using simple drivers</li> <li>- Wholesale Banking LOB costs at branch, product and customer segment level will be allocated to instruments using simple drivers</li> <li>- Instrument level costs will be rolled up to transaction points in order to calculate transaction point profitability on a fully allocated basis</li> </ul>	<ul style="list-style-type: none"> <li>- Information may be useful for decision analytics at Head Office</li> </ul>	<ul style="list-style-type: none"> <li>- The costs allocated to one transaction point will be based on the number of accounts it has or the number of transactions it processes, and will not reflect the actual direct costs of the transaction point</li> <li>- The trend at other banks is to measure transaction point performance based on "Contribution", which is the total of revenue less direct costs less expected loss or provision for credit losses</li> </ul>

The option is finally chosen by BIDV is Option 1, which is described in more detail below.

#### **a) Cost Management Reporting**

Cost Management Reporting includes both Direct Cost Reporting and Cost Allocation components. These components are defined below:

- **Direct Cost Reporting** - includes the booking of direct costs to department level in the General Ledger, and reporting of direct costs according to the bank's organisation structure, based on responsibility and accountability for the direct costs. Direct cost reporting also includes the proportionate sharing of direct costs between departments (e.g. rental of premises, communication charges), and this sharing of direct costs is typically booked in the general ledger by department.

- **Cost Allocations** – the allocation of direct costs by department to cost objects, which may include lines of business, organisation units, products, customer segments, and branches. In more detailed cost allocation models, cost objects may include transaction points, customers and customer accounts / Instruments.

b) **The Cost Allocations Process:** The cost allocations process in MPA includes two stages:

- ▶ **Stage 1: Overhead Allocation** - includes the allocation of costs from Internal Service and Corporate Overhead centers to other allocation centers. The costs of the following center types will be allocated during Stage 1:

- Internal Service Centers
- Corporate Overhead Centers

- ▶ **Stage 2: LOB, Product and Customer Segment Allocation** - includes the allocation of direct costs allocation centers and overheads allocated in from other allocation centers to lines of business, products and customer segments. The costs of the following center types will be allocated during Stage 2:

- Revenue Centers
- Product Support Centers
- LOB Overhead Centers
- Local Overhead Centers

#### **4. MANAGEMENT ACCOUNTING SYSTEM AND POSITIVE IMPACT ON BUSINESS ADMINISTRATION IN BIDV**

Based on management accounting methodology consulted by Ernst & Young, which was studied, discussed and approved broadly in all branches and line of business, management accounting system MPA was built. Multi-dimensional Profitability Analysis (MPA) is a system of management accounting information that provides the capability to view the same profitability data at the same time from multiple dimensions. The system can allocate cost automatically based on cost allocation methodology that BIDV has chosen. MPA has financial storage, where input data has been enriched for multi-dimensions and strict requirement of data quality. There are many official or ahoc management reports for all business lines, which support them to make decision and set up plan, strategy.

After completing the project of setting up MPA system by the end of 2015, BIDV has established a Performance Management Unit under the Financial Line of Business with the

main functions of implementing finance business, maintaining policy and operating MPA system, and managing performance in a multi-dimensional manner.

The Branches regularly accessed into the MPA system to exploit customer-related reports, AM/RM, efficiency to the Department level, etc. for evaluation and review of business plans and customer policies, etc. The Branches also used MPA data to generate multi-dimensional Profitability Analysis reports. Accordingly, the multi-dimensional evaluation of business performance and cost management situation has been evaluated, thus providing practical solutions to support business decision making, customer, products, policy, etc.

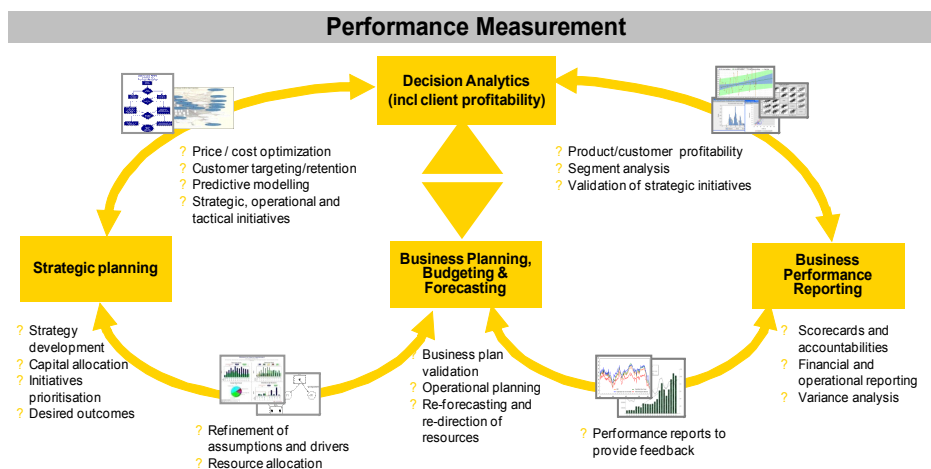
No.	Analysis dimensions	Analysis of Business Performance of the Branch before application of MPA data	Analysis of Business Performance of the Branch after application of MPA data
1	Dimension of Organizational Unit (Branch, Department)	<ul style="list-style-type: none"> <li>- About scale: evaluated by end-of-term and average figures, but calculating the average figure of the branch and each department is also difficult and inaccurate.</li> <li>- About effectiveness: not able to evaluate the performance of each department. If any, it will stop at net income level, but it is also inaccurate (about incomes from interest cost, receipts and payments of service, etc.)</li> </ul> <p>There is missing/no data on NIM and cost, if any, it is inaccurate.</p>	<ul style="list-style-type: none"> <li>- About scale: evaluated by end-of-term, average figures and trend of the results fluctuation of each department through the months of the whole branch easily.</li> <li>- About effectiveness: There is detailed business performance of each department including the total cost at department level. There are detailed NIM data of capital mobilization products, loans by departments, which helps to compare and analyze the performance of each department.</li> </ul> <p>When reviewing each department, you can see clearly the receipt and payment components, thus finding the exact cause of fluctuations in efficiency due to scale, NIM or costs. Based on the effectiveness of each department, it is easy to compare with the assigned plan.</p>
2	Dimension of Customers	<ul style="list-style-type: none"> <li>- Only be able to calculate the overall benefit of customers according to the revenue/prime cost of the products used by customers.</li> <li>- Not be able to calculate the cost to the products, so not be able to calculate to customers.</li> <li>- There is no data on the number of products used by the customers.</li> </ul>	<ul style="list-style-type: none"> <li>- Fully measure the net revenue efficiency that each customer gives to customers, be easy to see in detail which product each customer is using and how effective each product brings.</li> <li>- Be able to measure which customers are making a big contribution to the unit in terms of: TOP efficiency (overall/product, etc.), TOP scale, etc.</li> <li>- Be able to measure the success level of the branch through the criteria of the average number of products used per customer/each specific customer.</li> </ul> <p>It will be the basis to adjust the behavior, care and have appropriate customer policy accordingly.</p>
3	Dimension of customer segment / lines of business	<ul style="list-style-type: none"> <li>- Not distinguish clearly the efficiency by each line of business (Wholesale/Retail/Capital), by each customer segment in each line of business (VIP customers/regular customers/normal customers, large Financial investment customers/Corporate customer /SMEs/FDI, etc.)</li> <li>- Not be able to calculate the cost allocated to Line of Business, to each specific customer segment</li> <li>- Regarding scale of the Lines/Segments: it is difficult to obtain, or is obliged to obtain manually through many raw data files which is time consuming and difficult to be accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>- Measure the scale and efficiency of each Line of Business/ Customer Segment particularly through: total revenue - prime cost - cost allocated to each Line of Business/ Customer Segment.</li> <li>- Fully measure performance indicators/indices by Line of Business/Customer Segment such as NIM of products, CIR, non-interest income, etc.</li> <li>- Accurately measure which product brings profit or loss by each Line of Business/Customer Segment</li> </ul> <p>=&gt;Accordingly, you can see the scale structure, the overall efficiency by Line of Business/Customer Segment and the relevance or not between the scale and efficiency by the groups to propose appropriate adjustments.</p>

No.	Analysis dimensions	Analysis of Business Performance of the Branch before application of MPA data	Analysis of Business Performance of the Branch after application of MPA data
4	Dimension of products	<ul style="list-style-type: none"> <li>- New product efficiencies take into account overall products such as wholesale credit, retail credit, wholesale financing mobilization, retail financing mobilization, but it is not accurate particularly the receipts and payments from services.</li> <li>- The results do not include the cost allocated to any product.</li> <li>- The new NIM figures are just calculated for total capital of financing mobilization and loan but they are manual and inaccurate.</li> </ul>	<ul style="list-style-type: none"> <li>- Product performance is calculated from the smallest product level (level 6) to the aggregate level (credit, deposit, loan). The results include the cost allocated to each product. For deposit or loan products from details to aggregate, it is able to identify the NIM of the products.</li> <li>=&gt;Accordingly, we can know exactly the efficiency of each product or service.</li> <li>- Such result is the basis for restructuring the sales of products in the direction of focusing on products with high net income, adjusting options for low-efficiency products, etc.</li> </ul>
5	Dimension of Relationship Manager (RM), Account Manager (AM)	<ul style="list-style-type: none"> <li>- No data.</li> <li>- If any, it is manually tracked by the Branch, which is time consuming and inaccurate.</li> </ul>	<ul style="list-style-type: none"> <li>- Be able to view in detail that each RM is managing which customers, each customer is using which products, how effective it is; each AM is managing which account which is associated with which customer, how effective each account is.</li> <li>Thus, from this, it is able to evaluate the efficiency of each manager bring compared with the assigned plan. To create the basis of motivation and corresponding pressure.</li> </ul>
6	Dimension of the cost	<ul style="list-style-type: none"> <li>- There are cost data to each department but it is inaccurate.</li> <li>- The structure of costs allocated to each product is not visible.</li> </ul>	<ul style="list-style-type: none"> <li>- Easy to see the cost of each department, trend through the months of each department, from which to assess the implementation of budget plan of each department.</li> <li>- By considering the total and the structure of costs allocated to the products, components that are high and low, from which department, are as the basis for assessment and adjustment gradually to become appropriate and effective.</li> </ul>
7	Other dimensions	<ul style="list-style-type: none"> <li>- No data.</li> <li>- If any, it is manually tracked by the Branch from many sources, which is time consuming and inaccurate.</li> </ul>	<ul style="list-style-type: none"> <li>- Provide effective data in other detailed dimensions such as business lines, geographies, legal entities, terms, details of customers, etc. to serve the needs of in-depth evaluation to implement customer and/or product policies, etc.</li> </ul>

**Table 5: Differences between Performance Analysis Report of Branch before and after application of MPA data**

### 3.3. Application of Profitability Measurement and finance transformation

Profitability analysis is an important component of the business performance reporting management framework. Figure below demonstrates the relationship of profitability analysis (business performance reporting) and the performance measurement framework.



**Figure 9: Performance Measurement Framework**



Figure above demonstrates the relationship between the Decision Analytics and Performance Measurement

Profitability is the ultimate financial measure for efficiency and effectiveness of businesses and the total bank. BIDV already included some profitability measures in its strategic goals and business targets (ie: ROA, Profit Before Tax). The profitability framework calculates and reports these measures at the levels provided in the plans (branch, total bank) in order for the bank to measure performance against its targets.

By calculating the contribution to profit for customers and products, a multi dimensional profitability framework can give insight in where the profits are generated. For example, by rolling up the profits generated by customers of a certain client servicing department (i.e. the Retail department at a branch), adding any revenue or costs incurred at department level, the profitability (and hence the efficiency and effectiveness) of this department can be gauged. These profitability measures can then be used in the detailed budgeting and planning on both strategic as well as operational level. It is advisable to steer on efficiency and effectiveness measures for all departments, not only the revenue generating departments.

Compared to other banks, BIDV now can apply Balance Scorecard and KPI more easily and correctly. Based on clear methodology and automatic management accounting system, finance accounting gradually transformed from traditional way to finance business partners (FBP). By making analysis through MPA, FBPs provide insight and challenge to business managers and decision makers, including business and investment appraisal analysis. FBP also support business to cost manage, make commercial decisions based on accurate and timely financial and non-financial information. However, it is so difficult to be partners of business because FBPs must have strong sets of accounting and business, have leadership qualities and creditability so that business can be opened to acting upon the insight that FBPs generate. There are many things FBPs can add more value to business as business planning, acting on forecast variances, risk and performance management....

#### **4. CONCLUSION**

The implementation of Accounting management in Vietnamese banks is not easy because of its complicated but raw input data, its methodology, old mindset of stakeholders and change management, big investment on technology, etc. Despite all challenges and difficulties, BIDV gradually implement and all that efforts prove that accounting management added more and more value to the bank. We hope that with the clear methodology and MPA system, finance transformation, the bank can not only increase the volume of asset but also improve the profit and productivity to gain its mission in near future.

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# PROMOTE THE APPLICATION OF INFORMATION TECHNOLOGY AND DIGITAL TRANSFORMATION AT SMALL AND MEDIUM-SIZED ENTERPRISES OPERATING IN THE INDUSTRIAL SECTOR IN BAC NINH PROVINCE

Dr. Do Thi Thu Hang<sup>1</sup>, Dr. Tran Tuan Anh<sup>1</sup>

*Abstract: Applying information technology and digital transformation is considered the key to helping businesses in general and small and medium-sized enterprises operating in the industrial sector in Bac Ninh province in particular carry out digital transformation successfully in the future current context of industrial revolution 4.0. The article uses research methods to collect information; systematic, statistical, comparative and information processing methods to reflect the current situation of information technology application and digital transformation in small and medium-sized enterprises operating in the industrial sector in the province. Bac Ninh. From there, the study proposes some basic solutions to promote the application of information technology and digital transformation in small and medium enterprises operating in the industrial field in Bac Ninh province.*

*Keyword: Information Technology; digital transformation; small and medium-sized enterprises operating in the industrial sector.*

## 1. PROLOGUE

Information technology plays an indispensable role in the process of managing and operating production and business activities of small and medium-sized enterprises operating in the industrial sector. The development of information technology has changed the model and way of doing business of enterprises.

On the other hand, in the current digital transformation context, the way to make a huge difference in terms of business value, product quality, productivity is the application of information technologies and digital transformation in the process of business management and operation. Currently, the application of information technology and digital transformation in small and medium-sized enterprises operating in the industrial sector in Bac Ninh province still has certain limitations.

Businesses have not paid enough attention to the application of information technology and digital transformation in the management and operation process. Information technology infrastructure and software at enterprises are not synchronously equipped and lack comprehensiveness, leading to the effectiveness of information technology application and digital transformation at enterprises is not effective.

Therefore, the study “*Application of information technology and digital transformation in small and medium-sized enterprises operating in the industrial sector in Bac Ninh province*” is essential.

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## **2. THEORETICAL BASIS**

### **2.1. Information technology**

Information technology is the field concerned with the use of tools, techniques, methods, and processes to collect, process, store, transmit, and manage information through computers and computer networks. Information technology has a great impact on all aspects of the economy and daily social life. Information technology has changed the way we communicate, work, play, and access information.

In addition, Information Technology plays a particularly important role in the development of applications, services, products and solutions based on digital technology, contributing to bringing the world into the digital era. At the same time, the rapid development of information technology also brings new challenges and opportunities, creating a fierce competitive environment among businesses in the market.

### **2.2. Digital transformation**

Digital transformation is the process of transforming activities, processes, services, products and information from traditional to digital forms. Digital transformation often involves using digital technology to automate and improve business operations, management, production, communication, and customer interaction. Typical in the digital transformation process is the use of technologies such as artificial intelligence (AI), cloud computing (cloud computing), Internet of Things (IoT), blockchain to leverage data, improve operational efficiency, improve customer experience, create new value and achieve certain socio-economic benefits. Digital transformation is not only a technical process, but also requires a comprehensive change in the organization, corporate culture, management, and information technology, while also posing data security and security challenges.

Digital transformation includes information technology, comprehensive digitalization, data, innovation and digital technology

## **3. RESEARCH METHODOLOGY**

### **3.1. Information collection method**

#### ***3.1.1. Collection of secondary information***

Data directly or indirectly related to the research process of the topic has been officially published. Data information includes research results related to the topic collected mainly from domestic sources and scientific works related to information technology application and digital transformation.

Secondary data used in the topic are mainly relevant documents and reporting data related to information technology application, digital transformation in small and medium-sized enterprises operating in the industrial sector. The statistics of Bac Ninh Provincial Statistics Office. Documents and resolutions of People's Councils, decisions and reports of Bac Ninh People's Committees, local authorities from district and commune levels in Bac Ninh province related to information technology application and digital transformation.

On the basis of the above secondary data, it will be synthesized to form the research database of the topic.

### **3.1.2. Primary information collection method**

The project uses primary data collection methods through surveying and interviewing 80 managers of small and medium-sized enterprises operating in the industrial sector in Bac Ninh province.

### **3.2. Methods of information synthesis and processing**

Through collecting research results, the author will check, clean the data then synthesize by calculating by Excel software according to the research objective of the topic.

### **3.3. Analysis methods**

#### *a) System analysis methods*

The author divides the research content according to each content. Each group of research problems will systematize specific documents and figures. The division according to each research content will help the problem to be considered and analyzed more multidimensionally and comprehensively.

#### *b/ Descriptive statistical methods*

The project uses descriptive statistical methods to describe the current status of information technology application and digital transformation in small and medium-sized enterprises operating in the industrial sector in Bac Ninh province.

#### **c/ Comparative statistical methods**

*Use relative and absolute indicators to assess the level of completion of plans and results of research subjects in Bac Ninh province.*

#### *d) Method of observation*

Directly observe the processes of information technology application and digital transformation at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province as a basis for analyzing the causes and current situation and proposing solutions to promote the application of information technology and digital transformation at small and medium-sized enterprises operating in industrial sector in Bac Ninh province.

## **4. RESULTS AND DISCUSSION**

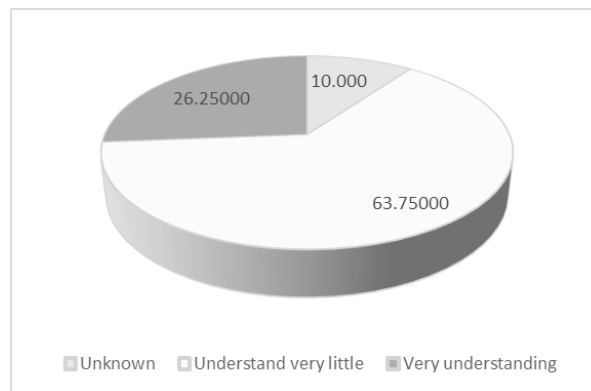
### **4.1. Current status of information technology application and digital transformation at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

Through a survey of 80 managers at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province on the current status of information technology application and digital transformation at enterprises, the specific survey results are as follows:

#### **4.1.1. Managers' awareness of information technology application and digital transformation**

Through interviews with managers in enterprises: 26.25% of managers in enterprises have very understanding and awareness of the importance of information technology application

and digital transformation, 63.75% of managers have opinions that they still understand very little about information technology application and digital transformation in businesses, 10% of businesses do not understand the application of information technology in digital transformation.



**Figure 1: Managers' perceptions of information technology application and digital transformation**

*(Source: Compiled from the author's survey results)*

Through the above survey results, it is found that managers in small and medium-sized enterprises operating in the surveyed industry are not really interested and knowledgeable about the application of information technology and digital transformation in businesses.

#### **4.1.2. Current status of infrastructure**

According to the survey results, currently 100% of small and medium-sized enterprises operating in the industrial sector in the province have connected to the Internet. 100% of enterprises have an internal computer network system in the form of LAN, WAN or intranet.

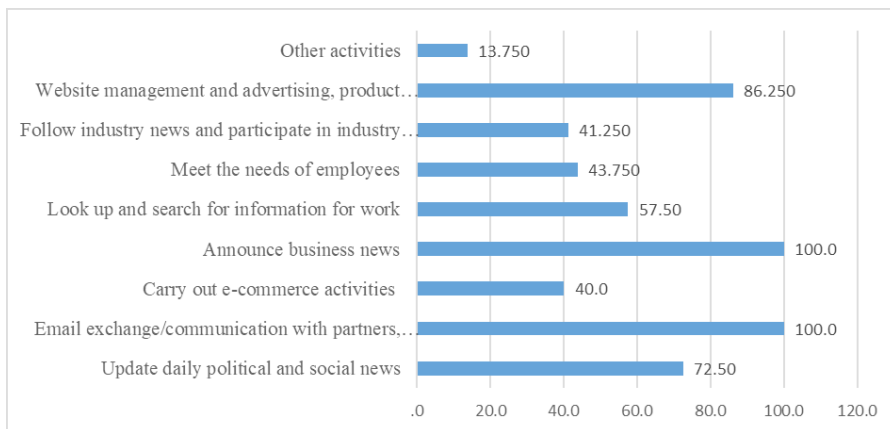
Internet use: The Internet is a necessary environment for businesses to exploit the ability to apply information technology, the purpose of using the Internet demonstrates the level and effectiveness of Internet exploitation. According to survey data, businesses are now using the Internet for the main purposes such as searching for information, exchanging information, managing orders via email, advertising, marketing products and services, buying online.

In particular, using the internet in e-commerce activities accounts for only 40%, this figure is relatively modest compared to the current trend.

Through the actual survey at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province, 100% of enterprises have fully invested in computers, printers and computer networks to serve the management and administration of production and business activities of the unit.

The purpose of using computers and computer networks of small and medium-sized enterprises operating in the industrial sector in Bac Ninh province is as follows:





**Figure 2: Internet use purpose at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

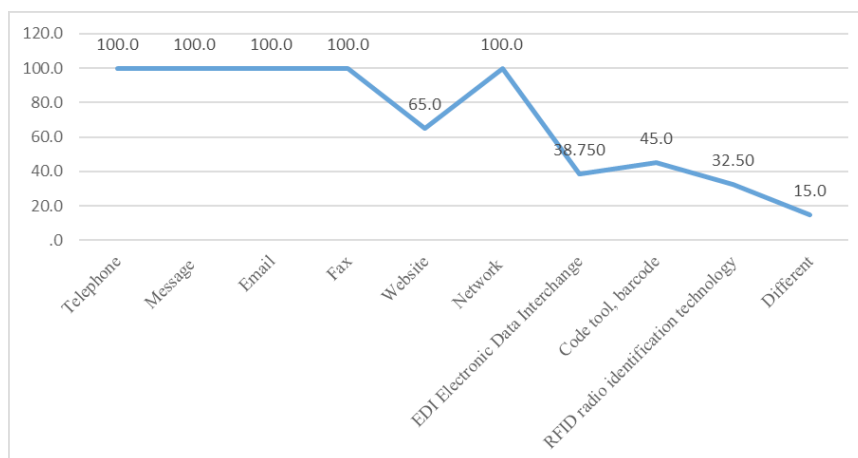
(Source: Summary of author’s survey data)

Through the above data table, we see: 100% of business managers use the internet for the purpose of “Exchanging emails/communicating with partners, customers”, “Announcing business news”; 86% of business managers use the internet for the purpose of “Website Management and other online activities of the business”; 41% of business managers use the internet for the purpose of “following news and participating in industry activities”; 40% of business managers use the internet for the purpose of “Carrying out e-commerce activities”; 73% of business managers use the internet for the purpose of “updating daily political and social news”; 58% of business managers use the internet for the purpose of “looking up and finding information for work” and 44% use it to meet the needs of employees and 14% for other activities.

**4.1.3. Current status of information technology application in management and administration**

+) Tools used at work

Digital tools used in work at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province are shown through the following chart:



**Figure 3: Digital tools applied in small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

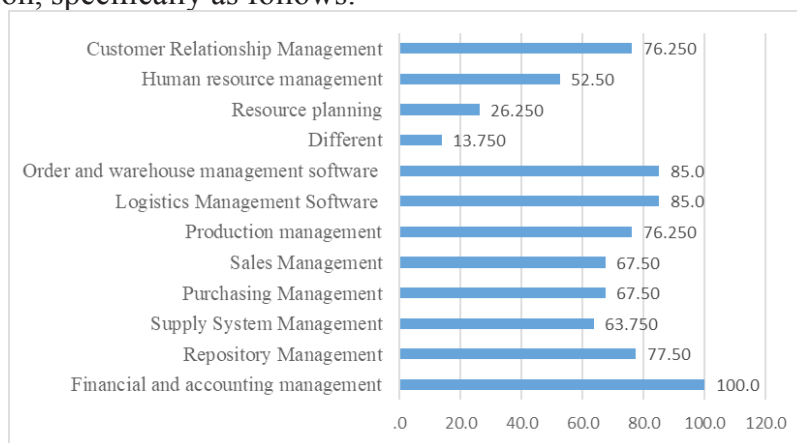
(Source: Summary of author’s survey data)

Through the chart above, we see: 100% of businesses have used the tool “Telephone; SMS messages; email; Fax; Network LAN, WAN” work support; 65% of businesses have

used Website tools to support work in the unit; 39% of small and medium-sized enterprises operating in the industrial sector have used the tool “EDI Electronic Data Exchange” at work; 45% of small and medium-sized enterprises operating in the industrial sector have used “Code and Barcode Tools” at work; 33% of businesses have used the tool “RFID radio identification technology” to support work; 15% used for other purposes

*+) Use software to support operational/management activities at the unit*

Through a survey at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province, currently the units have applied 1 number of software in management and administration, specifically as follows:



**Figure 4: Software used in small and medium enterprises operating in the industrial sector in Bac Ninh province**

(Source: Summary of author’s survey data)

Through the table above we see: 100% of businesses use Financial and Accounting Management Software to support work in the unit; 68% of businesses use purchasing and sales management software; 76% of enterprises use production management software; 85% of businesses have used order management software, warehouses and forwarding management software; 78% of businesses have used Warehouse Management software to support their work. In addition, small and medium-sized enterprises operating in the industrial sector in the province also use a number of other software to support their work.

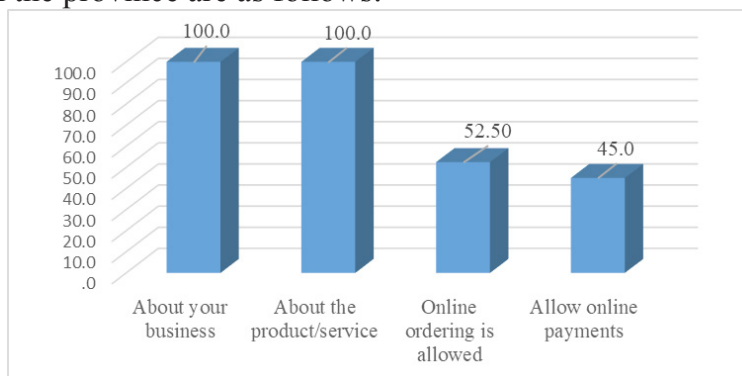
Thus, small and medium-sized enterprises operating in the industrial sector in the province have used a number of specialized software for business management and administration. In particular, the application of accounting software is applied by 100% of small and medium-sized enterprises operating in the industrial sector in the province.

Through interviews with managers at small and medium-sized enterprises operating in the industrial sector in the province about the fact that if they are allowed to choose software in the unit, most managers at enterprises agree that the plan will buy existing software accounting for 95%. The rest of businesses choose to hire software development in accordance with the characteristics of the unit.

*+) Business on social networks, mobile platforms*

Through the actual survey at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province, 65% of enterprises have set up their websites.

The main functions of the Website in small and medium-sized enterprises operating in the industrial sector in the province are as follows:



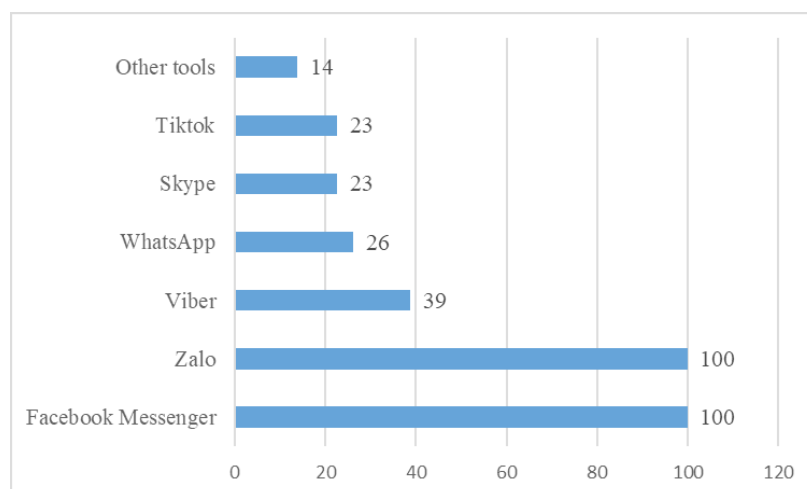
**Figure 5: Main functions of websites in small and medium enterprises operating in the industrial sector in Bac Ninh province**

*(Source: Summary of author’s survey data)*

Through the chart, we see, in businesses that have set up websites: 100% of businesses with Website pages introduce products and businesses; Websites of businesses that allow online ordering account for 53% but only 45% of small and medium-sized enterprises operating in the industrial sector, have a connection with banks that allow online payments. At the same time, the Website has integrated the function of online interaction via zalo, facebook with customers on the Website platform itself.

E-commerce websites of small and medium-sized enterprises operating in the construction industry are quite simple, the use of online sales and online payment functions is limited.

Using tools on digital platforms to support business activities of small and medium-sized enterprises operating in the industrial sector in the province, specifically:



**Figure 6: Using digital tools to support business at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

*(Source: Summary of author’s survey data)*

Through the chart above, we can see that 100% of small and medium-sized enterprises operating in the industrial sector in the province have used Facebook Messenger tool; Zalo to

support business activities of enterprises. In addition, they also use 1 number of other tools to support business activities in the enterprise, but the rate of using this tool is not much such as: Skype; Tiktok; WhatsApp; Viber...

#### **4.2. Assess the current status of information technology application and digital transformation at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

##### **4.2.1. Advantages**

- Bac Ninh People's Committee pays great attention to and creates conditions for enterprises in general and small and medium-sized enterprises operating in the industrial sector in the area to apply information technology in digital transformation.

- The development of information technology in the market today is a favorable opportunity to help businesses grasp and access technology easily.

##### **4.2.2. Limitations**

- Managers' awareness of the role of information technology and digital transformation in businesses is not high.

- Information technology facilities have not met the needs of digital transformation in enterprises

- Digital human resources and investment capital in small and medium-sized enterprises operating in the industrial sector are limited.

- Enterprises only apply information technology in their units. In order to implement digital transformation, businesses have not yet had a comprehensive change in organization, business processes, corporate culture, and human participation in the implementation process.

#### **4.3. Solutions to promote the application of information technology and digital transformation at small and medium-sized enterprises operating in the industrial sector in Bac Ninh province**

##### **4.3.1. Raising awareness of the role of information technology and digital transformation**

One of the reasons why the application and development of information technology of small and medium-sized enterprises operating in the industrial sector in the province has not been able to achieve high efficiency is due to the lack of awareness and appreciation of the role of information technology application and digital transformation. Therefore, raising awareness of information technology application and digital transformation is one of the very important solutions. The awareness here must first start at the leadership level and then the cadres and employees in the enterprise.

Leadership is considered one of the factors determining the success of all jobs as well as in the application of information technology and digital transformation in businesses. Awareness of information technology and digital transformation is always accompanied by professional qualifications, the level of understanding of information technology and digital transformation, if the level is still limited, the awareness will be slow, at the same time, if you do not understand or do not know how to use information technology at work, the awareness will not be thorough... From there, it will create psychological barriers, even tend to resist the deployment of information technology application and digital transformation. Therefore, to implement this solution, it is necessary to focus on the following basic measures:

First: Strengthen the knowledge of information technology and skills in using information technology for managers, officers and employees in enterprises. In the training work, it is necessary to pay attention to the classification of subjects to have appropriate training programs and contents. For the staff, those who perform at any operational level will have a program to train the corresponding skills.

Second: Enterprises organize information technology application contests in enterprises. From there, self-improvement is encouraged, awareness and promotion of information technology application in units, and at the same time creates an experiential learning environment between leaders in particular and information technology application models in units in general.

#### **4.3.2. Businesses need to develop digital transformation strategies and roadmaps**

To promote the application of information technology in enterprises, this is considered one of the most important solutions. Businesses need to have a clear, oriented digital transformation strategy and have a specific plan to achieve the desired goals and results. The information technology application strategy and digital transformation roadmap need to ensure 2 main contents: (1) Assess and determine the level and capacity of digital transformation of enterprises; (2) Standardize each stage: Preparation – Survey, consulting, data standardization – System setup and installation – Manual training – Evaluation and improvement.

#### **4.3.3. Improving digital human resource training**

In order to successfully apply information technology and digital transformation, businesses need to invest in training and improving digital skills for their employees. This includes training in new technologies, data management, data analysis, and other digital skills to ensure employees are qualified to use information technology in their daily work.

Building a team of specialized staff in information technology: A team of full-time staff is a condition to ensure that the application of information technology is stable and regularly improved. Only when there is a team of full-time staff with professional qualifications and information technology can ensure the stable and long-term development of the application of information technology. To improve the quality of human resources and management in enterprises, businesses need to focus on the following solutions:

*First:* Improve the process of recruiting information technology human resources. Recruiting is a broad human resource development activity. This is an important solution that determines the quality of information technology staff of transport enterprises. The success of recruitment is to ensure the selection of candidates with the right education and ability to match the job position; sufficient quantity and reasonable structure to meet the development trend of enterprises.

*Second:* Evaluation of work efficiency as a basis for sending employees to participate in long-term study programs.

*Third:* Regularly train and re-train the staff in information technology, capable of receiving and transferring modern technologies and mastering science and technology in the new period; be capable of operating and managing information technology systems to ensure information security.

*Fourth:* Disseminate information technology knowledge for management staff and professional personnel according to the development requirements of new technology and technology, and step by step standardize the level of information technology; Intensive training aims to build a team of IT management experts in key areas such as: Security, database design and construction, Web mail system administration, Design software, system analysis. Training and regularly updating knowledge for the management staff to improve their ability to operate in the network environment and to actively orient and propose the application of information technology to their operations.

*Fifth:* Enterprises need to have mechanisms, regimes and create an environment for information technology staff themselves to constantly improve their qualifications, knowledge and working skills.

*Sixth:* Develop a policy to train staff dedicated to developing applications. Prioritize training for specialized information technology managers and available staff. Changes in salary and remuneration policies for full-time IT staff in general.

#### **4.3.4. Building a digital culture in your organization**

Businesses need to build a flexible, open and innovative environment to create motivation to enhance creativity and continuous improvement in all activities of the organization. Digital culture in the organization is built on 3 core foundations: (1) Leveraging information technology: Organizations need to leverage advanced information technologies to optimize workflows, improve efficiency, and reduce the time and effort required to get work done. (2) Encourage creativity: The digital culture in the organization should encourage creativity and innovation from its members. A digital culture can be built by creating an environment that fosters creativity, motivates employees to come up with new ideas, gives suggestions and positive feedback, and facilitates employees' participation in the organization's research and development activities; (3) Continuous improvement: A digital culture in an organization should place an emphasis on continuous improvement.

#### **4.3.5. Investment in technical infrastructure of information technology and telecommunications**

To effectively participate in online transactions, businesses must invest in information technology and telecommunications systems appropriately to ensure the ability to handle online transactions and ensure safety, information security for the business itself as well as customers and partners. Businesses need to make systematic investments and secure the necessary competencies to participate actively and effectively.

Enterprises need to invest heavily to make a breakthrough in the application of information technology. Financial resources are the first factor that determines the success or failure of IT application deployment. Investment in information technology application cannot be overdone, but must be synchronized in all fields of hardware, software and human resources.

## **5. CONCLUDE**

In the process of digital transformation in businesses, technology is said to be the means to determine the success of the digital transformation process. Application of information technology and digital transformation helps businesses in general and small and medium-sized



enterprises operating in the industrial sector in Bac Ninh province in particular to digitally transform effectively, sustainably and successfully. To do so, small and medium-sized enterprises operating in the industrial sector in Bac Ninh province need to focus on the following 4 groups of solutions: (1) Raising awareness of the role of information technology; (2) Enterprises need to develop digital transformation strategies and roadmaps; (3) Improve digital human resource training; (4) Building a digital culture in the organization; (5) Investment in information and telecommunications technology technical infrastructure

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# ORIENTATION TO APPLY THE GLOBAL MINIMUM TAX RATE OF COUNTRIES AND RECOMMENDATIONS FOR VIETNAM

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**Abstract:** In 2013, with the goal of developing the global economy, creating a healthy competitive environment, ensuring the fairness of the tax system among countries, and combating tax losses, the Organization for Economic Cooperation and Development (OECD) initiated the Base Erosion and Profit Shifting Initiative (BEPS), which was approved by the G20. As a country that attracts and receives international investment (especially Foreign Direct Investment - FDI), the concept of a global minimum tax introduces an international tax policy that will undoubtedly have a significant impact on Vietnam. Therefore, conducting an internal study on global minimum tax rules, practices, and the application strategies of other countries (especially those with similar conditions to Vietnam) holds great practical significance. This article aims to assess the potential impact of the global minimum tax and provide appropriate recommendations considering Vietnam's specific conditions.

**Keywords:** Global minimum tax; Country; Vietnam; Application orientation; Policy recommendations.

## 1. GLOBAL MINIMUM TAX RATE RULES

### \* Definition

The Global Minimum Tax, also known as the Global Minimum Corporate Income Tax, is one of the two pillars of the Action Plan on Base Erosion and Profit Shifting initiated by the Organisation for Economic Co-operation and Development (OECD), and it has been agreed upon by 142 countries and territories.

Under the OECD's plan, large companies with an annual global consolidation of at least 750 million euros for a minimum of two years within the last four-year period will be subject to a minimum tax rate of 15%. This implies that if the company (or its subsidiary) is subject to a tax rate of 10% in the country where it is investing, it will be required to pay the remaining rate of 5% in the country where the company is headquartered.

### \* Objectives, audience and scope of application

#### Objectives:

The primary objective of implementing global minimum tax rules is to ensure that multinational corporations pay a minimum tax rate, regardless of the location of their headquarters or the jurisdictions in which they conduct their operations. Additionally, other interconnected objectives encompass:

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- (i) Guaranteeing minimum tax rates while preventing double taxation or taxation without corresponding economic returns.
- (ii) Addressing the diverse tax system designs across jurisdictions as well as distinct operating models adopted by various enterprises.
- (iii) Ensuring transparency and a level playing field among corporations.
- (iv) Minimizing administrative and compliance costs.

#### **Audience and Scope of Application:**

The global minimum tax pertains to multinational corporations that possess a worldwide consolidated turnover amounting to EUR 750 million or higher annually, based on their country reports, for a minimum of two years within the four-year period immediately preceding the global minimum tax obligation.

Government agencies, international organizations, non-profit organizations, pension funds, or investment funds that function as the ultimate parent company of multinational corporations (MNEs), or any form of such entities, are not subject to the provisions of the GloBE rules. Furthermore, the GloBE rule establishes a minimum threshold for exclusion, applicable to countries where member companies generate a turnover of less than EUR 10 million and a net income of less than EUR 1 million, or an average net loss over three years (including the review year and the two preceding years).

The GloBE rule permits the exclusion of the UTPR rule for MNEs that are in their initial stages of international operations. Specifically, this exclusion is relevant to MNEs possessing a maximum of EUR 50 million in foreign tangible assets and operating in no more than six countries. However, this exclusion is limited to a five-year duration subsequent to the initiation of MNEs' exposure to the GloBE rule. For MNEs subjected to the GloBE rules, the commencement of the five-year period coincides with the commencement of the UTPR rules when they become effective.

#### **\* Regulations of the global minimum tax rate**

##### **Income Inclusion Rule (IIR):**

The Income Inclusion Rule (IRR) enables the country where the ultimate parent company is headquartered to officially impose taxation on the income generated by subsidiaries in other countries. This taxation applies to subsidiaries that are subject to an effective tax rate lower than 15%. The "actual level" refers to the level computed for subsidiaries or groups of subsidiaries conducting operations within a particular country, considering the aggregate investment (after offsetting profits and losses between companies). This calculation is subsequently adjusted in accordance with relevant regulations.

##### **Undertaxed Profit Rule (UTPR):**

In cases where the home country of all parent companies has not yet adopted the IIR Rule, countries possessing corporate intermediaries hold the authority to levy taxation on the intermediary parent company within that jurisdiction. This taxation pertains to the income generated by subsidiaries located in other countries that fall below the stipulated minimum tax rate of 15%.

**Subject to Tax Rule (STTR):**

The Subject to Tax Rule (STTR) empowers the country from which income (including interest, royalties, and specific other payments) is derived to impose a minimum tax rate of 9% on income payments directed towards taxable associates that fall beneath this 9% threshold. To exercise this right, states are required to enter into multilateral agreements that modify the provisions of double taxation avoidance agreements existing between these states.

**The order of precedence in implementing the Pillar II rules is as follows:** The STTR rule takes precedence over the GloBE rule, with the tax paid under the STTR rule being offset against the tax amount specified by the GloBE rule. Within the GloBE rule framework, the IIR rule holds priority over the ultimate parent company's jurisdiction of origin. In cases where the IIR rule is not applicable, the UTPR rule is to be applied to the subsidiary.

**Qualifying Domestic Minimum Top-Up Tax (QDMTT):**

As per the OECD model regulations, countries maintaining an effective corporate income tax rate below 15% possess the authority to establish legal provisions for collecting supplementary taxes through the QDMTT Regulation. These regulations must align with the OECD guidelines and meet their prescribed standards. Recipient countries have the prerogative to prioritize the collection of the MFT (Minimum Fixed Tax) prior to the investor country imposing a 15% minimum tax. A qualified domestic minimum additional tax, generally applicable to the investee country, is a prescribed minimum tax outlined within the domestic legislation of a country. This encompasses:

- Establishing minimum taxable income thresholds (after accounting for fundamental income elements related to tangible assets and labor) for member companies within a given country (domestic minimum taxable income). This determination should mirror the provisions of the global minimum tax regulations.

- Introducing provisions designed to augment the domestic tax liability on taxable income, amounting to at least 6 domestic minimums, aligning with the minimums calculated for member companies within that country during the fiscal year.

- Administering and implementing these provisions in a manner that corresponds to the outcomes specified in the global minimum tax regulations and accompanying interpretive documents. It is essential that the country refrains from granting companies any direct benefits linked to the supplementary income tax provisions.

**2. ORIENTATION TO APPLY THE GLOBAL MINIMUM TAX RATE OF SOME COUNTRIES**

In accordance with the latest report from the OECD Secretary-General to the G20 Finance Ministers and Central Bank Governors in July 2022, the current trend indicates that most countries are planning to adopt Pillar 2 by 2024, which is one year later than the OECD's originally proposed deadline of 2023. Despite experiencing certain delays in achieving unanimous agreement (the draft EU Directive has been agreed upon by 26 out of 27 member states, excluding Hungary), the implementation of Pillar 2 is expected to be practically inevitable; the only remaining issue revolves around timing. By initiating the implementation of Pillar 2 starting in 2024, the OECD will also secure additional time to establish an "Inclusive

Framework” aimed at mitigating risks associated with duplicate taxation and enhancing coordination between tax administrations in countries affected by Pillar 2.

**\* Some countries mainly have outward investment**

**The United States:** On March 9, 2023, the United States released its Fiscal Year 2024 Budget Report along with a general explanation, proposing an increase in the Global Intangible Low-Taxed Income Tax Rate (GILTI) from 10.5% to 21%. Furthermore, it suggests amending relevant rules to align with global minimum tax regulations. Consequently, most countries with outbound investment capital are expected to apply the global minimum tax from 2024, aiming to bridge the gap between the actual tax rate and the global minimum tax rate (15%). This includes countries with substantial investment capital in Vietnam, such as Korea, Japan, Hong Kong, and Singapore.

**The United Kingdom (UK) and the European Union (EU)** constitute the first group of countries engaging in discussions, gathering public opinions, and issuing draft legal documents regarding minimum tax rates since mid-2022. In July 2022, the UK introduced a new draft of the Multinational Additional Tax Law, seeking public feedback and confirming plans to implement Pillar 2 through a Ministry of Finance announcement in Fall 2022, specifically on November 17, 2022. On March 23, 2023, the UK officially enacted the Fiscal Year 2023 Bill, providing comprehensive guidelines on multinational additional taxes and domestic additional taxes.

The European Union achieved the European Directive 2022/2523 on December 14, 2022, encompassing the implementation of Pillar 2. This includes the principle of income pooling (IRR) for global additional tax collection starting in 2024 and the Rules for the collection of surplus tax (UTPR) from 2025. The directive mandates that EU member states finalize internal legislation in 2023 to align with the agreed roadmap for Pillar 2 implementation. Similarly, akin to the UK, several EU nations have issued draft documents for the amendment of domestic laws or the introduction of new laws to encompass IRR, UTPR, and QDMTT. Notable examples include the Netherlands, which drafted an amendment to the International Tax System Law on December 24, 2022, providing detailed regulations for all three principles; Sweden, which introduced a draft for an additional tax on large corporate entities on February 7, 2023, covering both multinational and domestic additional taxes; and Germany, which enacted the Draft Minimum Tax Act on March 20, 2023, pertaining to additional taxes and domestic additional taxes.

**Korea:** As the first country to finalize the legislation associated with Pillar 2, Korea passed the International Tax Adjustment Act on January 1, 2024, officially applying the global minimum corporate income tax rate. The new law stipulates that if the effective tax rate falls below 15% within a jurisdiction, additional taxes must be paid concerning that jurisdiction. Companies involved are required to submit a “GloBE Information Return” within 15 months (or 18 months for the initial year of application) from the end of the business year and may face penalties.

**Japan:** On March 31, 2023, Japan officially enacted the “Income Tax Act Amendment Partially” concerning the global minimum tax, published in Special Gazette No. 25, identified as Act No. 3/202333. This law specifically covers the content of IRR. Japan is also under



consideration for inclusion in tax reform, potentially in 2024 at the earliest, encompassing topics that the OECD is expected to comprehensively discuss this year, including the taxable profit rule (UTPR) and the Qualifying Domestic Minimum Top-Up Tax (QDMTT).

**\* Some countries mainly receive foreign investment capital**

**China:** Currently, the Chinese government has not specified a commencement date for applying the provisions of the global minimum tax. However, China has established a working group comprising key members from the Ministry of Finance and the General Department of Taxation. This group is consolidating feedback from multinational companies. It is anticipated that China will enact legislation aimed at potentially bolstering Foreign Direct Investment (FDI) growth for multinational corporations. Even if China does not adopt GloBE rules, both China-based Multinational Enterprises (MNEs) and foreign MNEs operating within China will begin to experience the influence of GloBE regulations on their operations.

**Singapore:** On February 14, 2023, Singapore's Deputy Prime Minister and Minister of Finance confirmed the intention to implement the global minimum tax starting from January 1, 2025, as outlined in the Budget Plan 2023. To safeguard tax collection rights, Singapore will introduce the Qualifying Domestic Minimum Top-up Tax (QDMTT) to supplement the corporate income tax for multinational corporations effectively operating in Singapore, surpassing the 15% minimum tax rate. Alongside the domestic minimum tax framework, Singapore is concurrently reviewing and adjusting policies related to infrastructure development and macro-industrial growth. This simultaneous action aligns with the implementation of the global minimum tax, ensuring Singapore remains competitive in both retaining and attracting foreign investment.

**Malaysia:** Malaysia is expected to adopt a global minimum tax rate of 15% by 2024, following the OECD's recommendation. As part of this transition, Malaysia will conduct a comprehensive assessment of tax incentives, including those provided to companies benefiting from zero or less than 15% tax rates. This step aims to prevent the shifting of taxes to countries where the parent company is headquartered. Malaysia intends to roll out the global minimum tax in three phases: (1) Implementation of the Income Inclusion Rule (IIR) and the Undertaxed Profit Rule (UTPR); (2) Adoption of monetary policy mechanisms; (3) Contemplation of adjustments to domestic laws and policies to facilitate the application of the GloBE principle.

*For step (1), the UTPR rule will be implemented by Malaysia as follows:*

Taxes resulting from the implementation of UTPR can be collected as a collective from a group of companies, regardless of whether they are parent companies or not. The UTPR tax calculation is based on the correlation between the number of employees and the value of tangible assets within Malaysia. However, the GloBE rules do not provide regulations regarding how countries should calculate and gather taxes.

For a multinational corporation featuring numerous subsidiaries in Malaysia, Malaysia holds the authority to determine the method of allocating and computing tax liabilities among these subsidiaries. Two potential options are being considered:

Option 1: Disallow the income tax deduction for previously deductible expenses within the MNEs group, utilizing specific rules to generate an additional tax equivalent to the tax



assigned to Malaysia. As an illustration, if the MNEs group necessitates an added tax liability of MYR 1,000, Malaysia will adjust by disallowing the deduction of MYR 4,166 in deductible expenses during the fiscal year tied to the supplementary tax (given Malaysia's corporate income tax rate of 24%). If the deductions within that year fall short of MYR 4,166, the deficit will carry over to reduce deductions in the subsequent year.

Option 2: Contemplate the tax computation based on the GloBE rules and consider any ensuing tax obligations as an autonomous and distinct tax responsibility separate from income tax. This approach extends uniformly to both UTPR and IIR. In this scenario, the tax liability becomes the joint and shared responsibility of all MNEs subsidiaries within Malaysia.

*For step (2), Malaysia will implement M&E as follows:*

The inclusion of M&E in the legislation will ensure that any additional taxes on economic activities carried out in Malaysia, and profits generated in Malaysia, will remain in Malaysia. Basically, instead of allowing the country where the parent company is located to levy additional taxes of the global minimum tax (under IIR and UTPR rules), Malaysia will apply the same additional tax rate and retain this tax in Malaysia. It is important to note that this policy applies only to minimum taxes in eligible countries, i.e. based on GloBE rules and designed to collect the same additional taxes under Pillar II.

*For step (3), Malaysia is offering 2 options to apply the GloBE rule:*

Option 1: Incorporate the provisions of the GloBE rule into Malaysia's Income Tax Act 1967.

Option 2: Enforce the GloBE rule through legal documents separate from the Income Tax Law and the Law Guiding Decrees.

**Indonesia:** Presently, Indonesia maintains a corporate income tax rate of 22%, which significantly surpasses the global minimum rate of 15%. However, the country has numerous trade agreements with partner nations, leading to certain Multinational Enterprises (MNEs) benefiting from tax incentives. Indonesia has undertaken two legislative changes to establish a foundation for global minimum taxation:

In October 2021, Indonesia passed the Law on Harmonization of Tax Regulations (HPP Law). Article 32a of the HPP Law on Income Tax empowers the Government to establish tax arrangements with partner countries or territories on both bilateral and multilateral levels. Simultaneously, the law mandates that these tax agreements must align with the objectives of preventing double taxation, thwarting tax evasion, addressing tax base erosion and profit shifting, facilitating tax information exchange, supporting tax collection, and promoting other forms of tax cooperation. This forms a basis for the subsequent implementation of Pillar II global minimum tax.

In December 2022, the Government issued Government Decree No. 55 (GR-55) to execute amendments to the Income Tax Law in accordance with the HPP Law. GR-55 encompasses two key international tax aspects: Anti-Tax Evasion Measures and International Tax Agreements. Moreover, GR-55 introduces a novel concept of taxation rights allocation, aimed at granting enhanced taxation rights to the source country where the parent company

is situated. Additionally, it includes provisions to counteract profit shifting to tax havens or low-tax jurisdictions and to ensure compliance with the global minimum tax rate specified in agreements. GR-55 establishes the legal framework for applying the Pillar II approach, indicating that MNEs falling under the scope of an international tax agreement will be subject to Indonesia's minimum global tax rate outlined in the agreement.

The intricate execution of the pillar solution in Indonesia will be further delineated through regulations from the Ministry of Finance. The roadmap is as follows: By the first half of 2023, Indonesia will finalize domestic policy and legislative changes to set the stage for the implementation of the tax pillars. By the end of 2023 or early 2024, the Income Inclusion Rule (IIR) will be enforced, followed by the application of the Undertaxed Payment Rule (UTPR) in 2024.

**Thailand:** On March 7, 2023, the Government of Thailand gave preliminary approval for the implementation of the global minimum tax in the country. Implementation units were designated with the following responsibilities:

Thailand Tax Department:

(i) Developing legislation for the collection of additional taxes based on the Pillar 2 framework of the OECD IF Declaration. The initial draft is anticipated to undergo review in 2023 and become effective in 2025.

(ii) Allocating 50% to 70% of the additional taxes collected under Pillar 2 to the Investment Commission's Competitiveness Improvement Fund (Boi).

(iii) Sharing additional details about taxpayers with Boi.

Investment Commission Competitiveness Improvement Fund:

(i) Proposing amendments to the National Competitiveness Improvement Act for target industries, B.E. 2560 (2017), to augment funding for the National Competitiveness Fund for Target Industries (Enhanced Fund). This increase in funding will be facilitated by the allocation of additional tax revenue under Pillar II. These funds will be utilized to bolster investment incentives aimed at enhancing the country's competitiveness.

(ii) Presenting investment promotion measures designed to elevate the nation's competitiveness. These measures will encompass providing financial support for investments or investor-related costs to foster domestic competitiveness and sustainable investment, as outlined in the National Competitiveness Enhancement Act for Target Industries, B.E. 2560 (2017). These proposals will be submitted to the National Competitiveness Policy Committee for target industries (Capacity Building Policy Committee) for consideration and approval.

(iii) Formulating measures to mitigate the repercussions of the global minimum tax as outlined in the Investment Promotion Act, B.E. 2520 (1997), for Boi.

**Philippines:** like most developing countries, uses tax incentives to attract foreign direct investment, especially for large MNEs. Over the years, Philippine policymakers and legislators have implemented various tax incentives in a comprehensive tax reform program. The most notable are the Law on Corporate Recovery and tax incentives for businesses. The Philippines'

s current tax incentives maintain an exemption period for income tax and special corporate income tax (SCIT) of 5%. Both of these incentives essentially reduce the real tax rate to much lower than the global minimum tax rate of 15%. Assuming a net tax rate of around 5% (based on 5% SCIT), the ultimate parent company of the local subsidiaries will be forced to pay an additional tax rate of around 10% in their country. Additional taxes significantly reduce the attractiveness of SCIT, in other words, reduce the attractiveness of investing in the Philippines.

### 3. RECOMMENDATIONS ON GLOBAL MINIMUM TAX POLICY FOR VIETNAM

#### 3.1. The situation of FDI attraction in Vietnam

\* **Attracting foreign direct investment capital:** As of December 20, 2022, the country has 36,278 valid projects with a combined registered capital of 438.69 billion USD. The accumulated capital from foreign direct investment projects is estimated to be nearly 274 billion USD, equivalent to 62.5% of the total registered investment capital in effect.

In terms of sectors, foreign investors have ventured into 19 out of the 21 sectors within the national economic sub-sector system. Notably, the processing and manufacturing industry holds the highest share, amounting to over 260.1 billion USD (constituting 59.3% of the total investment capital). Statistics indicate that there are approximately 335 projects with registered investment capital surpassing 100 million USD in the realm of the processing and manufacturing industry, situated within economic zones and industrial parks. These projects benefit from corporate income tax incentives below 15%, predominantly involving enterprises operating in high-tech sectors (such as Samsung, Intel, LG, Bosch, Sharp, Panasonic, Foxconn, Pegatron 8...). These ventures are likely to be impacted by the global minimum tax.

With respect to investment partners, Vietnam has valid investment projects from 141 countries and territories. Leading the pack is South Korea, contributing a total registered capital of nearly 81 billion USD (comprising 18.5% of the total investment capital). Singapore follows in second place, with more than 70.8 billion USD (representing 16.1% of the total investment capital). Japan, Taiwan, Hong Kong, and others also rank prominently, with investment presence spanning all 63 provinces and cities within the country. Even in this landscape, Ho Chi Minh City remains at the forefront, maintaining its role as the prime location for attracting foreign direct investment.

**Figure 1. FOREIGN INVESTMENT IN VIETNAM BY PARTNER**  
(Accumulation of projects is still valid until December 20, 2022)

STT	Partner	Project number	Total registered investment capital (Million USD)
1	South Korea	9,534	80,969.64
2	Singapore	3,097	70,846.16
3	Japan	4,978	68,897.17
4	Taiwan	2,905	36,433.74
5	Hong Kong	2,164	29,492.77
6	China	3,567	23,348.82

*Source: Ministry of Planning and Investment*

Cumulatively by April 2023, Vietnam has attracted foreign investment from 143 countries and territories around the world with a total registered investment capital of 445,874.66 million USD with 37,065 investment projects.

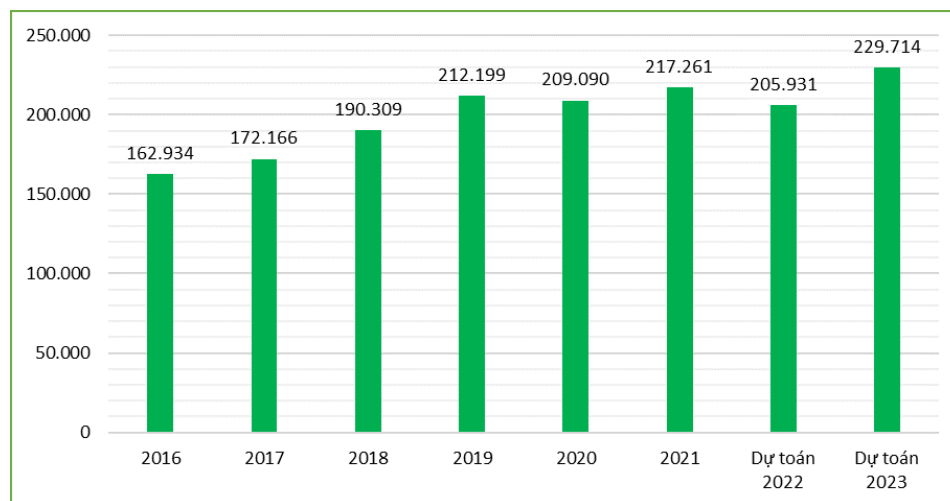
\* **Preferential tax policies in Vietnam's investment attraction** Corporate income tax incentives, import tax exemptions, reductions in land use fees, land rent, and land use tax, rapid depreciation, and increased deductible costs in calculating taxable income are regarded as appealing features when compared to other countries in the region. Due to these competitive tax incentives, coupled with advantages like a stable political-economic environment and a sizable labor force, foreign investment has consistently surged into Vietnam over the years.

Presently, Vietnam's standard tax rate stands at 20%. However, as indicated by the General Department of Taxation, the implementation of tax incentives effectively reduces the actual Corporate Income Tax (CIT) for Foreign Direct Investment (FDI) enterprises to merely 12.3%. Notably, major foreign corporations are subject to even lower CIT rates, ranging from 2.75% to 5.95%.

\* **Budget revenue from FDI enterprises:** According to the aggregated results and financial statement analysis of foreign-invested enterprises conducted by the Ministry of Finance, during the period from 2016 to 2023, with the exception of 2020, the count of State budget payments made by FDI enterprises demonstrated a consistent upward trend. On average, over this period, FDI enterprises contributed more than VND 199,000 billion to the budget.

**Figure 2. Finalization of State budget revenue from FDI enterprises**

*Unit: billion VND*



*Source: Ministry of Finance*

During the period from 2020 to 2023, the corporate income tax collected from the foreign-invested enterprise sector constitutes approximately 39% to 41% of the overall corporate income tax revenue.

**Reforms in Investment and Economic Policies:** At present, Vietnam is being acknowledged by international organizations, various countries, and investors as holding a significant advantage in attracting Foreign Direct Investment (FDI). In recent years, it has evolved into a hub for manufacturing high-tech products on a global scale. However, several limitations persist. Administrative procedures, particularly those related to taxes, fees, land acquisition (28.6%), customs, and other areas, continue to pose notable challenges.

### 3.2. Policy recommendations applicable to Vietnam

Currently, Vietnam is being recognized by multinational corporations (MNCs) and many countries as having tremendous investment and development potential. Various advantages contribute to its Foreign Direct Investment (FDI) appeal: a favorable investment climate, comprehensive economic development efforts by the government, attractive incentive rates, and effective Free Trade Agreement (FTA) implementation. However, the new global context introduces challenges through the global minimum tax rate mechanism, demanding proactive adaptation and appropriate solutions from Vietnam. It's vital to transform this challenge into an opportunity to align with global policies and enhance the investment-business environment. In light of this, the authors offer the following recommendations:

*Firstly*, given that the global minimum tax rate will take effect from January 1, 2024, Vietnam should expedite the formulation of coherent strategies for the global minimum tax rates. This involves crafting domestic laws and regulations along with suitable tax declaration processes in line with OECD guidelines. Simultaneously, a supportive stance and commitment to the global minimum tax rate should be communicated.

*Secondly*, while the Government and relevant agencies have hosted workshops to discuss this emerging issue, access remains limited. Therefore, there's a need to accelerate broader engagement, encompassing surveys and consultations with enterprises, particularly FDI entities, and the academic community. This broader involvement aims to devise the most fitting responsive policies that align with actual circumstances and safeguard the interests of businesses investing in Vietnam.

*Thirdly*, while a reduction in the corporate tax rate often leads to an anticipated boost in FDI, MNEs are drawn to Vietnam for factors beyond tax rates. Elements like market size, labor force, stability, business environment, etc., play pivotal roles in investment decisions. To maintain competitiveness and sustainable development, Vietnam should intensify investment environment reforms, enhance national competitiveness, augment infrastructure, and bolster the legal framework. Effective utilization of signed FTAs, particularly advanced ones like EVFTA, CPTPP, RCEP, UKVFTA, and VKFTA, is essential.

*Fourthly*, Vietnam should swiftly evaluate, revise, and align its laws (Corporate Income Tax Law, State Budget Law, Investment Law, VAT Law, etc.) accordingly. Prioritizing enhancements in tax administration capacity and the business-investment climate is crucial. As integration deepens, stringent and robust management practices are essential to counter intricate, transnational activities. This includes enhancing the database system and rapidly transitioning towards modern, digitized processing systems.

### CONCLUSION

The global minimum tax represents an international tax policy, thus exerting specific effects on Vietnam as a nation that attracts and welcomes foreign direct investment. The government's strategies in response to global minimum taxation will play a pivotal role in determining the competitiveness of major multinational corporations operating within Vietnam. In fact, it might necessitate a reevaluation of investment and production base operational strategies



for multinational enterprises due to the potential impact on their competitiveness within the Vietnamese market. Such developments could significantly impede the attraction of new investments and potentially undermine the overall investment environment of Vietnam in the near future.

With the foundation established by the enforcement of the global minimum tax, and guided by pragmatic research and insights from comparable countries (particularly those sharing similar conditions with Vietnam), this article evaluates the ensuing impact and offers recommendations tailored to the specific circumstances in Vietnam. We hold the belief that in the foreseeable future, the government, particularly the Ministry of Finance, will swiftly and comprehensively engage in research efforts and formulate optimal solutions. These measures aim to foster a positive economic cycle, bolstering support for FDI enterprises to sustain long-term investments and attract new inflows, maintain tax revenues, and ultimately enhance the investment climate within Vietnam.

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## BEPS 2.0 - GLOBAL MINIMUM TAX (PILLAR 2) AND INVESTMENT ATTRACTION IN VIETNAM

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**Abstract:** *The research paper examines the potential implications of the Global Minimum Tax on the tax regime and investment landscape in Vietnam. The study surveyed large-scale FDI companies in Vietnam and revealed the utmost concern of foreign investors on the potential application of Pillar 2 in Vietnam, which is about the prevailing incentive schemes being left inefficient. As a result, FDI attraction competitiveness might be undermined in certain aspects. With this context, Vietnam must take timely actions in terms of comprehensive policy reform to address two main objectives: (i) claiming taxing rights in accordance with GloBE's rules and (ii) stimulating investment using alternatives incentive policies that are not or less impacted by Pillar Two. The research proposes three considerations that policymakers in Vietnam can refer to when developing tax policy reform roadmap, including: (1) proposal to implement the Qualified Domestic Minimum Top-up Tax (QDMTT); (2) development of new investment incentive instruments such as Direct subsidy and Qualified Refundable Tax Credit (QRTC); (3) Tax policy reform should be taken under appropriate form to achieve not only the immediate objectives of protecting Vietnam Tax Revenues, but also the long-term goal in sustaining a fair, transparent and emerging investment landscape.*

**Keywords:** *Pillar Two, Global Minimum Tax, incentive policy, incentive reform, investment attractive, Vietnam*

### 1. INTRODUCTION

In the 1950s, when international trade was very limited, manufacturing processes mainly took place in one country and tax used to be a story of each individual government. Following the globalization wave around the world, manufacturers were motivated to relocate parts of their manufacturing overseas to utilize lower production costs in foreign markets. This trend resulted in a fragmentation of production process that involves the interconnection within global value chains along with massive development of multinational enterprises (MNEs). In a world where direct state interventions are generally prohibited, tax lever became an effective tool of jurisdictions to attract investment. Joining the tax game with offers for favorable incentive packages, developing countries have successfully navigated investment flows to their jurisdictions, while developed countries gradually lost inbound Foreign Direct Investment (FDI) and tax base since MNEs would likely allocate profit to their subsidiaries in low-taxed countries.

To mitigate the impact of profit shifting by MNEs and secure their own profit that flowed to developing countries, developed countries also needed to reduce their statutory Corporate Income Tax (CIT) rate to limit the erosion effect. The tax competition became more and more intense when the worldwide average CIT rate kept dropping, from 40% in 1981 to 23% in

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2020 (Julien, 2022). At certain point, rich countries came to realization that they had been losing too much of their tax revenue as well as investment to developing countries due to such international tax practice, making them now more determined to turn the thing upside down with an implementation of a historic global tax reform to create an equal competitive environment between countries. In this regard, the two-pillar solution was introduced by the Organization for Economic Co-operation and Development (OECD) and Inclusive Framework members (with 138 countries up to July 2023) as a comprehensive mechanism to set new rules to the tax game. While Pillar One was originally designed to tackle the matters on digital economy, Pillar Two on the other hand, aimed to limit the intensity of tax competition by imposing a de facto minimum CIT rate of 15% worldwide. Although the 15% threshold is still far lower than the average tax rate in OECD countries (i.e., approximately 23.57% in 2022, according to Cristina Enache - 2022), the Pillar Two is expected to stop the race to bottom and would presumably reduce the total amount of profit-shifting to low-taxed jurisdictions.

G7, G20 countries as well as 138 member countries of the OECD Inclusive Framework on Base Erosion and Profit Shifting, including Vietnam, have agreed to implement the GMT. Both investing and investee countries have been making clear moves in consideration and policies-making related to Pillar Two. Given this escalation of Pillar Two, the implementation of which requires a comprehensive reform of jurisdictional tax regime, a wide range of research have been published focusing on the technical design of GMT translated from framework to implementation, as well as its impacts assessment for different jurisdictions in terms of both tax efficiency and investment retainment. While all countries are encouraged to consider applying Pillar Two, investing countries will have the obvious benefits from the Top-up Tax on the difference between the effective tax rate in the host country and the minimum tax rate of 15%. On the other hand, investee countries (mostly developing ones), which are appealing the attention of foreign investors thanks to favorable investment incentive packages, will need to consider reform their domestic tax policies to secure their taxing rights against other countries, at the same time, develop alternative incentive instruments to sustain their FDI attraction. In other words, the implementation of Pillar Two will pose a dilemma for developing countries to balance between tax collection and investment promotion, which is a question that has yet been fully addressed.

In this paper, we take a close look on how Pillar Two is making an impact on the investment environment and tax regime of a developing country being Vietnam, from the lens of foreign investors currently having investment and operation in Vietnam. Given that Vietnam is mainly utilizing income-based incentive policies, which will soon lose its effects when Pillar Two comes into implementation, a call for tax reform is now under consideration, with an ultimate goal of both (1) Retaining taxing rights and (2) Maintaining and strengthening competitive position in attracting foreign investment. Although policy reform process needs thorough consideration due to its long-term effects, Vietnam also needs to have prompt response strategies since the application of Pillar Two globally is already up close. For this purpose, this paper would cover key considerations for Vietnam Government in the context of preparation for the adoption of Pillar Two, drawn from the impact analysis of Pillar Two on the investment landscape of Vietnam.

## 2. LITERATURE REVIEW

With an increasing number of jurisdictions competing hard to attract inbound investment from multinational companies, fiscal incentives have become a global trend from the 1990s (Morisset, 2003). The link between tax policy and FDI has been well-established since then. Empirical studies have also shown that incentives like tax holidays and reduced CIT rates are effective for increasing FDI in some developing countries (Klemm et al, 2012). However, whether the generosity of tax incentives live up to the multinational companies' expectations in compensating for other difficulties (some of which might be non-fiscal) in the business environment is still in debate (Morisset and Piria, 2000). In addition, the direct negative impact of tax incentives on fiscal revenue of jurisdiction as well as its consequent exploitation by MNEs which eventually erode the tax base, has raised questions about the cost-effectiveness of these tax incentive policies. Nevertheless, according to the 2022 World Investment Report by the UNCTAD, the past decade still witnessed widespread adoption of tax incentives for stimulating investment across all regions, in which profit-based incentives (including tax holidays and tax rate reduction) are mostly used, especially in developing economies like Africa and Asia. However, the UNCTAD also acknowledged in the report that developing countries have been raising continuous concerns on how increasing tax competition in FDI attraction frustrates revenue mobilization efforts. Especially with the introduction of Pillar Two, it puts more financial pressure on countries and policymakers to balance between the costs and benefits that current tax incentive policies offer.

Pillar Two, in general, emerges from the increasing globalization and the digitalization of the economy, in response to the challenges arising from the profit-shifting practice of MNEs and tax competition among jurisdictions. Under the GloBE rules, Pillar Two applies to MNEs with consolidated revenue of EUR 750 million or more. About its principles of application, as summarized by the International Institute for Sustainable Development (IISD) and International Senior Lawyers Project (ISLP), Pillar Two consists of a set of rules that act as a backstop to one another in a way to collectively bring an MNE's effective tax rate (ETR) on its taxable income that exceeds a substance-based income exclusion (SBIE) up to the minimum tax rate of 15%. The baseline of Pillar 2 is the Income Inclusion Rule (IIR), which is backstopped by the undertaxed profits rule (UTPR); both are, in turn, supported by a qualified domestic minimum top-up tax (QDMTT), which is allowed as a direct deduction from the top-up tax to cancel out the top-up tax entirely if being adopted in the domestic tax laws by jurisdictions.

The above changes directly impact the tax position of MNEs operating across nations, which in turn puts pressure on jurisdictions to balance between tax revenue collection and investment sustainability. In terms of tax revenue, the GMT will benefit developing countries that are in critical need of tax revenue to meet their sustainable development goals (Bush et al, 2022). The Country-by-country estimates on Revenue effects of the Global Minimum Tax (Barake et al, 2021) has provided an estimation on additional revenue generated from application of Pillar Two without carve-outs at around EUR 205.5 billion, in which EUR 14.2 billion is contributed by developing countries. This revenue could come from two sources: collection of domestic QDMTT to ensure tax profits are fully covered up to the minimum tax rate, and collection of tax on profits that would have been shifted to low-tax jurisdictions

should Pillar Two not apply (World Bank Group, 2022). As such, a country can apply QDMTT with a reasonable expectation that it would not adversely affect the country's competitive position in terms of tax (Devereux et al, 2022).

Nevertheless, competitiveness in the form of incentive policies to attract investment is deeply affected, since the operation of Pillar Two can undermine the effect of certain tax incentives. Consequently, if jurisdiction granting incentives does not pursue claiming taxing rights by applying Pillar Two, they may end up forfeiting tax revenue not in exchange for more favorable business environment (Liotti et al, 2022). As an indirect result from deficiency of current tax policies, the implementation of GMT would likely place the potential downward effect on global FDI at about 2 per cent. (UNCTAD, 2022). To retain inbound FDI in the context of this baseline scenario, tax policies must be reinforced to filter incentive packages that bring about substance-based benefits to investors. Developing countries are particularly suggested to leverage the available data sources like the tax- expenditure reports, country-by-country reporting, and exchange of information to assess the effectiveness of their tax incentives in the most effective and cost-efficient way (Qibthiyyah et al., 2022).

In brief, the shared objective of tax reform for countries is to align the existing incentive schemes with the goals of Pillar Two by striking a balance between attracting investment and ensuring fair taxation. This reform aims to foster sustainable development and economic growth, promoting a more equitable and transparent global tax system, and reducing damaging tax competition between countries.

### **3. METHODOLOGY AND EMPIRICAL RESEARCH RESULT**

For achievement of the main purpose of this paper in understanding GMT's potential impacts on Vietnam tax and investment environment, qualitative methodology is used, with a combination of primary data collection and secondary data leverage.

The targeted population of the study is companies having foreign direct investments in Vietnam. The research methodology is designed in a way that allows author to gain understanding about the perspectives of such FDIs regarding GMT's impacts on Vietnam's investment environment and incentives policies. Thus, a purposive (or judgement) sampling method is selected to collect data from the targeted participants. This sampling method is commonly used in qualitative research, as to identify and utilize informative resources (Patton, 2002) that have concentrated characteristics in terms of knowledge and experience, who will be able to assist with the study in the most effective and relevant manner (Cresswell & Plano Clark, 2011). Unlike random sampling, purposive sampling drives result from a group with certain level of similarity, thus, enhance the participants' willingness to express their opinions and share their experiences in a deliberative and reflective manner (Bernard, 2002).

A group of FDIs is selected from Deloitte Vietnam's client portfolio mainly Korean, Japanese, and Chinese investors, who are assessed to be the most likely impacted by the scope of GMT in Vietnam. Considering that these three countries account for a majority of FDI inflow in Vietnam, the results drawn from this population is expected to be sufficiently representative for the purpose of this research. The sample represents for a wide range of enterprises in terms of industry, business scale, length of operation in Vietnam. Most of the participants are companies that have established business in Vietnam for more than 10 years, with investment

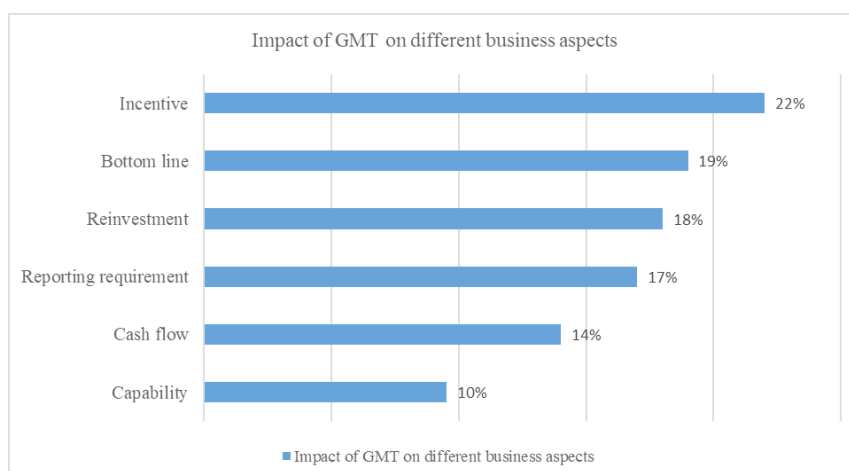
capital amount ranging from USD 9 – 200 million. A questionnaire is distributed online via email to the participants, consisting of 10 questions including both close-ended (multiple choice, likert scale) and open-ended questions (short-answer questions). The data collected is a mix of quantitative and qualitative, about demographic information of respondents and their assessment on the impact level of GMT on their business from different perspectives such as cashflow, incentive, bottom line, etc. The data also demonstrates enterprises' level of readiness in preparation for such impacts, and primarily shows their expectations towards the Vietnamese Government in foreign investment sustainability and improvement.

Apart from the above, the research also uses the participant observation method. The researcher has been spending five months participating in events (meetings, seminars), joining activities, and interacting with organizations being stakeholders of GMT in Vietnam, such as relevant Government Authorities, subsidiaries of MNEs in Vietnam, etc. to understand more about GMT's impacts from different perspectives. In addition, the study also leverages secondary data from relevant sources of international reports on FDI inflows statistics (UNCTAD, 2022) and economic impact assessment resulting directly from the implementation of Pillar 2 (OECD, 2023).

## 4. DISCUSSION

### 4.1. Assessment of GMT's impacts over tax and investment regimes in Vietnam

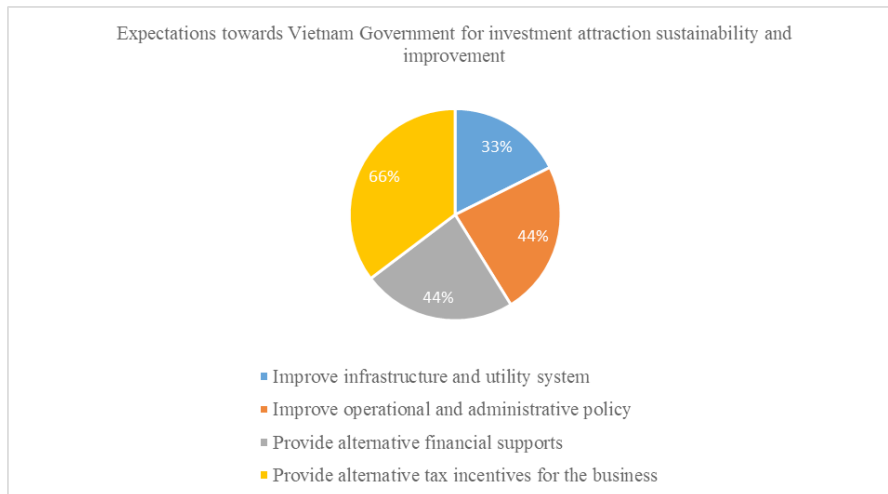
To understand the business insights of potential in-scope MNEs, the research has conducted survey on selected companies with FDI operating in Vietnam. The survey reveals that majority of the participant MNEs is currently enjoying CIT incentives in Vietnam, while the remaining have already fully claimed applicable CIT incentives during their operation in the past. Accordingly, when being asked about the level of impact that GMT is expected to have in relevance to their businesses in Vietnam, "Incentive" is ranked as the factor of being most impacted, followed by other elements, respectively: the business's "Bottom line" (meaning the profit level and other financial criteria), the "Reinvestment" capability, the burden of "Reporting requirement" for compliance with GMT regulations, the "Cash flow" issues and the "Capability" of businesses in terms of technical knowledge, data and system readiness for handling changes in the context of Pillar Two.



**Table 1: MNEs' assessment on the impacts of GMT on different business aspects**



Considering the impacts that GMT is expected to bring to business' operation, especially in terms of tax, the survey has shown MNEs expectations towards the Vietnam's Government to continue sustaining and improving investment attraction in the implementation of Pillar Two. In which, alternative tax incentive policies are the most desired support proposed by MNEs, followed by other financial aids and improvement measures in terms of infrastructure and administrative policies, that facilitate the operation of MNEs in Vietnam.



**Table 2: MNEs' expectations towards Vietnam Government to sustain and improve investment**

Based on the survey results, it could be concluded that the MNEs' utmost concern regarding the implementation of Pillar Two is its impacts on the prevailing tax incentive schemes that they are currently being able to enjoy. Accordingly, it is a shared expectation among MNEs that alternative tax incentives should be provided to businesses to compensate for the current schemes being rendered ineffective by the implementation of Pillar Two.

Notably, the Government's proactive movements, especially of Ministry of Finance (MOF) and Ministry of Planning and Investment (MPI) during the last 06 months have gained attention. Intensively since February 2023, a series of seminars, public meetings, open discussion have been held by Government body's authorities (involving General Department of Taxation, MOF, MPI), state-owned organization, business chambers, etc, discussing over various topics including impact consideration to Vietnam, investor's reactions, proposed solutions to policy reform, etc. On August 4, 2022, the Prime Minister formed a special taskforce led by Deputy Prime Minister Le Minh Khai for the studying and proposal of measures related to the OECD's deal. At public events, the GDT shared figures that 120 FDI corporations with over 1,000 enterprises investing in Vietnam are likely to be GMT-in scope. Of these, a set of over 70 entities will likely confront the implications of GMT, accruing an additional tax collection of approximately \$500 million in 2024. The GDT emphasized the need to establish support mechanisms that can mitigate the adverse effects of this regulatory measure on FDI's. On the other side, according to articles, the MPI is working on designing incentives and measures to support new investment activities amid the upcoming application of the global minimum tax under the direction of Task Force leader. The direction is to focus on reviewing, completing the related institution and regulations and building a roadmap for the application of the rule on the basis of learning international experience and ensuring suitable application of the rule in Vietnam.



To come up with appropriate and compatible alternative incentive schemes, it is important to firstly understand what would be the level of impact that Pillar Two is expected to have on various prevailing incentive regimes in Vietnam, and which factors could be utilized to minimize such impacts. According to the OECD, the extent to which the GloBE Rules affect tax incentives depends on three factors related to the Effective Tax Rate (ETR) formula: (i) whether the incentives reduce the numerator - Covered Taxes; (ii) whether incentives increase the denominator - GloBE Income; or (iii) whether the incentive is adjusted to ensure a neutral effect on the GloBE's ETR. The impact of GMT rules on different tax incentive instruments could be summarized as below:

Nature of relief	Type of instrument		Tax benefits affected by the GloBE ETR calculation  (intensity of the colour indicates intensity of effect)	Effect on GloBE ETR	
				Numerator	Denominator
Income-based incentives	Full exemption		More likely	↓	
	Partial exemption		More likely	↓	
	Reduced rates		More likely	↓	
	Tax allowances <sup>3</sup>		More likely	↓	
Expenditure-based incentives	Tax deductions <sup>1</sup>	Immediate expensing and accelerated depreciation	Less likely	Adjusted for timing differences	
		For tangible assets: machinery, equipment, buildings	Unaffected	No recapturing applies	
		For short-lived intangibles	Less likely	Recapturing may apply	
		Other assets	More likely	Recapturing may apply	
	Tax credits	Qualifying refundable tax credits	Less likely	2	↑
		Other tax credits	More likely	↓	

**Table 3: Assessment of GMT's impacts on different incentive instruments**

*(Source: OECD's Tax Incentives and the Global Minimum Corporate Tax Report)*

Accordingly, tax incentives are more likely to be affected where they are treated as reduction in Covered Taxes in the GloBE's ETR calculation. Tax incentives in this group mostly include income-based tax incentives and some expenditure-based tax instruments, including preferential CIT rates (through tax reductions or exemptions) or investment tax allowances or credits that seek to reduce taxable income or the tax liability on certain investments.

Currently, investment incentive schemes of Vietnam focus on three areas: (i) Corporate income tax ("CIT"), (ii) Import and export tax, and (iii) Land rental and land tax. In the context of Pillar Two, CIT incentives are of most interest since it will be directly affected by the GloBE rules. The current CIT incentives mainly take the form of income-based incentives, including preferential CIT rate and tax holiday, with the highest incentive package consisting of 10% preferential CIT rate for 15 years, 4 years of tax exemption and 50% CIT reduction in 9 subsequent years. As Pillar Two would eventually bring the baseline of CIT imposed globally for MNE to 15%, the tax benefit from these reduction or exemption in Vietnam would be collected either in Vietnam (by adopting QDMTT) or somewhere else, making the current incentives lose a great deal of its intention.

## **4.2. Necessity for tax and investment policy reform**

### **4.2.1. Tax policy reform**

With the GMT being applied, it will put a de minimis rule of 15% tax rates across MNEs that have a total annual turnover of over EUR 750 million. Accordingly, Vietnam's CIT incentives will no longer be effective and lose attractiveness to big foreign investors who are in-scope MNE Groups and being enjoyed incentive in Vietnam as any tax savings in Vietnam will be eventually collected in parent company's countries or any other countries who adopt Pillar 2.

Since Pillar Two is applied globally, if the Vietnam Government does not take any actions, it will lead to the loss of revenue from two sources: (i) the tax revenue that Government forfeits to grant tax exemption, tax reduction to in-scope investor that eventually would not result in favorable policy efficiency and (ii) Loss of rights to collect Top-up Tax to other countries. Tax policy reform is necessary in this context, along with the need to develop new qualified taxing mechanisms based on OECD guidelines to maximize tax revenue. For this purpose, the QDMTT regime is designed by OECD in a way that allows investee countries to claim the taxing priority over any other countries, in the same principle of OECD's top-up tax at the parent entity level. Accordingly, by applying this regime, countries can protect their tax collections without imposing double taxation on the same income of the investors, as QDMTT is also an element of the GloBE's rules that will technically be deducted from any top-up tax incurred to be paid by the parent entities globally. In addition to improvement of tax revenue, Vietnam's timely participation in tax policy reform to parallel the common roadmap will demonstrate the initiative and active innovation of a developing country in response to global tax practice, which promotes the integration of policies while preserving the interests and maintaining necessary investment competitive advantages. The domestic tax policy, if being developed to incorporate Pillar Two, will be a more stable, transparent, fair and effective tax system, helping Vietnam to enhance the prestige of the country, strengthen our position in international community and reduce the risk of tax disputes. By being proactive in reforming policies and improving the investment environment, Vietnam will efficiently attract foreign investors to domestic markets with a confidence in a stable and opened investment environment. This will create new investment opportunities, economic growth, job creation and positive contributions to the development of the country.

### **4.2.2. Investment policy reform**

The collection of Top-up Tax in the country where Ultimate Parent Entity (UPE) or other parent entity is located will result in the situation that certain tax savings earned from investment incentives given to subsidiaries to attract FDI will be taxed in another country. If Vietnam does not have reasonable and timely policy reforms in investment retainment, competitors being investee countries with more favorable investment incentives and measures to adapt to the GMT will soon compete Vietnam to claim the advantages of FDI attraction. Particularly, most of the MNEs that have investment in Vietnam come from Asian countries such as Korea, Japan, Singapore, and Taiwan, who are more inclined to the competitiveness in terms of investment costs including investment incentives. While it is well-established that the

GMT rate will diminish the effectiveness of the tax incentives that Vietnam currently is offer, at the same time it will also increase the financial burden of the MNEs when having to pay additional capital costs to reinvest since profits generated from doing business in Vietnam will be taxed in the country of the UPE or parent entity. This entails a decline in cash flows and a reduction in cost and income competitiveness by removing any strategic tax advantages over other countries. Therefore, in order to enhance Vietnam's competitiveness in attracting FDI, there must be more appropriate investment incentive policies in addition to CIT exemption/reduction. Meanwhile, as a strategy to attract FDI, supportive policies can increase investment by reducing the cost of capital for MNEs, and such investment projects can contribute to part of long-term economic development by encouraging MNEs to reinvest continuously.

### **4.3. Considerations proposed for policy reform**

Given the urgency of Pillar Two and drastic movements by jurisdiction around the globe, it is highly critical at this time that Vietnam recognizes its impacts and takes actions to: (i) secure taxing rights in Vietnam as a host country for inwards investment, and (ii) retain competitiveness in foreign investment attraction. To meet the above objectives, Vietnam should take drastic actions towards reformation of prevailing tax and investment policies. This study will propose three policy considerations for Vietnam's tax reform, considering the investment landscape as well as practice of other around the globe in the progress of incorporating Pillar Two into their domestic tax administration.

#### *Consideration 1: Policies to reserve Vietnam's taxing rights*

For enterprises having foreign investment in Vietnam, Vietnam should consider implementing the Qualified Domestic Minimum Top-up Tax (QDMTT) mechanism from 01 January 2024. QDMTT is the regime designated in a way that allows investee countries to gain the rights over top-up tax, with the similar computation to the OECD's formula for effective tax rate, top-up tax, etc., in order not to generate double taxation between the investing and investee countries. This is a particularly important mechanism that needs prioritized consideration, as well as a timely response measure according to OECD's recommendations. Neighboring countries such as Malaysia, Thailand, Singapore, Hong Kong, and some developed countries such as the United Kingdom, Sweden, the Netherlands, Switzerland, even some African countries, etc. have declared to or intends to implement QDMTT to achieve the best coherency with international regulations in the context of Pillar Two. If Vietnam does not apply QDMTT but a different mechanism, there is a risk that investors may consider relocating to other countries that do, for ease of compliance with international practice and avoidance of double taxation.

It should be emphasized that QDMTT is a qualified regime regulated by OECD. Other mechanisms that are not considered qualified (for example, application of the common corporate income tax rate of 15%) will not be consistent with the OECD computation formula for QDMTT. As a result, the country where the parent company is located would still calculate and collect top-up tax in accordance with Pillar Two, which could lead to double taxation. In addition, for Vietnamese companies investing abroad, Vietnam should consider applying IIR, which is the cornerstone of OECD to collect tax. This rule should be applied from 2024 to companies investing overseas with their headquarters located in Vietnam. On top of this, there

is also another domestic rule, which is the UTPR, acting as a backstop to IIR. However, as in line with OECD's timeline, UTPR is expected to be applied 01 year later than the core rules.

Moreover, in recent guidance documentation released by OECD, QDMTT Safe Harbour is introduced, which if satisfied by a QDMTT-applied countries could escape the domestic top-up tax amount being recalculated or challenged by parent entity's countries or any other countries applying GloBE rules. There are a number of requirements that must be met in order to be eligible for the QDMTT Safe Harbor, including (a) the usage of same accounting standards with UPE or local accounting standard but subject to certain conditions, (b) an explicit consistency of QMDTT computation with the GloBE rules (subject to specific deviations) and (c) meeting an ongoing administrative standard in respect of the rules. The justification of those conditions is to minimize as much as possible variations, thus, to improve the alignment of top-up tax amount calculated under QDMTT and GloBE rules. Obviously, the QDMTT Safe Harbour qualification is important to Vietnam (if Vietnam applying QDMTT) as it could help to release MNE's burden and pressure from any risk of additional tax liability in home country due to different treatment as well as administrative cost and resource for recalculation of top-up tax. While the condition (b) and (c) could be managed, the condition (a) should be taken into consideration. In particular, Vietnam Government should also consider expedite the application of International Financial Report Standard (IFRS) as a local accounting standard, at least for in-scope MNEs, in order to more secure a qualified QDMTT Safe Harbor.

*Consideration 2 – Policies to limit the adverse impacts of Pillar Two and stimulate investment*

Considering that Vietnam is mainly utilizing income-based incentives, for example tax holiday and preferential tax rates, such schemes will lose its effectiveness in the implementation of Pillar Two, which in turn adversely impact on the investment environment. Accordingly, the Government should consider new forms of incentives in addition to traditional income-based ones, such as cost-based incentives. According to the international practice, cost-based incentives can operate under various forms of instruments, including direct subsidies, tax credit, increased deductible expenses, accelerated depreciation, etc., however, under the scope and mechanism of Pillar Two, only direct subsidies or Qualified Refundable Tax Credit have positive effect in supporting businesses within the context of Pillar Two. Mechanism of above two incentive instruments can be generalized as follows:

(i) Direct subsidy: An enterprise that invests and pays certain expenses during operation (such as investment in facilities/assets, production costs, R&D, human resources, etc.) are directly subsidized by the Government for part of these costs in cash. In practice, this subsidy is generally recognized when enterprises qualify the conditions or receive actual payment from Government.

(ii) Qualified Refundable Tax Credit (QRTC): This is essentially similar to the above direct subsidy, i.e., an enterprise that invests and pays certain expenses during operation is entitled to Government's subsidy, however, not directly in cash. Instead, such subsidies will be gradually offset against the annual tax payable. According to OECD's rules, the Tax Credit to be considered QRTC must be paid in cash or cash equivalents (such as offsetting against other

statutory obligations) within 04 years from the time when conditions for such tax refund are satisfied. In addition, to be considered a QRTC according to OECD's standards, the support must bring about real benefit to the enterprise, such as, must be granted regardless of the level of profit that enterprises generate.

Under OECD's rules, these two allowances are both treated as a GloBE Income, which means that they shall act as an increasing factor in the denominator of the ETR formula (which is computed by dividing Total Covered Taxes by Total GloBE Income). Accordingly, they have minimal impacts in reducing the ETR, compared to other instruments that attribute to decrease in the numerator – the Total Covered Taxes, such as non-Qualified Refundable Tax Credit or instruments that lead to increase in deductible expenses (e.g., super deduction). In light of the above, from a technical perspective, the above incentive measures are reasonably expected to have a positive and practical effect in supporting businesses that are impacted by Pillar Two. However, it should be noted that the policy reform in terms of new tax incentives need in-depth study and thorough considerations, taking into account its compatibility with domestic legal mechanisms and referring to international experiences of other countries.

First of all, scope of application for these new incentive policies should be determined in such a way that both (i) assuring a fair investment environment and does not cause discrimination against enterprises by identifying ones that are and are not entitled to the new schemes; and (ii) complying with the OECD's guidance, whereby the introduction of other supporting schemes should not act as a compensation to the application of Pillar Two. Second, other technical factors such as the incentive rates or types of expenses entitled to incentives should be considered, with target on critical expenses that reflect substance economic benefits of the investment that need encouragement. Looking at other developing countries, India, Thailand, and China are all having cost-based incentives that mainly base upon the manufacturing, R&D expenses, with focus on business sectors within the lists of industries being encouraged for investment.

### *Consideration 3 – Appropriate administration for policies promulgation*

Amending the domestic incentive policies to cope with GMT mechanism requirements is relatively complicated since it involves the change of CIT Laws and other relevant regulations regarding investment, labor, etc., not to mention its impacts on the prevailing treaties and international bilateral agreements. At the same time, the reform needs to ensure harmony within domestic law as well as maintain the competitiveness of the investment environment, while requirement for the tax reform is now highly urgent with recommendation to apply from 2024. Accordingly, it is suggested that Vietnam can consider taking comprehensive roadmap to incorporate the changes brought about by Pillar Two, in a both timely and effective manner, specifically as follows:

*Immediate measures:* Promulgating a Resolution by the National Assembly which introduce: (i) the application of the QDMTT mechanism to secure Vietnam's right to collect top-up tax for enterprises within the scope of Pillar 2; and (ii) the investment incentive reform to support qualified businesses, to maintain and stimulate the competitiveness of Vietnam's investment environment.

*Long-term measures:* Amending and supplementing the relevant Laws (including Law on Corporate Income Tax; Law on Investment; Law on State Budget; etc.) to formalize the



Resolution's provisions, as well as continuing to finalize and provide the detailed guidance legislations (Decree, Circular, etc.).

## 5. CONCLUSION

No countries can afford to ignore Pillar Two, and Vietnam is not an exception. Given the inevitable implementation of Pillar Two, this requires careful reassessment of impacts in post-Pillar Two environment. Generally, the current tax incentives adopted by Vietnam for FDI attraction will soon lose its effectiveness as Pillar Two will raise the baseline of GMT to 15% for all MNEs globally, making income-based incentives like tax holiday and preferential tax rate no longer appealing. However, this baseline scenario presents an opportunity for developing countries and emerging economy like Vietnam to engage in a process of tax incentive reform, to identify and remove those that are wasteful and inefficient, reinforcing a fair, transparent and stable investment environment. In addition to this, failing to take proper action against the introduction of Pillar Two will also mean forgoing tax revenues coming from top-up tax, which shall eventually be collected by other jurisdictions. Accordingly, to both secure Vietnam's taxing right and sustain the development and attractiveness of the investment landscape, policymakers should consider a comprehensive tax – investment reform. The proposed considerations take into account both the technical design of Pillar Two and how it should be integrated with the domestic tax regime of Vietnam, with focus on: (i) prompt application of QDMTT to firstly claim the taxing rights over subsidiaries of in-scope MNEs operating in Vietnam; (ii) development of alternative expenditure-based incentive instruments being Direct subsidy and QRTC, with target on expenses representing economic substance; (iii) tax administer for an appropriate reform roadmap that can meet both immediate and long-term objectives. Policy reform is challenging, however, worthwhile, if properly executed with leverage of careful assessment as well as reference to international practice.

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# VIETNAM'S ECONOMIC RECOVERY POLICIES FROM THE POST OF THE COVID-19 PANDEMIC

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**Abstract:** *The COVID-19 pandemic has pushed many countries around the world into economic crisis, trade and investment decline, inflation and unemployment rate increase, production is stalled, supply chain disruption... Like other countries, Vietnam is also strongly impacted by the COVID-19 pandemic. However, thanks to the flexible development policies, Vietnam's economy has partly limited the negative impacts and taken advantage of the opportunities from the COVID-19 pandemic. This article will analyze the status of impacts of the COVID-19 pandemic on Vietnam's economic development and economic recovery policies of Vietnam since the COVID-19 pandemic up to now (2023).*

**Keywords:** *Policy, economy, crisis, COVID-19 pandemic, Vietnam.*

## 1. INTRODUCTION

At the end of 2019, the COVID-19 pandemic began to break out and caused many serious consequences to the world economy in general and Vietnam's economy in particular. By early 2023, many countries had declared the end of the pandemic and considered COVID-19 to be just a common infectious disease. During the three years of the pandemic, the world had hundreds of millions of people infected and millions of them died. The COVID-19 pandemic has restricted international trade activities, disrupted supply chains, reduced investment, and increased inflation and unemployment in many countries. In addition, the world context before, during and after the COVID-19 pandemic also contributed to the world economic crisis, such as the US-China trade war, the Russia-Ukraine conflict situation, the escalation of food, metal, oil and gas prices.

## 2. RESEARCH CONTENTS AND RESULTS:

### 2.1. The COVID-19 pandemic and its impact on Vietnam's economy

#### 2.1.1. Overview of the COVID-19 pandemic

The COVID-19 pandemic is an infectious pandemic of acute respiratory infections caused by a new strain of Corona virus, which started in Wuhan city, capital of Hubei province, China, on December 8<sup>th</sup> 2019. However, it was not until December 31<sup>st</sup> 2019 that China officially notified the World Health Organization (WHO) about the outbreak. Just one month later, on January 31<sup>st</sup> 2020, WHO declared a global emergency due to an acute lung epidemic caused by the new strain of Corona virus. On March 11<sup>th</sup> 2020, WHO officially announced the COVID-19 epidemic caused

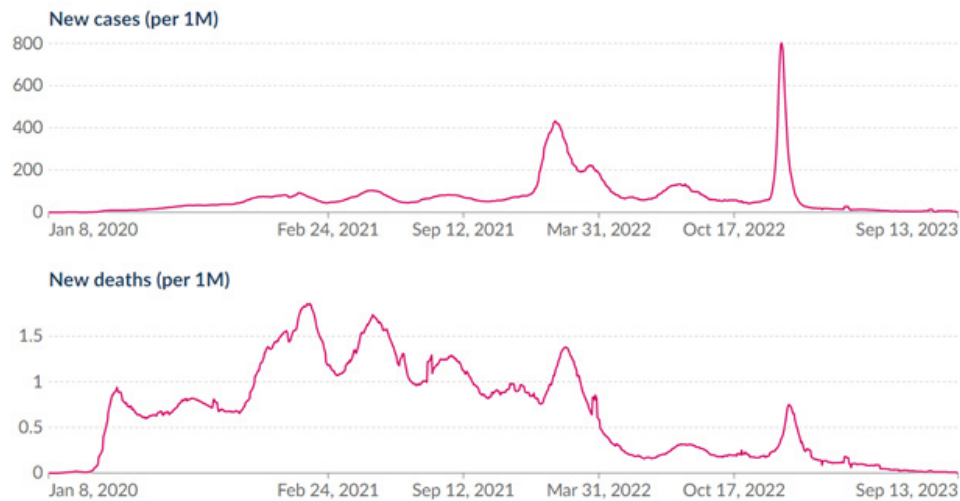
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by the new Corona virus (SARS-CoV-2) as a global pandemic. At that time there were more than 118,000 cases in 114 countries and 4,291 deaths. WHO has sounded the warning bell and called on countries to take urgent and positive action (Tedros Adhanom, 2020).

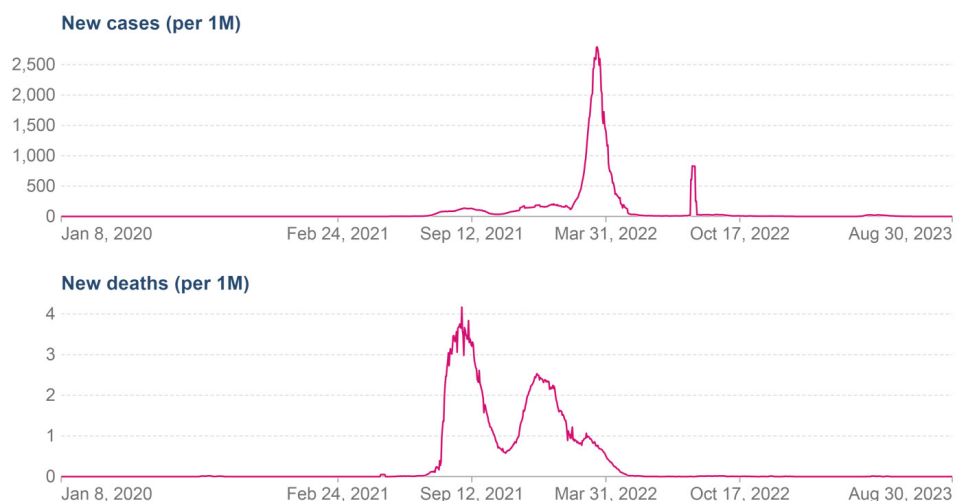


**Figure 1: Daily new confirmed COVID-19 cases & deaths (7-day rolling average) per million people, World**

Source: WHO COVID-19 Dashboard, <https://ourworldindata.org/coronavirus>

According to WHO, as of February 9<sup>th</sup> 2023, there were more than 755 million infections and more than 6.8 million deaths caused by the COVID-19 epidemic in all over the world (Cục Y tế dự phòng, 2023).

On January 23, 2020, Vietnam detected the first case of COVID-19. Since then until 23:50 on September 1, 2023, Vietnam had 11,616,702 infections, 10,639,075 people were cured and 43,206 people died (Bộ Y tế, 2023b). The number of infections in Vietnam ranks 13<sup>th</sup> out of 231 countries and territories. In the ratio of infections per 1 million people, Vietnam ranks 120/231 countries and territories (on average, there are 117,457 infections per 1 million people) (Bộ Y tế, 2023b).



**Figure 2: Daily new confirmed COVID-19 cases & deaths (7-day rolling average) per million people, Vietnam**

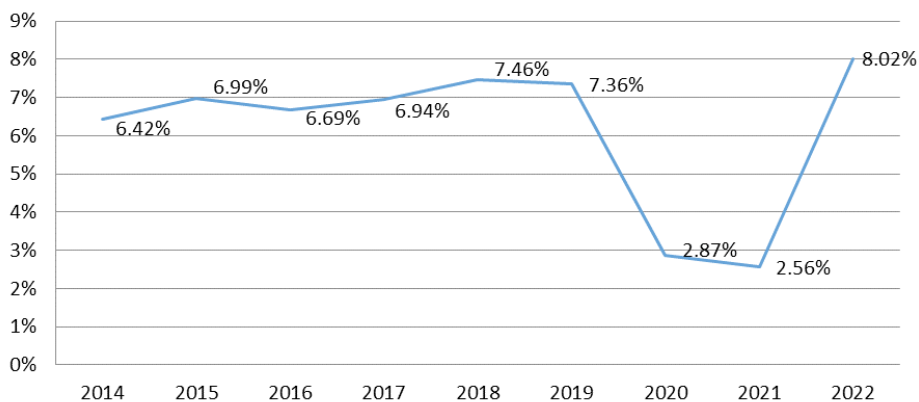
Source: WHO COVID-19 Dashboard, <https://ourworldindata.org/coronavirus>

After more than two years of the pandemic, on June 19, 2023, the Vietnamese Government announced the end of the pandemic and agreed to adjust the COVID-19 disease from group A to group B. COVID-19 is considered as a common infectious diseases (Văn phòng Chính phủ, 2023).

### 2.1.2. Impact of the COVID-19 pandemic on Vietnam's economy

#### Impact of the COVID-19 pandemic on economic growth

In terms of absolute numbers, Vietnam's GDP during the COVID-19 pandemic still increased. But in terms of growth rate, Vietnam's economic growth rate will decrease sharply in 2020-2021. In 2020, Vietnam's GDP growth rate decreased to 2.87% and in 2021 it decreased to 2.56%, this is the lowest level in the past 35 years (in 1986 it was 2.79%) (WB, 2023).

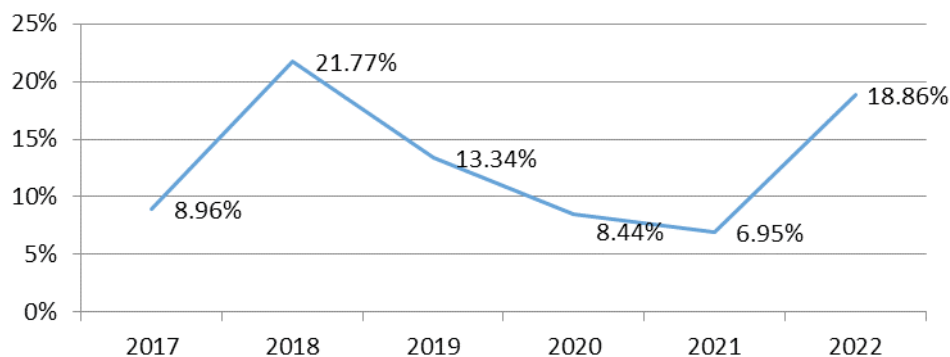


**Figure 3: GDP growth (annual %) of Vietnam (constant 2015 USD)**

Source: WB (2023), World Bank national accounts data, and OECD National Accounts data files, <https://data.worldbank.org/>

#### Impact of the COVID-19 pandemic on merchandise exports

In terms of absolute numbers, Vietnam's export of merchandise during the COVID-19 pandemic period still increased steadily. The total export value in 2019 is 264 billion USD, in 2020 and 2021 it will be 283 billion USD and 336 billion USD respectively. However, in terms of relative numbers, the decline is significant. Vietnam's trade growth rate is from 21.77% in 2018 and 13.34% in 2019, then in 2020 and 2021 it has decreased to 8.44% and 6.95%. From 2022, Vietnam's merchandise exports have regained momentum (UNCTAD, 2023).



**Figure 4: Total merchandise exports growth rates, annual**

Source: UNCTAD (2023), <https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>

### Impact of the COVID-19 pandemic on foreign investment

The COVID-19 pandemic has had the impact of significantly reducing foreign direct investment in Vietnam in both absolute and relative terms. In 2020, the total realized foreign direct investment capital in Vietnam is only 19.98 billion USD, growth rate to be negative at -1.96% compared to 2019. In 2021, the total foreign direct investment capital implemented in Vietnam continues to decrease to 19.74 billion USD, the growth rate continues to be negative at -1.2%, compared to 2020 (FIA, 2023 ).

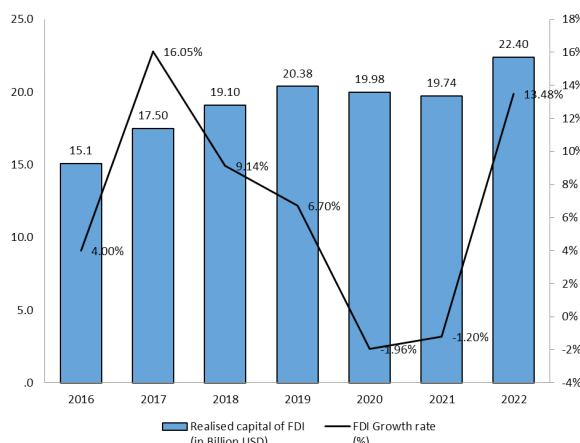


Figure 5: Foreign Direct Investment inflows in Vietnam

Source: FIA (2023), Foreign Investment Agency of Vietnam, <https://fia.mpi.gov.vn/>

### Impact of the COVID-19 pandemic on employment

Vietnam had to implement social isolation measures, which greatly affected on productive and business activities in Vietnam, leading to many people losing their jobs. This was shown by the unemployment rate. In 2020 and 2021, the unemployment rate has increased significantly.

In Vietnam, the unemployment rate in the working age period before COVID-19 from 2019 to 2019 was on average 2.23% per year. In 2019, the unemployment rate was 2.17%. In 2020, due to the impact of the COVID-19 pandemic, the unemployment rate increased up to 2.48% (0.31% higher than in 2019). In 2021, the unemployment rate increased to 3.22% (1.01% higher than in 2019) (GSO, 2023a).

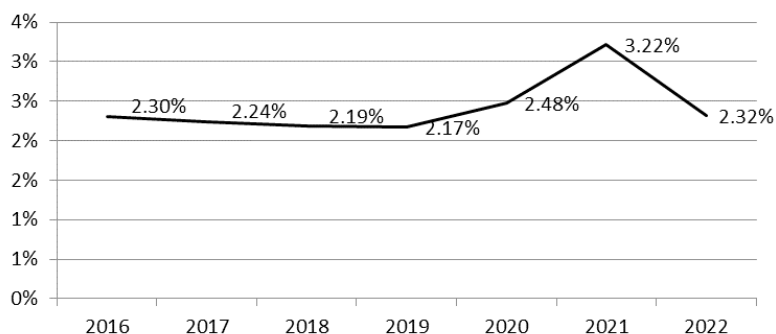


Figure 7: Unemployment rate among the working age in Vietnam

Source: GSO (2023a), Tổng cục Thống kê Việt Nam 2019-2023, <https://www.gso.gov.vn/>

The COVID-19 pandemic has caused revenue from tourism activities in Vietnam to decline. In 2020, Vietnam only welcomed 3.7 million international visitors, down 80% compared to 2019. The number of domestic tourists also only reached 56 million, down 34% compared to 2019. Total revenue from visitors in 2020 only reached 312.2 trillion VND, equivalent to 13.47 billion USD, down 57.8% compared to 2019.

In 2021, the number of international tourists coming to Vietnam will decrease even more than in 2020. In 2021, Vietnam will only welcome 3,500 international visitors and 40 million domestic tourists, total revenue from tourists will reach about 180,000 billion VND equivalent to USD 7.76 billion, down 42% compared to 2020.

Not only the decrease in revenue, but also the decrease in the labor force in the tourism industry. In 2020, tourism businesses have cut staff by 70% - 80%. In 2021, the number of full-time workers accounts for only 25% compared to 2020. Among the workforce that lost their jobs, the most severely affected are tour guides, staff working at tourist accommodation establishments, tourist attractions, and travel, transportation, and cruise businesses, other tourism businesses... (Nguyễn Trùng Khánh, 2022)

### **Other impacts**

The COVID-19 pandemic has had a great impact on economic growth, international trade, foreign investment, tourism and employment. Moreover, it also has a negative impact on many other fields such as finance and currency, securities, transportation, logistics and many other fields.

## **3. VIETNAM'S ECONOMIC RECOVERY POLICIES**

During the COVID-19 pandemic, the Government of Vietnam has implemented many policies to respond to the pandemic such as extending the tax payment period, reducing the value-added tax rate, corporate income tax, personal income tax and land tax, loan interest exemption and reduction and many other specific policies for each specific industry.

In the second quarter of 2022, Vietnam has gradually eased social distancing and started implementing policies for economic recovery and development.

### **3.1. Policies to promote sustainable economic growth**

Right from the beginning of 2030, in Resolution No. 81/2023/QH15 dated January 9, 2023 of the National Assembly of Vietnam about the National Master Plan for the period 2021 - 2030, with a vision to 2050, Vietnam has set a target The average GDP growth target for the period 2021-2030 will reach 7.0%. By 2030, GDP per capita at current prices will reach about 7,500 USD. The proportion in GDP of the service sector is over 50%, the industry - construction sector is over 40%, the agriculture, forestry and fishery sector is less than 10%. The average growth rate of social labor productivity reaches over 6.5%/year. The contribution of total factor productivity (TFP) to growth reached over 50%. To do this, Vietnam will focus on:

- Inclusive, fast and sustainable development based mainly on science, technology, innovation, digital transformation, green transformation and circular economic development.

- Maximize national, regional and local advantages; Harmonious development between economy, culture, society, environmental protection, adaptation to climate change and ensuring national defense and security.



- Reform and improve the quality of market economy institutions
- Awaken the desire to develop a prosperous and happy country, the will to be self-reliant and promote the strength of the great national unity bloc.
- Building an independent and self-reliant economy must be based on mastering technology, proactively and actively integrating internationally, diversifying markets, improving the economy's adaptability and resilience.

### **3.2. Policies to promote the development of international trade**

To promote the development of international trade, Vietnam has actively opened up and integrated with other countries since 2022 when the COVID-19 pandemic was almost over in Vietnam. Vietnam has proactively joined the Indo-Pacific Economic Cooperation Framework (IPEF), the latest United State initiative to promote economic cooperation in the Indo-Pacific region. This is an American initiative announced by US President Joe Biden on May 23, 2022 in Tokyo with 12 initial partners: Australia, Brunei, India, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand and Vietnam. IPEF member countries are countries located in the Indian and Pacific Ocean regions that represent 32% of the world's population and 40% of GDP (World Bank, 2023a and World Bank, 2023b). Participating in IPEF not only gives Vietnam an opportunity to access a large consumer market, but also helps Vietnam participate in the process of establishing trade regulations and standards in the region and global.

Besides, to promote import and export of goods, the Prime Minister of Vietnam issued Decision 493/QĐ-TTg dated April 19, 2022 approving the Strategy for import and export of merchandise to 2030. Highlights in this policy are:

- Vietnam targets an average export growth rate of 6 - 7%/year in the period 2021 - 2030, of which the average export growth rate of 8 - 9%/year in the period 2021 - 2025; the period 2026 - 2030 average growth of 5-6%/year; the average growth rate of import of merchandise is 5 - 6%/year in the period 2021 - 2030, of which the period 2021 - 2025 has an average import growth rate of 7 - 8%/year; the period 2026 - 2030 average growth of 4-5%/year. Balance the trade balance in the period 2021 - 2025, moving towards maintaining a sustainable trade surplus in the period 2026 - 2030; towards a healthy and reasonable trade balance with key trading partners.

- Vietnam orients merchandise exports towards sustainable export development, promoting comparative advantages and transforming a reasonable growth model in depth, effectively using resources, protecting the living environment and solve social problems well.

- Vietnam orients to import merchandise in the direction of increasing the import proportion of modern machinery and equipment, advanced production lines from developed industries, especially high technology, source technology, absorb the achievements of the industrial revolution 4.0 to create a premise to improve the productivity, quality and competitiveness of export products and carry out in-depth restructuring of export merchandise (MOIT, 2022).

### **3.3. Policies to attract investment and promote production**

To attract investment and promote production and business development, Vietnam has enacted a series of policies such as:

- Decree No. 15/2022/ND-CP dated January 28, 2022 of the Government stipulating tax exemption and reduction policies according to Resolution No. 43/2022/QH15, which stipulates the reduction of VAT export tax from 10% to 8% for groups of goods and services that are subject to a tax rate of 10%.

- Decree No. 34/2022/ND-CP dated May 28, 2022 of the Government extending the deadline for paying VAT, corporate income tax, personal income tax and land rent in 2022.

- Decree No. 103/2021/ND-CP dated November 26, 2021 of the Government allows a 50% reduction in registration fees for cars, trailers or semi-trailers pulled by cars and vehicles similar to domestically produced and assembled cars.

- Resolution No. 13/2021/UBTVQH15, Resolution No. 18/2022/UBTVQH15, Resolution No. 20/2022/UBTVQH15 applies to environmental protection tax reduction.

- Decree No. 51/2022/ND-CP reduces preferential import tax (MFN) on unleaded motor gasoline from 20% to 10% to contribute to diversifying import supply.

- And many other regulations to adjust and reduce import and export tax rates for many groups of products.

#### **3.4. Policy on development of tourism industry**

To promote tourism development, Vietnam opened its doors for international tourists since very early compared to many countries in the world. The Vietnamese Government has enacted many policies to support the development of the tourism industry, specifically:

- On November 2, 2021, the Government Office issued Official Dispatch No. 8044/VPCP-KGVX “On temporary guidance on piloting the reception of international tourists to Vietnam”.

- On June 24, 2023, the National Assembly of Vietnam passed the Law amending and supplementing a number of articles of the “Law on Entry, Exit, Transit, and Residence of Foreigners in Vietnam” including the following policies: New book on visas for foreigners. From August 15, 2023, citizens of some countries with unilateral visa exemption will have a visa exemption period to enter Vietnam extended up to 45 days, an increase of 3 times compared to the previous period of 15 days. day.

- On August 14, 2023, the Government of Vietnam enacted Resolution No. 127/NQ-CP, paving the way for the application of electronic visas (E-Visa) for citizens of all countries in the world, including 257 countries and territories (previously only for 80 countries). According to the Resolution, from August 15, 2023, foreigners regardless of nationality and country can apply for a Vietnam electronic visa online. Vietnam’s electronic visa has a validity period from 1 month to a maximum of 3 months.

- Enterprises doing business in the tourism sector also enjoy general incentives from the Vietnamese Government such as extending tax payment deadlines, reducing tax rates of value-added tax, corporate income tax, and revenue tax. personal income and land rent,...

#### **3.4. Other policies**

Besides the above policies, Vietnam also implements many other policies such as flexible monetary policies to both ensure inflation control and promote production development.

Monetary policy has contributed to actively controlling inflation, stabilizing the macroeconomy, and promptly adapting to domestic and foreign market developments.

Furthermore, Vietnam also implements a flexible exchange rate policy to adapt to unpredictable developments and great pressure from the international market. The exchange rate band has been adjusted from  $\pm 2\%$  to  $\pm 5\%$ , at the same time maintaining the value of the local currency, creating confidence for business and consumer, and contributing to stabilizing the price of goods in the domestic market.

Commodity price management in Vietnam is managed carefully, closely following market price developments, regularly evaluating and making specific forecasts to have appropriate management, administration and price stabilization measures. Moreover, Vietnam also strengthens the prevention and combat of smuggling and trade fraud.

#### 4. CONCLUSION

The COVID-19 pandemic has had many negative impacts on the Vietnamese economy in 2020 and 2021. The pandemic has had a negative impact on GDP growth, commodity exports, FDI inflows, employment, tourism and some other fields. Since the COVID-19 pandemic started, the Vietnamese Government has had many flexible policies to stabilize the economy. Since the COVID-19 pandemic ended, Vietnam has also had many appropriate economic development policies. The economic policies focus on promoting science and technology development, promoting digital transformation, encouraging commodity exports, promoting investment attraction, expanding international economic integration, promoting foreign tourist attraction and many other policies. It can be seen that since the COVID-19 pandemic declined, the Vietnam's economy has gained growth momentum. Vietnam's economic policies have worked well. Vietnam's economic development process has received many good compliments and many experts predict that Vietnam's economy will continue to thrive in the future.

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# FEMALE LABOUR PARTICIPATION, WOMEN ENTREPRENEURSHIP AND FEMALE-OWNED ENTERPRISES IN VIETNAM: CHALLENGES TO ACHIEVE SUSTAINABLE DEVELOPMENT

Dr. Luu Minh Duc<sup>1</sup>

***Abstract:** Women participation and status in the economy play an important role in achieving economic growth and sustainable development of a country. This article presents an inquiry into the theoretical basis of such proposition, and analyses the practical situation of women in the economy of Vietnam within three perspectives, namely: i) female labour-participation; ii) women entrepreneurship; and iii) female-owned enterprises, especially in comparison with reputable international rankings. As a result, it is showned that although gaining significant achievements in improving the role of women in the economy in recent years, Vietnamese women still face considerable challenges in promoting their labour participation and entrepreneurship, and growing the scope and scale of their enterprises. They are attributed to the gender economic inequality caused by those socio-cultural features alike many other developing countries. Hence, state efforts should be continued in removing such hurdles for the sake of sustainable development.*

***Keywords:** female labour participation, women entrepreneurship, female-owned enterprises, sustainable development, Vietnam*

## 1. INTRODUCTION

As being both the production inputs and outcomes of the economic development process, the role of women in the economy should always be an important topic. On the one hand, the participation ratio and position of female labour reflect the quantity and quality of the human capital in economic development of a nation; on the other hand, the comprehensive growth of women entrepreneurship and their owned enterprises help the country achieve inclusive growth and sustainable development. Although there have been significant improvements of the economic role of women in recent years in Vietnam, the their participation and position in the economy have still been hindered by structural restrictions and barriers caused by traditional socio-cultural factors. This is a common problem mostly associated with developing countries.

This article will address the research questions of how Vietnamese women performs their role in the economic growth and sustainable development; and what challenges they are facing, from the following perspectives: (i) femal labour participation; (ii) women entrepreneurship and; (iii) female-owned enterprises. These perspectives can be seen either in terms of dimension or advancement level of the role of women in the economy. A typical woman can perform one of the above roles otherwise she may step up through all of them along her working career.

It is structured firstly by looking into the theoretical basis on the role of women in the economy which emphasises the critical positions of the feminist economics and a modern literature review on obstacles facing women entrepreneurship. Analysis will then be carried out upon practical data of the female participation in the workforce of Vietnam and their level

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of training according to latest statistics, while other different aspects of the gender economic equality be explored in comparison with those of other countries on major international rankings. Finally, the article presents policy implications for continuing the improvement of the role of women in the economy in Vietnam.

## **2. OVERVIEW OF THEORETICAL BASIS ON THE ROLE OF WOMEN IN THE ECONOMY**

Such issues as the ignored or underestimated role than actual contributions of women in the economy; gender inequality in distribution of economic benefits and resources allocation; structural barriers and traditional socio-cultural factors hindering female participation in the workforce and status of the women in firms are all of concern of a distinct branch of economics – Feminist Economics. In 1988, the book ‘If Women Counted’ written by Marilyn Waring established this discipline as awakening the academics about an ‘unpaid economic sector’ of the housework and informal businesses (household businesses and freelance jobs) that women perform. Since then, the feminist economics has quickly developed to pose its impact on the modern economics, especially new approaches including sustainable development, inclusive growth, and green growth.

### **2.1. Female labour participation and the human capital**

Labour force, in terms of quantity, is one among three fundamental inputs of production which also take into account capital and technology. So, the female participation in the workforce clearly affect the scope of the amount of labour of an economy. In its measurement, unemployment rate only reflects the job holders on the total of labour participation. As a result, if a large amount of women in working age stands out of the labour force, the unemployment rate then does not tell the whole picture of a nation’s labour-force structure. In such a case, when engaging in housework or informal businesses, these women are considered voluntarily unemployed. Yet, if we take into account the non-economic hurdles, i.e. traditional socio-cultural factors that hinders this group of people out of the workforce, the size of the labour force is obviously restrained below its level to achieve the potential output. Hence, even when a country has a low unemployment rate, as long as the female labour participation rate is limited, it still cannot be seen as a full-employment economy.

Additionally, measurement of GDP only includes final products and services produced domestically and traded in markets (Mankiw 2018); therefore, the value women create when doing housework and those informal businesses is not calculated in the GDP. As a consequent, a low rate of labour participation from the women due to non-economic factors in general will decrease the scope of the economy compared to its potential.

In terms of quality of the human capital, it is observed that in those nations with a limited role of women in the economy, other related indicators such as schooling rate of girl students, women’s access to health care, and education and training levels of female workers are normally also lower than the average. Consequently, the human capital of the economy will be affected as long as gender inequalities exist.

### **2.2. Women entrepreneurship and its contribution to sustainable development**

Status of the women in firms closely associates with the economic role of the women in the economy. Labour is grouped into three modes as follows: (i) standing out of the workforce; (ii)



employees; (iii) self employment. For employees, the disadvantages of access to education and health care lead to a low rate of women holding senior positions in firms. For self-employment, it is widely observed that there is often a huge proportion of informal sector which may claim up to 30-50%, or even by 70% of the GDP in developing countries (Todaro & Smith 2009). This sector is mostly represented by women, including those employees taking extra jobs due to insufficient income from the main ones.

According to Tambunan (2009), women entrepreneurship can be classified by a number of characteristics and start-up motivations, namely:

(i) Chance entrepreneurs: are those starting-up their businesses without a long-term vision or plan. She seems to be rather amateur as coming to business; for example from pursuing a hobby or just to make herself busier, or inherit the family business;

(ii) Necessity entrepreneurs: are women forced into business due to a financial pressure, which is also called push-factor;

(iii) Creative entrepreneurs: are innately entrepreneurs who have creative ideas and ambition to pursue a business career, which is called pull-factor.

Obviously, the creative entrepreneurs are those capable to develop more sustainably because they want to prove their independence while having long-term commitment with the business ideas (Todaro & Smith 2009). However, due to gender economic inequalities mostly found in developing countries, there is just about 10-20% women entrepreneurs belonging to the third group above.

In developing economies, a majority of women entrepreneurs are in the second group. They normally come up with small businesses; and due to the lack of capital, skills and relationships, their businesses are usually concentrated in labour-intensive sectors with low technologies and low profit, but high risks. Therefore, the businesses of this kind often have unstable and unsustainable future outlooks. Some of the entrepreneurs are even willing to return to the jobs in formal sectors when available. Meanwhile, although the women entrepreneurs of the third group are highly expected to contribute better to the economy as mentioned above, their firms are also restrained significantly in terms of scope and scale (Tambunan 2009; Nguyen Thi Thu Ha et al. 2016; Sajuyigbe & Fadeyibi 2017). In Vietnam, according to IFC (2017), 52% of the female-owned enterprises are of micro size; 42% are small and medium enterprises (SMEs); 55% are operating in retailing field, while just 15% doing business in manufacturing sector. In a survey conducted by Luu Minh Duc (2020), it is revealed that nearly 30% of the businesswomen of small-scale retailers in Vietnam can be regarded as creative entrepreneurs, a higher result than that of many other developing countries.

Female-owned enterprises are businesses having the owners or managers of highest ranking as General Director or CEO who are women. This is the most common understanding of the concept despite insignificant differences among nations. IFC (2017) posits that there is no official definition in Vietnam on the female-owned enterprises, other than classification criterion of the General Statistics Office that include all of the firms managed by a woman. It is provided that a strong correlation between the female owners and managers has been proved.

It can be said that women entrepreneurship actively contribute to the sustainable development since it directly influences 5 out of 17 UN's sustainable development goals (SDGs), including: poverty reduction and hunger alleviation (number 1&2), narrowing the gender inequalities and income gap (5&10); creating job and economic growth (8). This has been empirically proved by Sajuyigbe & Fadeyibi (2017). Nguyen Thi Thu Ha et. al. (2016) also notes that *'countries where women and men have more equal economic opportunities are also the more affluent countries'*.

In other perspective, women entrepreneurship can promote sustainable development in the following ways: (i) optimising the allocation of resources by bringing into full play the potential assets which have not been mobilised; (ii) developing female-owned enterprises in scope and scale, and so more of them join the formal business sector; (iii) directly tackling sustainable development goals as above mentions; (iv) female entrepreneurs tends to engage in sustainable development path more than men as the women are often more family-oriented, thus having higher propensity to save and reinvest than men (Luu Minh Duc 2020).

### **2.3. Female-owned enterprises: challenges and fostering factors**

According Todaro & Smith (2009), many female-owned enterprises are in a low-level equilibrium. In other words, these firms enter a vicious circle, starting from the poor conditions of physical and human capitals which lead to a limited capability to develop the businesses, not to mention the fact that they have to confront traditional barriers and prejudices of gender inequality. Finally, their will to expand the businesses is thus discouraged.

Unfavourable factors affecting the resources allocation and business development of the female-owned enterprises include: (i) less access to education and occupational training; (ii) main responsibility attached with housework; (iii) prejudices of laws, traditional norms and religion restraining the scope of business owned by women; (iv) less access to formal sources of finance and other services; (v) fewer peer-supporting networks, such as associations or clubs which are more open to men (Tambunan 2009).

Fernandes & Sanfilippo (2020) introduces 7 socio-cultural challenges (non-economic) facing the women entrepreneurship: (i) social expectation that men are more suitable to business and perform better, so women have to imitate if want to be recognised; for example showing tough, decisive or fierced; (ii) limited access to capital; (iii) not being listened to seriously; (iv) difficult to gain impression or affirm their personal values or personalities; (v) building working networks; (vi) balance between work and family life; (vii) threat of failure.

Besides of the above elements, the women entrepreneurship in Vietnam is additionally influenced by the Oriental society's features. Tradition of limited movement of labour and travel has long constructed a feminised agriculture, making businesswomen migrate to cities if want to start-up in a non-agricultural sector. Prejudices on age and gender also refrain the women's capabilities to establish effective relationship with suppliers, customers and stakeholders. When asking whether or not being female causes you more difficulties in starting-up and doing business, up to 60% of the respondents agreed in a survey (Nguyễn Hoàng Anh et al. 2016).

If the state intends to promote the development of female-owned enterprises, the fostering factors should be of concern, namely:

(i) Quality of the human resources: managerial capabilities, business skills and knowledge of women entrepreneurs are closely related to their access to and the quality of the health care and education systems, which are rated through schooling rate of girl students, education and training levels of women, Gini indicator in education, ect...

(ii) Financial funding: while micro-financing schemes have played a key role in higher alleviation and poverty reduction, growing businesses needs more formal sources of credit provided by commercial banks. But, these types of funding are competitive, so requiring more conditions such as the scope and experience of the business, credit history, and efficiency, which are all women entrepreneurs' disadvantages.

(iii) Socio-cultural norms: gender discrimination in profession often creates pressures on women entrepreneurs, prevent them to enter some of the markets traditionally spared for men, for example heavy industries or construction.

(iv) Laws: some regulations may pose incredible impact on the development of the female-owned enterprises. An example is the adjustment of the Land Law which requires both names of the spouses in the land certificate. As a result, women now have more property rights to use as collateral for credit borrowing. When business environment and legal framework are improved to be clearer and more transparent, with lower compliance costs, female-owned enterprises are also benefited.

(v) Business supporting and connecting networks will give a good supplementation of knowledge and skills for women entrepreneurs. Furthermore, infrastructure and social security should also provide convenient facilities for businesswomen to focus on working. Systems of high-quality kindergartens and schools will assist them to get a better work-life balance; while social security can alleviate their burden and worrisome over the aging or unemployment situation.

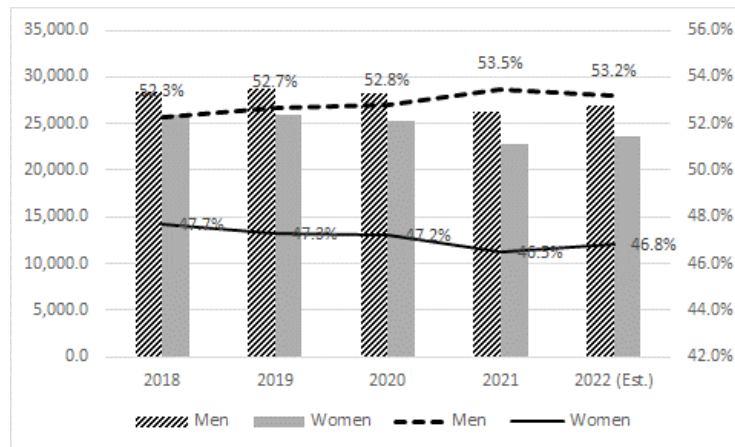
### **3. RESEARCH CONTENTS AND RESULTS**

#### **3.1. Labour participation and training level of Vietnamese women**

Female labours account for 46.8% of the total 50.6 million workers of above 15 years old and having jobs in Vietnam in 2022, which was considerably lower than the rate of 53.2% of men. Data of the GSO (2023) also show that the number of female workers drastically reduced during the period when the economy was affected by the Covid-19 epidemic from 25.9 million in 2019 to 22.8 million people in 2021. This trend has been reversed since the year 2022. But, the employment gap between men and women rose from 5.4 to 6.4 percentage points during the period of 2019-2022, proving that the job retention of women is much more vulnerable than that of men in case of external economic shocks.

**Graph 1: Number of job-having labours in the economy by gender**

*Unit: thousand people*

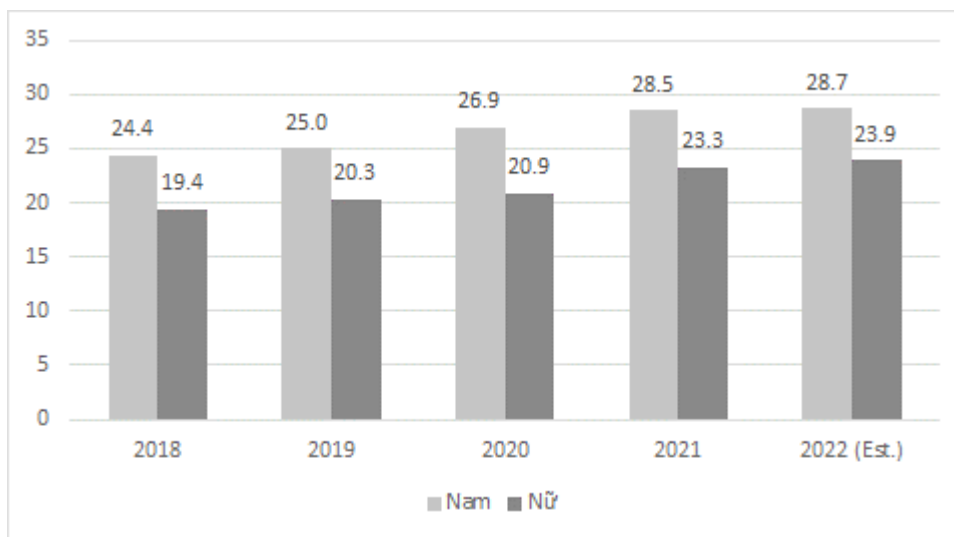


*Source: Statistical Yearbook of Vietnam 2022*

Gender gap is also evident in terms of the access to education and training. Although Vietnam has made remarkable improvements of the quality of human capital for its abundant workforce in recent years; just 26.4% of the total labour have undergone training, and this figure of the women was also lower than that of the men: 23.9% in compared with 28.7% in 2022.

**Graph 2: Proportion of trained workers by gender**

*Unit: %*



*Source: Statistical Yearbook of Vietnam 2022*

In sum, it is shown by the statistical data that the Covid-19 epidemic caused significant effects on the women’s accessibility to employment, reducing the female participation rate in the labour force in terms of quantity, and widening the gap of training between men and women as well. It highlights the need for continuing the efforts to improve the economic role of women, contributing to the nation’s sustainable development.

### 3.2. Women entrepreneurship and female-owned enterprises of Vietnam in international rankings

Women entrepreneurship has developed in recent years in Vietnam, thanks to the widespread encouragement of start-ups especially by youngsters. Consequently, the results can be evident in major research and international ranking reports which study and compare the women's positions in firms, women entrepreneurship and female-owned enterprises in countries around the world, including Vietnam. Some of those reports will be analysed as follows:

#### *VCCI's research report (2019): female-owned enterprises in Vietnam*

Share of female-owned enterprises in Vietnam increased from 21% in 2011 to 23.8% in 2018. It is similarly shown by the National Data of Business Registration: by September 2019, there were 285,689 female-owned enterprises in the whole country, accounting for 24% of the total number of enterprises. According to VCCI's report, which was based on the annual provincial competitiveness survey, representation of the female-enterprises is mostly concentrated in Trade and services: 28%; following by Agriculture, forestry and aquaculture: 23%; Manufacturing: 18%; and lowest in Construction: 13%.

Female-owned enterprises in Vietnam are often characterised by the features below:

(i) Owners had a high level of education: 68.6% of them have graduate and post-graduate degrees, while that of men was 71.9%. It shows that unlike what has been shown among the labour in general; the gender gap of education and training among corporate owners is narrowed and Vietnam's women entrepreneurs are fully capable to manage firms;

(ii) Most of the female owners had started-up as household businesses, up to 70%; showing their relatively low and informal platform and proving a much higher proportion of the necessity entrepreneurs than creative ones as noted in the part of theoretical overview;

(iii) Most of the businesses employed under 50 people, i.e. the size of micro-enterprises or SMEs;

(iv) 68-70% of the female-owned enterprises often had under VND 5 billion of asset;

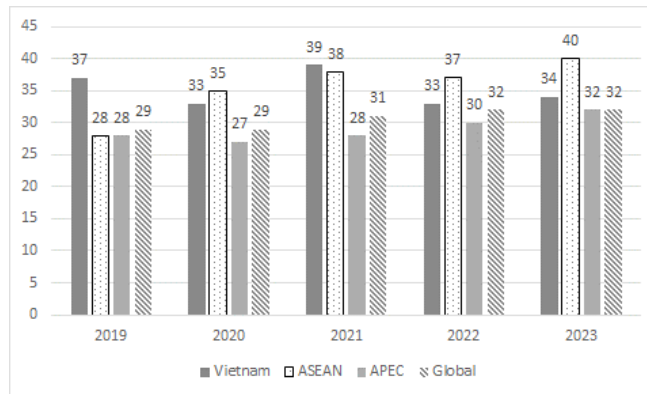
However, VCCI (2019) emphasized that the performance of female-owned enterprises was no less efficient than men's; but both of them scored a low level of profit (nearly 60%).

#### *Grant Thornton's 'Women in Business' report (2020-2023): women holding senior-managerial positions in firms*

Vietnam has continuously been ranked within the world's top 10 in recent years. Remarkably, the share of the highest positions in firms taken over by women in Vietnam reached 37% and 39% respectively in 2019 and 2021, much higher than the averages of the region and the world. In 2021, Vietnam claimed the 3th place in the world, and second in the Asia – Pacific region (just behind Phillipines). Nevertheless, this rate has declined during 2022-2023 to 33-34%, lower than the average level of ASEAN, though still higher than the Asia – Pacific region and the world.

**Graph 3: Business leaders as women in Vietnam, region and the world**

*Unit: %*

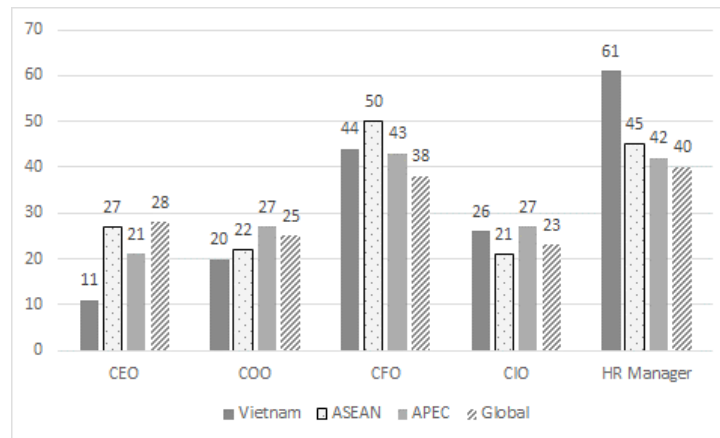


*Source: Grant Thornton (2023)*

According to Grant Thornton’s report, the senior-managerial role holding the most by women in Vietnam in 2023 is Human Resources Manager (61%), reduced 7 percentage point in compared to 2022; while the next is Chief Financial Officer (44%), reduced 3 percentage point in compared to 2022. Both of these rates are at a higher level in comparison with the Asia – Pacific region and the world.

**Graph 4: Women holding managerial positions in firms in 2023**

*Unit: %*



*Source: Grant Thornton (2023)*

***Mastercard Index of Women Entrepreneurs - MIWE (2022): women entrepreneurship indicator***

MIWE is an international ranking comparing the women entrepreneurship among 65 countries around the world, accounting for 82.4% of the world’s female labour. It is calculated based on 12 major indicators and 27 sub-indicators, arranged in three groups: (i) Women’s Advancement Outcomes; (ii) Knowledge Assets and Financial Access; (iii) Entrepreneurial Supporting Conditions.

In 2021, Vietnam got 54.7 score, ranked 38<sup>th</sup>/65 in MIWE, reduced 1 step and 0.5 score in comparison with 2020. Although the country achieved higher ranks than a number of more



developed ones such as Japan, Saudi-Arabia, it lagged behind some neighbouring countries and of similar level of development: Singapore (ranked 18<sup>th</sup> – 62.2 score); Thailand (19-61.8); Indonesia (25-60.5); Philippines (26-60.4); and Malaysia (28-59.3). While the relatively high rate of female participation in the labour force is an advantage, such achievement was diluted by other indicators in terms of quality which got lower ranks.

Particularly, Vietnam's group indicator of Women's Advancement Outcomes, comprising the sub-indicators of female labour participation and women business leaders, reached 60.3 point, ranked 11<sup>th</sup> in 2021 – a very high place. Nevertheless, within the group indicator of Knowledge Assets and Financial Access, Vietnam only stood at 51<sup>th</sup> rank with 50.0 point; and within the group indicator of Entrepreneurial Supporting Conditions, including the business environment and state policies relating to the status of women entrepreneurship, Vietnam could just also gain 51<sup>th</sup> position with 52.5 point.

### 3.3. Gender economic equality in comparison

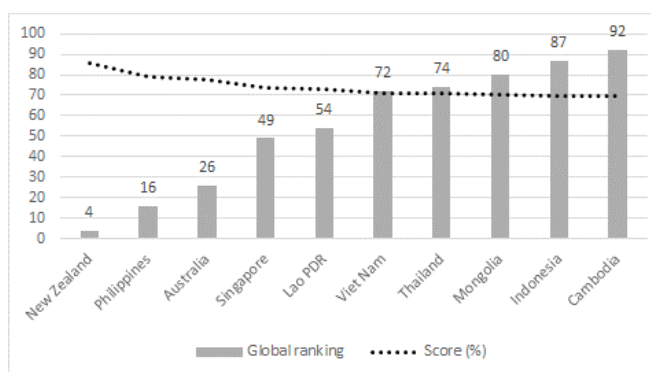
#### *World Economic Forum's report (2023) on Gender Gap Index - GGI*

GGI is constructed upon 4 major sub-index: economics, education, politics and health. In order to prevent the distortion caused by differences in the level of development among countries, the GGI methodology is to record the gender gap in the process towards absolute equality, reflected by the way GGI score ranges from 0.0% (inequality) to 100% (equality). In 2023, the average GGI of 146 nations is 68.4%, increased 0.3 percentage point in compared to 2022; meaning there is still 31.6% of the gap to be bridged in the future.

Women's role in the economy can be measured by one of the four major indicators – gender economic equality. In 2023, the overall economic sub-index was 60.1%, reduced 0.2 in compared to the previous year. At the global scale, the economic indicator is often lower than those of the health and education (respectively attaining 96.0% and 95.2% in 2023), yet higher than that of politics (22.1%). According to WEF (2021), the impact of Covid-19 epidemic widened the gender economic gap from 1-4%.

In terms of the overall score, Vietnam attained 71.1% score, ranked 72<sup>th</sup> in the world in 2023; increased 0.6% and 11 steps in compared to 2022. In the Asia – Pacific, Vietnam ranks at 6<sup>th</sup> place.

**Table 5: Top 10 GGI ranks and scores in Asia – Pacific region**



Within the economic sub-index, Vietnam achieves 74.9% and ranks 31<sup>th</sup> in the world; reduced 0.2% in terms of score, but remaining the rank of 2022. It can be said that, gender economic equality is the realm where the global average is not high, but it is the highlight of Vietnam when getting highest ranks among other sub-index. In other words, the state of gender economic gap in Vietnam has better progress than the average level of the world and other countries of similar development conditions.

#### 4. CONCLUSION AND POLICY IMPLICATIONS

In conclusion, it can be seen that the role of women in the economy is significance not only in theory but also in practice. The article has inquired this topic from three perspectives: (i) the female participation in labour force; (ii) women entrepreneurship; and (iii) female-owned enterprises, with an analysis of the challenges and fostering factors that can be used as focus for policy-making.

Vietnam has made considerable improvements in recent years to narrow the gender economic gap. Women entrepreneurship and female owned start-ups have been encouraged along with favourable changes in the business environment. It is shown through the high ranks Vietnam has recently gained in international rankings. However, due to the impact of Covid-19 epidemic, gender economic inequalities seems to be widened again, deteriorating the progress so far, mostly notably relected by the vulnerability of women's employability according to the statistics. Female-owned enterprises in Vietnam still share many features with those in other developing countries, such as the limitation in scope and scale, development potential and business sectors. Therefore, the state should continue its important role and efforts to implement policies in suggested fields mentioned in the article, promoting the participation ratio of women in the workforce, nurturing women entrepreneurship, supporting female-owned enterprises development, and bridging gender economic gap, for the sake of the sustainable development.

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# CIRCULAR ECONOMY AND PRACTICAL SOLUTIONS IN VIETNAM

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**Abstract:** *In the context of global economic integration, Vietnam participates in many new-generation free trade agreements (FTAs) with many countries and economic regions, including commitments on environmental safety standards. Sustainable development in general and particularly circular economy development, in particular, have been paid great attention by the Party and State. The 13th Party Congress also set the task in the coming time to “build a green, circular and environmentally friendly economy”. Therefore, the application of the circular economy model in Vietnam is an inevitable trend towards sustainable development. The primary aim of this article is to analyze the necessity of transitioning the Vietnamese economy toward the way of circular economy. This paper uses an overall and comprehensive approach to collect and summarize the recent studies and reports related to this topic. All the data and figures are obtained based on secondary data provided by Vietnamese public organizations.*

**Keywords:** *Circular economy, linear economy, sustainable development*

## 1. INTRODUCTION

The global ecological environment is facing unsustainable socio-economic development and a lack of attention to the management of natural resources and ecosystems. Natural resources have been exhausted, and environmental pollution is getting worse. Many countries have changed their development strategies towards a clean economy – a circular economy for sustainable development to resolve these challenges. Vietnam is not an exception. As a developing country, Vietnam’s economy is maintaining its conventional linear development, meaning that the growth is still based on increasing inputs, slowly moving to growth in depth. The production process still uses a lot of raw materials energy and discharges a massive amount of waste. The exploitation and utilization of natural resources are not suitable and economical enough which leads to the fact that the environment and ecosystem of many areas are severely polluted.

According to the Vietnamese Ministry of Natural Resources and Environment, raw material costs and average disposal levels of Vietnamese enterprises are much higher than the average level of the regional and all over the world. Besides, every day the urban areas in Vietnam discharge nearly 32,000 tons of household waste, while this figure in rural areas is 12,000 tons (QDND, 2016). It is forecasted that, by 2025, the amount of rubbish in Vietnam will be about 100 million tons per year, including household, industrial, and medical waste. The status of garbage untreated before being discharged into the environment has become an urgent issue in the environmental protection of the Vietnamese government.

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In the face of natural resource depletion and environmental pollution, the concept of a new economy - the circular economy is receiving the attention and support of many organizations and governments all over the world. This economic model tends to reuse raw materials, reduce raw material consumption, improve production efficiency, and minimize the impact on the environment.

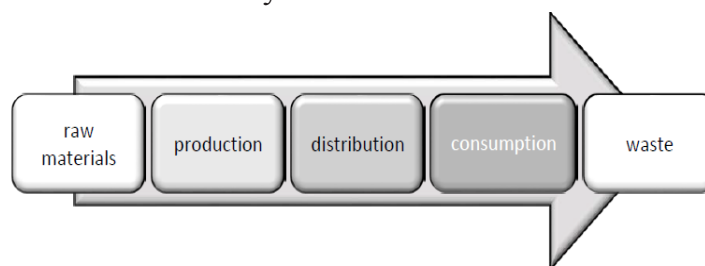
This paper will focus on analyzing the basic concepts of linear economy and its problems, the circular economy, and the necessity of transiting the Vietnamese economy towards the circular economy.

## 2. BACKGROUND

### 2.1. Linear economy and its basic problems

The linear economy model is an economic model that has been widely applied in the early stages of industrialization in most Western developed countries and is also the current dominant model of developing countries. The characteristic of the linear economy concept is that waste, as a side result of the production process, is discarded directly into the environment (Figure 1). The concept is based on the principle: “take, make, consume, discard” and it assumes boundlessness and easy availability of material resources (Drljača, 2015). That is, take the resources you need, make the goods to be sold, make profits, consume them, and discard everything else – including products at the end of its lifecycle.

It is undeniable that the linear economy is no longer a tenable model within the limits of our planet. The disadvantages of the linear economy outline the urgency for an alternative model, which can be further interpreted as opportunities for the circular economy. The main problems of a linear economy are the lack of solutions for the growing shortage of materials, increased pollution, increased material demand, and the growing demand for responsible products. It can be classified into two types of disadvantages of this economic model such as supply risks and the increase of externality.



**Figure 1. Phases of linear economy model**

*Source: Author's synthesis*

#### The disadvantages of supply risks

In a linear economy, there are uncertainties about material availability because our planet has a limited quantity of materials, and this availability depends on several mechanisms. These uncertainties are fueled by an increase in price fluctuations, the critical materials, and the interconnection between products and processes.

*Price volatility:* The variation in materials prices has increased since 2006 and significantly raised average prices. This not only induces problems for producers and buyers of raw materials

but also causes increasing risks in the market, making investments in material supply less attractive. This can ensure a long-term increase in raw material prices. (Lee et al., 2012)

*Critical materials:* Some industries make extensive use of critical materials. These are metal industry, computer and electronics, electrical equipment, and automotive and transport industry. Depending on critical materials will ensure that companies are dependent on fluctuations in material prices, are unable to make predictions, and are less competitive than less material-dependent competitors. (Lacy et al., 2014)

*Interconnection:* Due to the expansion in trade activities, the interconnection of commodities has become increasingly sharper. For example, water-scarce countries with a surplus of crude oil, trade oil for food, which results in a link between these products in the market. Besides, the production of many products depends on water and fuels. Because of this interdependence, scarcity of one raw material would have a widespread impact on prices and availability of more goods. (MacArthur, 2013b) (Lee et al., 2012).

*Increasing material demand:* Because of population growth and increases in prosperity, the number of consumers with a higher demand for material products will increase by three billion in 2030. The consumption of resources has doubled in the period 1980-2020 and will triple in the period up to 2050 when business-as-usual models are followed. (MacArthur, 2013c), (Fischer-Kowalski et al., 2011).

### **The disadvantages of externalities**

Depending on a linear economy will also induce negative impacts such as destruction to ecosystems and the decrease in product lifetime.

*Degradation of ecosystems:* Following the linear model of 'take-make-dispose' will create waste. The production processes will generate large streams of material that are burned or left in a garbage dump. This will eventually lead to an excess of unusable material mountains overloading ecosystems. This ensures that the ecosystem is hampered in providing essential ecosystem services (such as providing food, building materials and shelter, and the processing of nutrients). (MacArthur, 2013a)

*Decreasing the lifetime of products:* In recent years, the life of products reduced dramatically. This is one of the driving forces behind the expanding material consumption in Western countries. The service life of products is still declining, by process of the positive feedback: Consumers want new products more quickly and are using their "old" products for a shorter period. This results in a decreased need for quality products that can be used in the long term, which stimulates consumers to buy new products even faster. (Bakker et al., 2014)

## **2.2. Circular economy and practical solutions**

What is a circular economy

There are some points of view to define the circular economy. Some authors have provided resource-oriented interpretations, emphasizing the need to create closed loops of material flows and diminish the consumption of original resources and its attendant harmful environmental impacts (Sauvé et al., 2016, Preston, 2012). Similarly, there is a scholar who claims that the circular



economy “refers mainly to physical and material resource aspects of the economy - it focuses on recycling, limiting and re-using the physical inputs to the economy, and using waste as a resource leading to reducing primary resource consumption” (Zoboli et al., 2014). Another author (Morgan and Mitchell, 2015) goes further and emphasizes the importance in a circular economy of keeping resources in use for as long as possible as well as extracting the maximum value from products and materials by using them for as long as possible, then recovering and reusing them.

In the available literature, there are also several interpretations of the concept that attempt to move beyond the notion of management of material resources and incorporate additional dimensions (Heck, 2006, Su et al., 2013). (Bastein et al., 2013) emphasize the economic dimensions of the circular economy and suggest that this transition “is an essential condition for a resilient industrial system that facilitates new kinds of economic activity, strengthens competitiveness and generates employment”. According to Ghisellini et al. (2016), the radical reshaping of all processes across the life cycle of products conducted by innovative actors has the potential to not only achieve material or energy recovery but also to improve the entire living and economic model.

One of the most frequently cited definitions that incorporate elements from various disciplines has been provided by the Ellen MacArthur Foundation which describes the circular economy as “an industrial system that is restorative or regenerative by intention and design. It replaces the ‘end-of-life’ concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models”. Under this framework, the circular economy aims to keep both types of these materials at their highest utility and value at all times through careful design, management, and technological innovation (MacArthur, 2013a). The overall objective is to “enable effective flows of materials, energy, labor, and information so that natural and social capital can be rebuilt” (MacArthur, 2013b).

At the EU level, the (EC, 2015) has included a description of the concept in its Communication “Closing the Loop - An EU Action Plan for the Circular Economy”. Specifically, the circular economy is described as an economy “where the value of products, materials, and resources is maintained in the economy for as long as possible, and the generation of waste minimized”. The transition to a more circular economy would make “an essential contribution to the EU’s efforts to develop a sustainable, low carbon, resource efficient and competitive economy”.

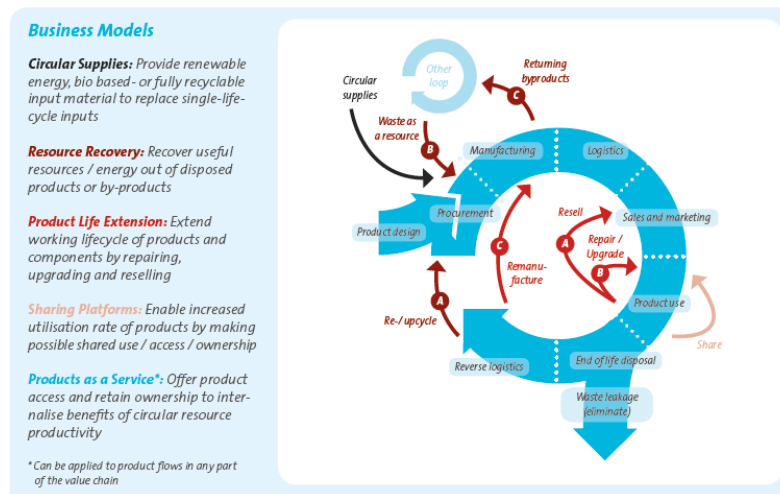
Based on these schools of thought, it can be summarized that *a circular economy is an economic system where products and services are traded in closed loops or “cycles.” This economic system is characterized as an economy that is regenerative by design, with the aim of low environmental impact and maintaining as much value as possible of products, parts, and materials. This means that the aim should be to create a system that allows for long life, optimal reuse, refurbishment, remanufacturing, and recycling of products and materials.*

#### ***Circular solutions - Five business models driving the circular economy***

According to the “Circular Advantage” report prepared by the National Zero Waste Council Circular Economy Working Group in 2014 (Accenture, 2014), there are currently five

types of circular business models (Figure 2) Circular Suppliers, Resource Recovery, Product life Extension, Sharing platforms and Products as a Services. These types are identified in its analysis of more than 120 case studies of companies that are generating resource productivity improvements in innovative ways.

**Figure 2. The five business models of circular economy**



Source:Accenture, "Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth," 2014. Design adjustments of graphs by Elmar Sander and Katharina Olma.

### 3. THE NECESSITY OF TRANSITING TOWARDS A CIRCULAR ECONOMY IN VIETNAM

During the 20th Century, the notation of closed-loop production was very popular in Vietnam, especially in the agricultural sector. At that time, there was a prevalent farming model named Vườn (Garden) – Ao (Pond) – Chuồng (Cage) which used waste from one activity as input for another one. For instance, organic garbage from growing vegetables (garden), such as spoiled vegetables, leaves, etc., was used as animal food for fish (pond) or for poultry and livestock living in an enclosure (cage). However, in recent years, production models that are environmentally friendly like the V-A-C have not received attention from most of the enterprises. As a replacement for these models, the use of chemicals (fertilizers, pesticides) and the application of automatic farming machines have not only broken the natural circle of materials but also generated more waste, even toxic waste (Hoa, 2016).

#### *Environmental aspect*

Waste generated by industrial activities and urbanization is one of the most serious environmental issues in Vietnam. Vietnam has been called one of the top ten countries in the world with the worst air pollution since 2012 (EPI, 2012). On October 6, 2016, Hanoi – Vietnam's capital – was ranked the second worst city in the world regarding urban air pollution (Saigoneer, 2016). According to the Report on the state of the national environment in Vietnam in 2016, every year, Vietnam "uses" more than 100,000 tons of plant protection chemicals; and generates over 23 million tons of household waste. Besides that, more than 7 million tons of industrial solid waste and over 630,000 tons of hazardous wastes are released each year, while there is a small amount of waste and wastewater treated before being disposed to the environment.

Notably, there are 615 industrial zones, of which only about 5% have concentrated wastewater treatment systems. There are more than 500,000 manufacturing establishments; over 5,000 mining enterprises and about 4,500 craft villages, many of them using old technology which causes pollution for the environment. Every day, more than 13,500 medical centers generate about 47 tons of hazardous waste and 125,000 m<sup>3</sup> of medical wastewater. Besides that, Vietnam currently has 787 municipalities releasing 3,000,000 m<sup>3</sup> of wastewater per day, but most of them have not been processed, and nearly 43 million motorcycles and over 2 million cars are operating. There are 458 landfill sites, of which 337 landfills do not ensure the hygienic standard, and more than 100 small-scale domestic waste incinerators, which are in danger of generating dioxin and furan (OpendataVietnam, n.d.). The conversion of forest land, mineral exploitation, hydropower construction, and exploitation of biodiversity resources have led to the narrowing area of natural ecosystems, the fragmentation of habitats, and the decline of biodiversity.

### ***Human health aspect***

As a consequence, the number of people who are suffering from cancer, acute and chronic respiratory diseases, and allergic reactions in some big cities of Vietnam is rising. According to a study in 2013 by the Hanoi-based Central Lung Hospital, 95% of patients experience chronic obstructive pulmonary disease because of living in a polluted environment. Another 2013 study by the Vietnam Ministry of Health noted that of every 100,000 people, 4,100 have lung diseases; 3,800 contract inflammation of the throat and tonsils; and 3,100 have bronchitis, all of these diseases have a certain relation to environmental pollution. The most worrisome problem is that people of working age are the most affected by air pollution (Vietnamnet, 2013).

### ***Policies and laws for development***

Sustainable development in general and circular economy development, in particular, have been paid great attention by the Party and State. The guidelines and policies of the Party and State on circular economy towards sustainable development have been affirmed. Vietnam is continuing to perfect the institution of a socialist-oriented market economy, transforming from a linear economy to a circular economy, with many new business models based on the application of technology, science–technology, and policy innovation, contributing to rapid and sustainable economic development. On February 11, 2020, the Politburo of the Communist Party of Vietnam issued Resolution No. 55-NQ/TW on *orientations of Vietnam's national energy development strategy to 2030, with a vision to 2045*, which affirmed the decision of giving priority to the development of renewable energy, power plants using waste and waste to protect the environment and develop the circular economy. Law on Environmental Protection 2020 officially legalizes regulations on circular economy. The 13<sup>th</sup> Party Congress also set the task in the coming time to “build a green, circular and environmentally friendly economy”. The 10-year socio-economic development strategy for 2021-2030 also emphasizes: “Encouraging the development of a circular economy model for integrated and efficient use of investment in the production process”.

To implement the above policy, on June 7, 2022, the Prime Minister issued Decision No. 687/QĐ-TTg approving the Project of “Developing Circular Economy in Vietnam”. The

Prime Minister's decision has determined that it is necessary to focus on promulgating long-term policies to encourage, give incentives, and facilitate the development of the circular economy based on raising awareness, proactiveness and development, promote innovation and corporate social responsibility, and encouraging the responsible lifestyle of individuals towards the community and society.

The resolution also sets out specific targets for circular economy development such as: Contributing to reducing the intensity of greenhouse gas emissions per GDP by at least 15% by 2030, towards the goal of net emissions of "0" " in 2050; by 2030, circular economy projects will become the main driving force in reducing primary energy consumption; the rate of urban daily-life solid waste collected and treated up to standards through circular economy models reaches 50%; 100% of urban organic waste and 70% of rural organic waste are recycled, etc.

#### **4. RECOMMENDATIONS AND CONCLUSION**

The circular economy model has been widely applied in many European countries and other developed countries in the world today. The benefit of this economic model is not only restricted to the economic sector but also broadened in advancing the quality of the environment and protecting the diversity of the ecosystem. Based on the analysis of the current state of the environment in Vietnam, it is prominently proved the need to shift from the traditional linear economic model towards a circular economy.

In recent years, the Vietnamese Government has been aware of the negative impacts of the linear economic model on the ecosystem, and human health, so there have been many policies and measures applied to protect the environment and develop the socio-economy. However, the principles of the circular economy are relatively new in Vietnam, and activities at the government level in supporting businesses to move towards a circular economy only stand at specialized conferences. It also means that the Government needs to build an action plan for the circular economy with the specific objectives to orient the economy towards sustainable development.

Besides that, to take advantage efficiently the circular economy concept and learn from the pioneering enterprises, Vietnamese firms should consider the whole value chain to find possibilities for innovating their business models. Capacity building, an increase in productivity, and especially the promotion towards workers and stakeholders along the value chain (upstream to downstream) are also necessary for companies to apply a circular economy approach successfully in the longer term. Finally, a strong commitment to these long-term sustainable strategies is essential to ensure the development of circular economy business models and to convince investors to invest in new circular economy ideas.

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# ENHANCING REMOTE MONITORING IN DEPOSIT INSURANCE OF VIETNAMESE

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*Abstract: Given the pressure of international economic integration and the fourth industrial revolution, the risks in finance and banking are becoming increasingly diverse and sophisticated, requiring a well-functioning and truly vital financial and banking system for the economy. The issue of improving remote supervision of Vietnam's deposit insurance for credit institutions is also an urgent requirement. This article highlights the current state of remote supervision quality for participating deposit insurance organizations in Vietnam; assesses strengths and weaknesses, and analyzes the causes of this situation; thereby proposing some solutions to improve remote supervision to meet the requirements and ensure a safe and sound financial system in the context of Vietnam's current sustainable economic and business development efforts.*

*Key words: deposit insurance, insurance*

## 1. THE CONCEPT OF REMOTE SUPERVISION BY THE DEPOSIT INSURANCE ORGANIZATION

According to the World Bank (WB), supervision is a continuous function aimed at providing managers and relevant parties with indicators of the successful or unsuccessful impact of activities, projects, and implementation programs. The term “bank supervision” in a broad sense refers to all activities aimed at ensuring the safety and soundness of the banking system and financial institutions that provide banking services, including remote supervision, inspections, on-site examinations, and enforcement actions for timely corrections.

The remote monitoring activities of the deposit insurance organization are understood as the process of monitoring, analyzing, and evaluating the implementation of deposit insurance regulations, the operational status, and the level of risk of organizations based on information from these organizations and other sources, thereby issuing warnings, proposing corrective measures to help participating organizations operate in accordance with the law, safely and effectively.

## 2. THE CURRENT SITUATION OF REMOTE MONITORING QUALITY AT THE DEPOSIT INSURANCE OF VIETNAM.

### 2.1 Introduction to the Deposit Insurance of Vietnam.

The Deposit Insurance of Vietnam is a state financial organization established under Decision No. 218/1999/QĐ-TTg dated November 9, 1999 by the Prime Minister and officially operational since July 7, 2000. Deposit Insurance of Vietnam operates not for profit but to protect the rights and legitimate interests of depositors, contribute to maintaining the stability of participating deposit insurance institutions, and promote the safe and sound development of the financial system.

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## 2.2. Analysis of the current state of remote monitoring quality at the Deposit Insurance of Vietnam

### 2.2.1. Quality of remote monitoring activities at the Deposit Insurance of Vietnam

The quality of remote monitoring activities at the Deposit Insurance of Vietnam is increasingly improving in several aspects:

First, the quality of monitoring reports is enhanced by extracting additional customer information and applying international standards and regulations for risk analysis.

Second, the compliance monitoring content of the Vietnam Deposit Insurance has been performing well, successfully identifying numerous violations and promptly taking action. The number of violations by participating deposit insurance organizations has also been decreasing in recent years.

Third, currently receiving data directly from organizations in deposit insurance helps Vietnam Deposit Insurance to be proactive in receiving and processing its own information sources, updating information data, and actively verifying the accuracy of the information.

Fourthly, through remote monitoring activities, Vietnam Deposit Insurance has classified participating organizations in deposit insurance; thereby closely monitoring and promptly resolving issues when these organizations encounter problems.

### 2.2.2. The compliance level of organizations participating in the Deposit Insurance of Vietnam.

During the period 2020-2022, the operational situation of credit institutions, especially People's Credit Funds, has been complex. Many People's Credit Funds have weak operations and show signs of violating laws regarding management, capital mobilization, lending, posing risks to depositors, and affecting security and social order in their operating areas.

**Table 2.1. Violations of regulations in the operations of the People's Credit Fund during the period 2020-2022**

Year	Violations in compliance with deposit insurance regulations.		Errors in calculating and remitting deposit insurance premiums.		Supervisory fund number
	Number of Fund	Rate (%)	Number of Fund	Rate (%)	
2020	352	30,7	298	26	1.146
2021	384	32,7	347	29,8	1.165
2022	131	11,1	307	26,1	1.177

Source: The author's own compilation from the Summary Report of Deposit Insurance of Vietnam for the years 2020, 2021, and 2022

The data above shows that the number and proportion of people's credit funds violating deposit insurance regulations and making mistakes in calculating and paying deposit insurance fees, although decreasing, are still quite significant, affirming: (i) the cooperation from participating organizations in deposit insurance is still very lacking; (ii) monitoring compliance and strict implementation of deposit insurance regulations is not easy.

**Table 2.2. The number of People's Credit Funds with serious violations that need special control during the period 2020-2022**

Year	The number of People's Credit Funds with serious violations that need special control.
2020	17
2021	20
2022	21

Source: The author's own compilation from the Summary Report of Deposit Insurance of Vietnam for the years 2020, 2021, and 2022.

The statistics show that during the period of 2020-2022, the number of organizations participating in deposit insurance that violated safety criteria in their business operations tended to increase. However, when considering the ratio of organizations violating deposit insurance criteria out of the total number of organizations being remotely monitored, this figure fluctuates between 1.48% and 1.78%. Although this ratio is not high, it still requires regular and thorough monitoring, along with swift enforcement measures that directly impact the interests of participating organizations, in order to ensure better compliance with deposit insurance regulations.

### **2.2.3. The level of continuity and effectiveness in the capital mobilization activities of credit institutions in Vietnam**

Through the 100% participation of deposit insurance institutions being remotely monitored through a series of monitoring indicators, it can be seen that the monitoring activities of the Deposit Insurance of Vietnam towards commercial banks and credit institutions are very tight. At the same time, the monitoring frequency of the Deposit Insurance of Vietnam for participating organizations is quite continuous. The Deposit Insurance of Vietnam regularly and consistently reports on the macroeconomic and banking financial situation, as well as remote monitoring reports. Specifically, reports on macroeconomic and banking financial situations are conducted daily and monthly through the coordination of the Supervision Department I and the General Research and International Cooperation Department. These reports are used internally by the Deposit Insurance of Vietnam.

However, the progress of the report implementation is still slow, which reduces the timeliness of the incident and causes delays in handling violations.

### **2.2.4. The level of safety in the operation of the entire credit system - banks in Vietnam**

According to remote monitoring results from 2020-2022, it has been observed that the capital contribution ratio has been implemented in accordance with the regulations of the State Bank within the permissible limit. However, there are a few grassroots people's credit funds that have violated the regulations by exceeding the fixed asset purchase ratio set by the State. If this ratio is above 50%, it means that the organization has violated safety regulations in its business operations. If this ratio is below 50%, it means that this fund has not violated safety regulations in essence, but if the ratio is close to 50%, it indicates signs of violation and timely adjustments are needed.

**Table 2.3. The situation of violations in the safety ratio of operations of the People's Credit Fund during the period 2020-2022**

Year	The number of funds violating the investment ratio in fixed assets > 50% of the 1 <sup>st</sup> capital		The number of funds violating the accumulated losses exceeding 50% of the self-owned capital		Supervisory fund number
	Number of Fund	Rate (%)	Number of Fund	Rate (%)	
2020	251	21,9	15	1,3	1.146
2021	254	21,8	26	2,2	1.165
2022	282	24	33	2,8	1.177

*Source: The author's own compilation from the Summary Report of Deposit Insurance of Vietnam for the years 2020, 2021, and 2022.*

In addition, credit institutions and banks have actively dealt with bad debts. In 2022, the credit financial system processed around 70 trillion dong of bad debts, a 40% increase compared to 2021 (National Financial Supervisory Commission, 2022).

During the period of 2020-2022, the minimum capital adequacy ratio (CAR) of the Vietnamese banking system fluctuated from 13% to 12.37%, while the CAR threshold of 8% indicates that most credit institutions have excess capital and do not optimize their total assets, resulting in a lack of output.

**Table 2.4. CAR index of the entire Vietnamese banking system from 2020 to 2022 (%)**

Year	CAR Index
2020	13
2021	12,84
2022	12,37

*Source: The author compiled from the Banking Supervision Report of the Deposit Insurance of Vietnam for the years 2020, 2021, 2022.*

In comparison to other Asian countries, Vietnam has the lowest CAR level in the region (12.84%), even lower than countries of the same rank such as Indonesia (16.9%) and the Philippines (14.1%), only higher than India (8.4%) (Moody's, 2022).

### **2.3. General assessment of the current state of remote monitoring activities at the Deposit Insurance of Vietnam.**

#### **2.3.1. Achieved results**

During the implementation of remote supervision activities, the Deposit Insurance of Vietnam has proactively focused on researching and applying some effective financial supervision models that are suitable for the reality of Vietnam; remote supervision activities have been uniformly implemented from the headquarters to the branches of the Deposit Insurance in the region.

The quality of remote monitoring activities is increasingly improving, as evidenced by the improved quality of monitoring reports, the effective implementation of compliance monitoring by the Deposit Insurance of Vietnam, the timely detection and handling of numerous violations, and the gradual decrease in the number of violations by participating deposit insurance organizations. Receiving data directly from participating organizations also enables the Deposit Insurance of Vietnam to proactively receive and process information sources.

In 2022, the Vietnam Deposit Insurance, the Supervisory and Inspection Steering Committee, effectively monitors and oversees the operations of underperforming People's Credit Funds, regularly updating information and promptly reporting on the situation. They have proactively directed relevant units to support and coordinate with the State Bank of provinces and local authorities in areas with complex developments in the operations of the People's Credit Fund system. They have also developed proposals and solutions for handling issues while assigning officials to participate in task forces as directed by the State Bank.

#### **2.3.2. Limitation**

Firstly, the monitoring frequency reports are still low, progress is slow, and most reports are not openly shared among other supervisory organizations in the national financial system.

Secondly, the monitoring content is built on the basis of regulations on safety in the operations of the State Bank of Vietnam and the Deposit Insurance of Vietnam has not yet reached a level of in-depth and comprehensive analysis, and has not provided practical assessments.

Thirdly, the data analysis information is still lacking; a standardized and modern information system and data update have not been established, which reduces the quality of monitoring organizations participating in deposit insurance. The legal document system is also not synchronized and does not correspond to the assigned functions and tasks.

Fourthly, there is no appropriate legal framework for organizing Deposit Insurance to handle safety violations in banking operations, regulations on reporting information, regulations on determining criteria for analyzing and evaluating risks applied to the supervision and safety inspection activities of Deposit Insurance Vietnam, so the warning and recommendation effects are still limited...

### **2.3.3. Causes of limitations**

#### *2.3.3.1. Subjective causes*

##### a. Limited human resources in terms of quality and training

Human resources in general are limited in both quality and training, unable to meet the requirements for developing operational activities in the new phase, especially remote monitoring activities.

##### b. Poor physical conditions and inadequate infrastructure

The deposit insurance system in Vietnam has not yet been able to implement the widely used technology systems worldwide throughout the entire system because it has not been able to connect with many rural credit funds in remote and technologically underdeveloped areas, making it difficult and slow to access input information, which affects the quality of remote monitoring.

Currently, strong and modern development of equipment and infrastructure in the credit organization system, the technical infrastructure of the Deposit Insurance of Vietnam is still very poor, making it difficult to fully meet the requirements and demands of supervising participating deposit insurance organizations. In addition, while the demand for information technology applications is high, the technical staff team is still thin in terms of quantity and quality. The use of outsourced software has not been widely implemented.

##### c. The remote monitoring organizational model is still overlapping and lacks consistency in responsibilities

The Vietnam Deposit Insurance Corporation has 8 branches that carry out monitoring activities based on decentralization, delegated customer management according to geographical areas, and assigned customer groups. The main headquarters of the Vietnam Deposit Insurance Corporation monitors large customers, while regional branches manage customers within their operating areas.

Therefore, the coordination of supervision between the Head Office and the branch of the Deposit Insurance Agency for participating deposit insurance organizations is still overlapping and lacks consistency in terms of responsibility.

The detailed guidance documents under the Deposit Insurance Law and the remote monitoring business documents are currently being developed, so there is no synchronization in the monitoring methods between branches and headquarters. The inspection and guidance of

deposit insurance branches in the region still have certain limitations in terms of organizational structure, management hierarchy, and operational models, which are currently under comprehensive research. Vietnamese deposit insurance branches do not yet have stable software to support monitoring activities, so manual methods are mostly used for data processing.

d. The remote monitoring method is not suitable for resource constraints and cannot provide comprehensive monitoring

The Deposit Insurance of Vietnam conducts remote monitoring of participating organizations in three stages: (i) Receiving and verifying the accuracy of information; (ii) Processing data; (iii) Performing analysis and evaluation.

The primary sources of input information for remote monitoring activities are the Level 3 accounting balance sheet, various statistical reports, and other related reports. These reports have discrepancies in value, lack many indicators, and are not submitted on time, which hinders comprehensive evaluation and analysis, as well as limits the ability to issue violation warnings.

During the monitoring process, the monetary market factors have not been given sufficient attention and have not been aligned with the pace of development of each credit institution. As a result, in-depth and comprehensive analyses and assessments cannot be made, and accurate observations cannot be made in line with reality.

#### 2.3.3.2. Objective causes

a. The legal environment is not yet complete and consistent

According to international practice, countries often enact laws before establishing supervisory organizations or deposit insurance organizations. As mentioned above, the legal infrastructure regulating the operations of Deposit Insurance is still lacking and weak, not commensurate with the government's assigned functions to the Deposit Insurance of Vietnam, and not in line with international best practices in deposit insurance.

b. The strong development of the national financial system

The modernization of banking technology and the liberalization of the banking service market are happening with great force, driving the development of banking services in terms of both quantity and quality. However, they also pose various risks, new and more sophisticated crimes, especially those involving high technology and foreign elements.

Furthermore, the domestic financial market is increasingly integrating and reaching a high level of convergence. This is gradually blurring the boundaries between traditional banking products and services, as financial institutions shift towards providing versatile services. In such conditions, there is a high likelihood of gaps and legal loopholes in the system and monitoring mechanisms.

c. The relationship with state management agencies is not yet tightly integrated

The actual implementation has shown a lack of close coordination between the Vietnam Deposit Insurance and state management agencies. This leads to many limitations in terms of input information and remote monitoring processing, which affects the safety of the finance-banking system and the stability of the national economy.



d. The information-sharing system is not consistent and lacks clear mechanisms

Currently, there is no specific and clear mechanism for sharing information between organizations and the Deposit Insurance of Vietnam.

Firstly, for the State Bank, the Deposit Insurance of Vietnam provides supervision results and proposes solutions if there are incidents related to the State Bank.

Secondly, for the Ministry of Finance, the Deposit Insurance of Vietnam is only authorized to propose solutions regarding relevant financial mechanisms and policies.

Thirdly, the National Financial Supervisory Commission, the Deposit Insurance of Vietnam, and the National Financial Supervisory Commission operate based on regulations of Decrees and Decisions by the Prime Minister. This leads to many difficulties in operations and is not proportional to other organizations in the financial safety network.

The lack of clear information-sharing mechanisms makes monitoring information always kept confidential and used for the individual purposes of each agency. This limits the ability to monitor and the quality of monitoring throughout the entire system.

The information source on balance reports and statistical indicators from participating deposit insurance organizations received from the State Bank is still lacking, delayed, and riddled with errors.

Deposit Insurance of Vietnam does not receive the required shared reports from the State Bank.

- Some necessary information, serving the implementation of functions and tasks of the Deposit Insurance of Vietnam, cannot be obtained from the State Bank of Vietnam, such as information related to insured deposit balances and legal documents.

- In addition to information from participating organizations in deposit insurance, and information from the State Bank of Vietnam, the Deposit Insurance of Vietnam has also not received information from other relevant management agencies to fulfill its tasks.

e. Depositors also lack knowledge about deposit insurance, especially financial knowledge.

Along with the development of the banking industry, complex banking services have emerged, causing difficulties even for urban residents with a knowledge background in grasping the aforementioned knowledge. Meanwhile, alongside official credit activities, black credit also accounts for a significant proportion. Recently, there have been a series of black credit collapses that have had negative consequences for the overall economy and the financial-banking situation in general. This leads to the deposit insurance supervisory organization being in a passive state, unable to perceive this potential risk.

At the same time, depositors still lack knowledge about deposit insurance and are unaware of their rights and benefits.

### **3. SOLUTIONS TO IMPROVE REMOTE MONITORING ACTIVITIES IN VIETNAM'S DEPOSIT INSURANCE**

#### **3.1. Developing human resources according to the requirements of the monitoring system with international standards**

Deposit Insurance of Vietnam has changed and implemented tasks related to developing human resources for monitoring activities, including:



- Recruitment and benefits system: establishing a mechanism to recruit new competent officers, providing on-the-job training and advanced training for officers.

- Training activities: focus on providing in-depth and advanced training for professional officers, ensuring standards of expertise, professional ethics, and the ability to work sensitively, creatively, and effectively with a spirit of cooperation, equality, caution, honesty, and dedication to the organization. Emphasis is placed on research application and implementation of research results.

### **3.2. Developing information technology systems to enhance the quality of input information**

In order to facilitate the strict implementation of the reporting information regime for participating deposit insurance organizations, the Deposit Insurance of Vietnam, along with regulatory bodies such as the State Bank and the Ministry of Finance, continues to develop an integrated and centralized information system housed in a data warehouse. This system is hierarchically utilized and shared among supervisory agencies, with the purpose of having participating organizations only submit reports according to general regulations to the data warehouse for exploitation by supervisory agencies, instead of sending them to multiple supervisory agencies as currently practiced.

### **3.3. Improve the remote monitoring process**

To enhance the quality of remote monitoring activities, it is necessary to have a suitable remote monitoring regime/process that transitions from compliance monitoring to risk-based monitoring and ensures consistency throughout the entire system of the Deposit Insurance of Vietnam.

In addition, the remote monitoring regulations/process must be built in a synchronized and systematic manner (including both Commercial Banks and People's Credit Funds) and applied throughout the system from the Head Office to the 8 Branches of the Deposit Insurance of Vietnam, in order to ensure both easy synthesis and analysis, as well as providing a unified perspective for leaders on banking activities at a specific moment.

### **3.4. Developing and improving supervision indicators and classification criteria**

In terms of monitoring indicators, a combination of the CAMELS and PEARLS models can be used to monitor deposit-taking organizations, especially small-scale financial institutions like the current grassroots Credit Fund system in Vietnam, to provide additional information for evaluating and rating organizations participating in deposit insurance in the future.

In addition, the Deposit Insurance of Vietnam needs to enhance its operational resources in order to not only monitor quantitative indicators but also have the capacity to monitor qualitative indicators such as the M indicator - management and the S indicator - Market Sensitivity. This will enable more accurate, timely risk classification and warnings, thereby improving the quality of remote monitoring activities conducted by the Deposit Insurance of Vietnam.

Regarding the classification criteria: the final result of remote monitoring is the classification of participating organizations in deposit insurance and warning of violations by these organizations. In order to have accuracy in classifying credit institutions, appropriate criteria need to be established.

Deposit Insurance of Vietnam needs to choose a comprehensive and comprehensive monitoring and evaluation model for credit institutions. However, the model chosen for classification must ensure that credit institutions are classified as follows:

Rating 1: Achieves very high standards in management quality; is a financially strong organization; operates with a high level of safety.

Rating 2: Meets high standards in management quality; is a financially strong organization and operates safely.

Rating 3: Most of the organization's risks are controlled, meets minimum requirements, is an organization with an average safety level that Deposit Insurance pays attention to and monitors.

Rating 4: The organization's risks are not well controlled, it operates weakly and is not safe, requiring strict supervision by the Deposit Insurance of Vietnam.

Rating 5: The risk control of the organizations is extremely poor, and financially weak, with a high risk of insolvency and payment default, requiring special control measures or withdrawal of operating license and deposit insurance participation certificate.

### **3.5. Establish a mechanism for sharing information and coordinating monitoring with other monitoring organizations and the consolidated financial monitoring system**

In order to effectively carry out monitoring activities, according to international practice, we need to study the establishment of a comprehensive financial monitoring system combined with specialized monitoring in the national financial security network as directed by the Prime Minister. Members of the national financial security network must fulfill their duties on the basis of the best legal framework, which is the Law. These organizations typically need to have records of monitoring indicators, monitoring methods, coordination, and information sharing in monitoring and post-monitoring processing. At the same time, the monitoring architecture model needs to clearly define the responsibilities and obligations of the monitoring departments as well as the coordination between agencies in this network.

### **3.6. Enhancing financial knowledge and deposit insurance for depositors.**

Deposit insurance needs to conduct investigations and surveys among different public groups to determine their understanding of deposit insurance policies, as well as their needs and desires for information. Based on that, appropriate communication programs should be developed to ensure effectiveness.

## **4. CONCLUSION**

Financial activities - banking always carries many risks, vulnerable to fraud and errors. Ensuring safety in the business operations of credit institutions is not only a concern for financial and banking businesses but also a top priority for depositors, state management agencies, and society as a whole.

In order to prevent losses and potential risks during banking operations, one of the most important measures is to establish an effective remote monitoring system for credit institutions.

The author has studied the current state of remote monitoring quality from 2020-2022, analyzing its advantages, limitations, identifying causes, and proposing 6 appropriate solutions to enhance the remote monitoring activities of deposit insurance in the future, thereby further promoting the role of deposit insurance organizations in the national financial system. The synchronized implementation of these solutions will help improve the remote monitoring of Vietnam Deposit Insurance, contributing to the safety and soundness of the financial system and ensuring the legitimate rights and interests of depositors.

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# INNOVATING STATE MANAGEMENT ON SITE CLEARANCE IN THE CONTEXT OF THE FORTH INDUSTRY REVOLUTION AND THE DEVELOPMENT OF A DIGITAL ECONOMY IN VIETNAM

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*Abstract: The drastic transformation of land law relations in the context of the Fourth Industrial Revolution forces the administration of land in general and site clearance, in particular, to continue to build and consolidate proportionately. The administration of land industry in general has been building and perfecting land information and data infrastructure across the country in a modern and standardized way according to a common process, contributing to building a solid foundation for the deployment of e-government, electronic authorities, and smart city. However, there are still legal gaps and state management mechanisms that are obstacles to the current digital transformation process in Vietnam. Therefore, it is necessary to innovate the state management of site clearance to create a solid foundation to meet the digital transformation in the state management of land in Vietnam in the coming time.*

*Keywords: state management, site clearance, database, Land Law, digital transformation.*

## 1. THE NEED TO INNOVATE STATE MANAGEMENT FOR SITE CLEARANCE

The explosion of the Fourth Industrial Revolution, along with the progress in information technology, electronics and telecommunications, and land management, has led to the construction and operation of land information and database systems through innovative technical applications. These technical advancements allow for the digitization of information and attributes and the organized storage of a significant amount of data. This facilitates seamless synthesis, exchange, analysis, updating, and the provision of information in a modern, synchronized manner nationwide, following a unified trajectory. The overarching aim is to lay the groundwork for the implementation of e-government, electronic governance, and smart cities. Land management in general and state management of site clearance in particular are critical issues to ensure transparent governance. Simultaneously, they contribute to preventing complications that may arise in the execution of state management related to site clearance. Throughout the past period, efforts in state management concerning site clearance have consistently been refined in terms of institutional structure, policies, and technology, aiming to meet the requisites of modernization and transparent information disclosure on land in a comprehensive sense and specifically with site clearance.

The provisions governing the general state management of land are regulated in Article 22 of the Land Law 2013. This constitutes an essential condition that assists the State in tightly managing the national land reserve. Failing to comprehensively and transparently grasp land information may lead to a situation in which numerous organizations and individuals with land usage demands cannot effectively access land resources.

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In the current phase, the redistribution of land for socio-economic development, alongside national security, holds paramount importance. Particularly, with the rising prominence of industrial, transportation, tourism, education, service, and commerce sectors within the total national income, the shift in land usage from agricultural, forestry, and residential purposes to specialized applications in industry, transportation, tourism, and commerce is becoming more pronounced and essential. The central challenge lies in the necessity of the government to establish effective, scientific, and appropriate land use plans. Simultaneously, the implementation of policies is crucial to ensure both the collective interests of society and the legitimate rights of landowners affected by land acquisition for the advancement of the nation's economic and social endeavors. Therefore, the completion of tasks regarding the establishment of the land information system and land database is an urgent priority that requires implementation. It is necessary to ensure the synchronized and comprehensive development of a national land database across the country, following a unified roadmap. These efforts form the foundational basis for the deployment of e-government, electronic governance, and smart cities.

Global experience indicates that land information systems and land databases serve as vital tools for effectively executing modern governance. They facilitate governments in achieving optimal control over land resources and providing superior public services to citizens. These factors significantly contribute to poverty reduction and foster growth in GDP per capita and overall national GDP. In essence, land information systems and land databases constitute essential soft infrastructure and mechanisms for enhancing the quality of land management services, playing an important role in the development of each nation.

Countries that have successfully developed and applied a multi-objective national land information system have dedicated substantial investments to establishing legal frameworks, designing system models, developing application software and management tools, investing in hardware, constructing and standardizing land databases, providing essential training for the necessary human resources involved in the construction, operation, and maintenance of the land information system, conducting promotional campaigns, and raising awareness about the significance and practicality of the multi-objective land information system. Additionally, they emphasize the operation and maintenance of the system.

Additionally, approximately 80 percent of decisions made by state management agencies in economic, political, or social contexts require geographic or spatial information. In the past, when information technology was less developed, providing timely and accurate data for decision-making posed a significant challenge for land management agencies.

For instance, countries such as Sweden, the Netherlands, Australia, Japan, and South Korea have successfully established land information systems with shared and utilized databases across various industries and sectors. In Turkey, the land management system involves more than 40 distinct units within and outside the government, all actively sharing and utilizing essential land data. Likewise, Singapore's Land Network (LandNET) is accessible to 39 government agencies and over 30 non-governmental entities, integrating an extensive array of more than 270 distinct layers of information into its land database system (Le Minh Thuy, 2020).

In Vietnam, the land information system was planned based on the Land Law 2013. However, it has not been fully developed up to the present time. Learning from the experiences of developed countries, the process of establishing an integrated information and database system for planning can take around 10 to 30 years.

During the implementation of the Land Law 2013, efforts in land management have achieved significant outcomes, contributing to Vietnam's economic development. However, the provisions related to this matter within the Land Law 2013 have not yet established a clear legal framework to ensure accurate, comprehensive, and well-coordinated development of land information and the land database. In Chapter IX of the Land Law 2013, the system of land information and the land database are outlined as crucial components of the land management system, covered in Articles 120 to 124. Additionally, the proposed amendments to the Land Law have defined some fundamental aspects, such as the system's definition of land information, the land database, and the responsibilities for constructing and managing the system. However, as these regulations are relatively new, the content of these articles still contains certain limitations.

Since 2021, the General Department of Land Administration has been conducting a comprehensive review of the implementation of the Land Law 2013, drawing upon international experiences and research to refine the Land Law. The goal is to submit the revised and supplemented Land Law to the competent authority for consideration.

The General Department of Land Administration, under the Ministry of Natural Resources and Environment, is also currently engaged in developing a long-term National Land Use Strategy for 2045 (NLUS2045). The objective of constructing NLUS2045 is to establish a foundation for national land usage, regional and provincial planning. This effort aims to enhance the management, rational utilization, conservation, and efficient utilization of land resources, aligning with the economic and social development goals through 2045. It seeks to maximize the potential and strengths of each region, territory, sector, and field of land use while ensuring connectivity, harmonious and sustainable development, adaptability to climate change, and minimizing negative impacts from natural disasters. The creation of a long-term land use strategy represents a new initiation, not previously implemented in Vietnam. Therefore, it requires significant internal efforts as well as support from relevant parties during the implementation process, particularly in research and consultation of international experiences (Le Minh Thuy, 2022).

## **2. EXPERIENCES FROM SEVERAL COUNTRIES AROUND THE WORLD IN INNOVATING STATE MANAGEMENT OF SITE CLEARANCE**

The establishment of land registration systems in developed countries, spanning an extended period, is widely esteemed for their effectiveness, simplicity, transparency, and secure yet reliable nature, benefitting all involved parties. Because of this system, many nations have achieved significant accomplishments in their land management efforts. Therefore, even though regimes of land ownership may not be entirely identical between Vietnam and other countries, it is still feasible to learn and gain insights from the experiences of other nations in organizing and administering land governance systems.



The land and real estate management systems in developed countries (such as France, Germany, the Netherlands, Sweden, Australia, etc.) have a history of formation and development spanning over 100 years. These systems have accumulated extensive experience and achieved significant accomplishments. In developing and emerging countries within the region (such as Taiwan, Thailand, and Malaysia), land and real estate management systems have been established over approximately 40 - 50 years, following the experiences of developed nations. In countries with transition economies from centralized planned economies to market-oriented economies (such as China and Eastern European countries), the land and real estate management systems had significant innovation over the past two decades. The current land and real estate management systems in different countries share common characteristics: (a) They fall under the jurisdiction of multidisciplinary ministries responsible for resources, environment, planning, and infrastructure development (such as in Sweden, the Netherlands, Australia, Malaysia, and China); (b) They operate with specialized functions extending from central to local levels; (c) The system structure comprises core components: policies, regulations, land use planning, cadastral mapping, land and real estate registration, valuation, and information systems; (d) The modernization of land and real estate management systems is achieved through the integration of advanced scientific and technological applications, including GPS technology, remote sensing, and aerial imaging for surveying and mapping, as well as information technology for establishing geographic information systems (GIS) and land information systems (LIS) that serve the purposes of planning, registration, and valuation tasks (Nguyen Dinh Bong, 2006).

#### *Experiences of Sweden*

According to Sweden's 2000 Land Code, which aims to encourage and regulate sustainable and efficient long-term land use, as well as manage and provide comprehensive land information for planning, safeguard land ownership rights, support the tax system, control the environment, and promote economic development, a well-established land registration system has been established in Sweden. Besides, a new legal document, the Real Property Register Act, has also been enacted to protect and prevent the infringement of personal data related to registered real estate and land. The Real Property Register Act specifies that registered land information can be directly accessed and referred to but cannot be altered. Additionally, certain information may be restricted or provided in limited scope upon request, such as land or real estate mortgaging or the marital status of landowners or users. The National Land Survey agency is tasked with making decisions on the provision of real estate information, ensuring that personal data is utilized only for appropriate purposes as defined by legal regulations. To facilitate the uniform exchange of land data and information among central and local cadastral agencies, the National Land Survey Agency has implemented various new information technologies within the registration process. These include Interface 2000 (which defines the information model, data transmission mechanisms, data management rules, and preservation protocols), as well as Arc Cadastre (a new tool used for processing different types of data obtained from surveying and calculations; it generates, organizes, maintains, and presents data in digital or similar forms), etc (Larsson, 1996).

### *Experiences of China*

In China, land is under public ownership, making the public interest a fundamental condition for the lawful implementation of land expropriation. The acquisition process is carefully controlled to prevent abuse of power by local authorities. The scope of land subject to acquisition for public interest includes land for military and defense purposes, state institutions and research facilities, transportation, and energy infrastructure, public facilities and social welfare projects, major national projects, ecological and environmental protection, and other public interests as stipulated by law.

The land acquisition process consists of four steps: (1) Surveying the conditions for land acquisition (such as agricultural population, agricultural income per capita, total annual output, land area, land type, and ownership status of the affected area); (2) Developing a draft land acquisition plan; (3) The land management authority reports the land acquisition plan and other relevant documents to higher authorities for review and approval, after reporting to the local government; (4) Notifying and announcing the project after its approval. The announcement must be timely and specific about the acquisition and compensation plan. The local government is responsible for notifying and explaining relevant issues. After the announcement date, no assets within the project area shall be innovated or expanded. At the same time, the compensation principle for land acquisition is determined to ensure that those subject to land acquisition are provided with housing that is equivalent to or superior to their previous accommodations. Compensation for land acquisition is not determined based on market prices but instead relies on the initial land use purpose of the reclaimed area, specifically for agricultural land, the calculation of compensation and resettlement assistance is based on the total production value of the land from the previous years, multiplied by a coefficient prescribed by the state (Phuong Thao, 2013).

### *Experiences of Japan*

Japan is a unitary country with two tiers of subnational governments: 47 prefectures at the regional level and 1,741 municipalities at the local level, plus 23 special wards within Tokyo (OECD, 2023). In Japan, the construction and renewal of site clearance work are constantly carried out. Policies in Japan are shifting focus on sustainable land-use management-related policies through consensus building, given the complex options for the community and the landowners. For instance, the conversion of agricultural lands to renewable energy sites, which is an example of “land-use conversion for a newly found objective”, is rapidly progressing, and actions on “managing of croplands in a minimal (low labor demand) way” has been embodied in certain policies (Kohsaka and Kohyama, 2022).

## **3. RECOMMENDING SOLUTIONS FOR STATE MANAGEMENT OF SITE CLEARANCE**

The site clearance policy is a complex policy related to various economic and social aspects, affecting the interests of many involved stakeholders and taking place within a market-oriented economy. The site clearance policy needs to be part of a comprehensive and closely interconnected framework with broader economic and social management policies, especially land management policies. Therefore, the author would like to present several issues and recommendations as follows:

*First issue: Enhancing the general Land Information System*

The Draft Amendment of the Land Law 2023 stipulates that the national land information system is designed as a comprehensive, centralized, unified, harmonized, multifunctional, and interconnected system nationwide. This system is constructed and operated to enhance the effectiveness and efficiency of state land management, to connect and share data with a database of ministries, sectors, and localities, providing the foundation for the development of e-government, aiming towards a digital government, digital economy, and digital society (The Fifteenth National Assembly of Vietnam, 2023).

Based on practical circumstances, the decentralized management of the land information system is as follows: The integrated land database at the central level contains information primarily serving macro-level state management (such as information about the current status of certificate issuance, national, regional, and provincial land use planning, statistical data, land inventory, etc.) but lacks detailed information about individual land parcels. The detailed cadastral map and records system for each land parcel are managed at the local level, leading to the dispersion of information across various management systems established at the provincial level. This fragmentation hinders the process of information retrieval (Nguyen Thi Nga, 2017).

Therefore, the Land Law 2013 stipulates that the land information system must clearly define and emphasize the design, construction, and operation of a centralized and unified national land information system, with a focus on serving multiple objectives. While the Land Law 2013 and the proposed amendment draft have addressed this issue, it remains complex and lacks a strong emphasis. Article 3 of the Land Law defines the terms employed and the definition of the land information system offered here is suitable. It is possible to combine the content of the two mentioned articles as follows: “Clause ... Article 3: The land information system is a unified system nationwide that integrates technical information technology infrastructure, software, human resources, data, processes, and procedures built according to standards and regulations prescribed by law to collect, store, update, process, analyze, synthesize, and retrieve land information and other related information for multiple purposes”; eliminating Clause 1 of Article 120 of the 2013 Land Law (Clause 1 and 2 of Article 134 of the draft Amendment of the Land Law).

Simultaneously, it should clarify the national or international standards and regulations recognized in Vietnam for the land information system, including specific criteria. These criteria should fundamentally encompass the following aspects: The land information system must possess the capability to accommodate, manage, and ensure the security of data according to a unified model due to the extensive volume of land data and its provision by various specialized fields, encompassing different data formats. In addition, the system must be capable of linking, exchanging, updating, and providing information with other systems across various sectors and localities. The system should be designed to be straightforward and convenient for training, workshops, and local implementation. Besides, it is easy for individuals to use for diverse information needs and adapt to different means of information exchange in alignment with the technical infrastructure of data transmission. The system’s database must ensure regular updates from local sources, accurately reflecting the change in land use.

Furthermore, it should be considered whether to establish a dedicated agency responsible for the land information system. This agency would be a body that belongs to the government and has branch offices nationwide, all managed by a governing body to ensure consistency in infrastructure, services, operations, and personnel training.

**Second issue:** Article 68, Clause 1 of the Land Law 2013 regulates: “*Organizations carrying out the tasks of compensation, site clearance, including land-related public services, the Compensation Council, Support, and Resettlement*”. This provision only mentions the names of the Compensation Council, Support, and Resettlement. Besides, neither the 2013 Land Law nor any of the implementing guidelines provide specific instructions on the activities of this Council. The question arises: Is the establishment of the Council with its organizational structure, functions, and duties, and the Council’s responsibilities in case of misconduct during the execution of tasks, not addressed in the existing legal framework? Although the Council plays an immensely significant role in land recovery, compensation, and site clearance, the current laws leave this critical question unaddressed. This creates difficulties in applying the regulations on compensation, support, and resettlement at the local level. In recent times, many officials tasked with compensation, assistance, and resettlement have committed various violations, leading to their detention and prosecution during the execution of these tasks. For instance, the Deputy Chairman of Dien Bien Phu City and three staff members from the Department of Natural Resources and Environment have mishandled procedures, processes, and assessments of compensation, assistance, and resettlement plans, showing signs of manipulation in selecting subjects for compensation and assistance, with the aim of personal interest. These entities have been prosecuted for “violating regulations on compensation, assistance, and resettlement when the State reclaims as regulated in Clause 3 of Article 230 of the Criminal Code (Chau Anh, 2022). There have also been cases of forging documents and falsifying records in the list of beneficiaries for compensation, assistance, and resettlement, intending to submit these fraudulent documents to authorities for the improper allocation of resettlement land to residents in Nghi Loc district, Nghe An province (Pham Tuan, 2021). As a result, five officials have been arrested and subject to investigation for similar misconduct as outlined in the mentioned case under Article 230 of the Criminal Code.

In Article 76 of the Draft Land Law 2013 (amended), there are also no changes regarding this matter and specific regulations of the Government’s guidelines for implementation are outlined in the Decree. Therefore, the author proposes some recommendations:

(1) Specifically and comprehensively stipulate the functions, responsibilities, authorities, and operational mechanisms of the Compensation Council and Site Clearance Council. Additionally, clearly define the legal responsibilities for any misconduct committed by officials within the Council (Phan Trung Hien, 2017).

(2) To ensure democratic participation, the law should also recognize the participation of representatives from the entities whose lands are being reclaimed in the valuation committee for land price when the State reclaims land for compensation purposes.

**Third issue:** Currently, Article 62 of the Land Law 2013 stipulates the categories of projects falling under cases where the State reclaims land for socioeconomic development

for national and public interests, as previously mentioned. The Draft Amendment of Land Law 2023 at point h, clause 2 of Article 70 indicates that numerous projects essentially aim for profit. For example, projects related to constructing urban areas, urban residential buildings, and rural residential areas. However, the state still stipulates that these projects fall under the scope of land reclamation and compensation, support, and resettlement through administrative mechanisms. This regulation is not reasonable because the profits generated from the utilization of land for the mentioned projects primarily belong to the investors (Nguyen Dac Thang, 2022). Nonetheless, the regulation of these profits by investors is implemented through administrative mechanisms, which include making administrative decisions on land allocation, land leasing, and land use fees for these projects. These decisions are also based on administratively determined land prices and do not involve the use of land use rights auctions or project bidding related to land use. The current land legislation employs administratively imposed decisions to regulate market-oriented land relationships, which is considered unreasonable and unjust in distributing interests among the State, investors, and landowners subject to acquisition. As a result, in many cases, legitimate rights and interests among these stakeholders are not adequately balanced. To rectify this imbalance and ensure a fair of interests among the State, investors, and landowners subject to acquisition, the author proposes the following amendments:

(1) For projects with purely national or public purposes (not for business and profit-seeking), the State has the right to recover land and determine compensation, support, and resettlement mechanisms based on state decisions. These decisions should be made about actual market land transfer prices to prevent disadvantages for landowners subject to acquisition.

(2) For projects involving economic development and a combination of profit-seeking and national/public service objectives, it is necessary to harmonize the interests of the State, investors, and landowners affected by acquisition. It can be accomplished by establishing a specified percentage of the profits generated from the project.

(3) For projects driven by the profit motives of investors, it is imperative to strictly adhere to market mechanisms based on agreements between the public and the project developers for project implementation.

**Fourth issue:** The compensation, assistance, and resettlement processes when the state reclaims land for state purposes are based on the framework of land prices set by the state. Therefore, the land price framework should closely approximate market land prices and must result from the collection and analysis of information on actual transactions in the market under normal conditions rather than being the product of the discretion of functional agencies. At the same time, the land price framework needs to be adjusted according to market trends when a significant gap exists between the two price categories. Meanwhile, there should be continuous endeavors to maintain stability in land prices within the market and discourage speculative land transactions. Consequently, the government must adopt an informed approach to land valuation aligned with market dynamics. Furthermore, mechanisms should be in place to rectify instances of artificially inflated land prices, ensuring their alignment with their genuine value.



#### 4. CONCLUSION

State management of site clearance is a crucial task with far-reaching implications for the allocation and adjustment of state-owned land and the legitimate rights and interests of citizens, businesses, and investors. However, in reality, this work still faces numerous challenges. Originating from the limitations in our country's land information system and shortcomings in legal regulations, this work still faces numerous challenges in practice. Therefore, the establishment of a land information system and the enhancement of land laws need to undergo a thorough, cautious, and comprehensive review in alignment with the spirit of earnestly implementing Resolution 18-NQ/TW dated June 16, 2022, of the 13th Central Committee of the Communist Party of Vietnam “n *“Continuing innovation, perfection of the system and policies, enhancing the effectiveness of land management and utilization, and driving our country towards becoming a high-income developed nation.”* (Vu Van Phuc, 2022)./.

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# EVALUATION OF THE “SINGLE WINDOW INSPECTION/SINGLE STOP INSPECTION” MODEL PILOTED AT LAO BAO (VIETNAM) AND DENSAVANH (LAO PDR) INTERNATIONAL BORDER GATES

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**Abstract:** *This research discusses the Single Window Inspection/Single Stop Inspection (SWI/SSI) model at the international border gates of Lao Bao (Vietnam) and Densavanh (Lao PDR), which was the first and the only applied in the world. Through analysed data related to SWI/SSI collected at the Lao Bao international border gate during its implementation period and findings of a survey carried out with 231 businesses trading through the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates, solutions are proposed to enhance the effectiveness for scaling this model.*

**Keywords:** *Customs, Single Window Inspection/Single Stop Inspection (SWI/SSI), interational border gates*

## 1. INTRODUCTION

The SWI/SSI inspection procedures have been of interest and consideration in the strategy to expand the pilot SWI/SSI model at the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates to other international border gates. SWI/SSI is an initiative first introduced and endorsed by the member countries of the Greater Mekong Subregion (GMS), including Vietnam, Cambodia, Lao PDR, Thailand, Myanmar, and the Chinese provinces of Yunnan and Guangxi, through the GMS Agreement signed on November 26, 1999, in Vientiane, Lao PDR. This initiative was mentioned within the framework of the Cooperation Program to facilitate People and Goods Transportation across the borders among GMS countries.

According to the Memorandum of Understanding (MOU) that Vietnam signed with three countries: with Lao PDR (2005), the SWI/SSI model was implemented at the Lao Bao (Vietnam) - Densavanh (Lao PDR) border gate pair; with Cambodia (2006), it was implemented at the Moc Bai (Vietnam) - Bavet (Cambodia) border gate pair; and with China (2007), it was intended for the Lao Cai (Vietnam) - Hekou (China) border gate pair. However, the SWI/SSI model was only implemented at the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates. Based on the Vientiane Agreement (Lao PDR) signed on August 13, 2002, and the Memorandum of Understanding (MOU) on the initial implementation of the Agreement on the Facilitation of People and Goods Transportation across the expanded Greater Mekong Subregion Cross-Border Transport Agreement (GMS-CBTA) signed on March 25, 2005, in Vientiane, the governments of the Lao People’s Democratic Republic and the Socialist Republic of Vietnam had an agreement to pilot the SWI/SSI model at the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates. Specifically, on June

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30, 2005, Step 1 (out of 4 Phases according to the GMS Agreement) was implemented; on January 5, 2015, all 4 phases, but not Step 2 and Step 3 were fully implemented for the pilot's operation; and on February 6, 2015, an official inauguration ceremony was held for the Step 4 implementation. Therefore, after more than 17 years of implementing the SWI/SSI model, up to now, this model has only been officially and uniquely executed in the world at the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates.

The SWI/SSI model was developed between the years 2005 and 2006, at a time when customs procedures in GMS countries had not yet strongly embraced information technology and were predominantly manual, involving numerous complex procedures and documents. Currently, customs management has undergone significant reforms through the application of risk management techniques, electronic customs, modern infrastructure and equipment, etc. Over more than 17 years of customs management with SWI/SSI procedures, significant achievements have been obtained in creating favorable conditions for the transportation of goods and people across the border gates, in line with the content and spirit of the GMS-CBTA Agreement and the Lao PDR - Vietnam Memorandum of Understanding (MOU). However, due to the implementation of urgent measures to prevent and control the COVID-19 pandemic along the Vietnam-Lao PDR borders, after discussions and agreements with the Lao PDR Government, the Vietnamese Government decided to temporarily suspend the deployment of the SWI/SSI model in April 2021. Therefore, the implementation of the SWI/SSI model needs to be officially assessed for its real effectiveness within the framework of modern customs management and whether it should continue to be expanded or not.

Meeting both theoretical and practical demands for change requires a thorough study to determine the actual effectiveness and key factors that contribute to the success of this model, based on the practical experience gained from the pilot implementation at the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates. Additionally, input from surveyed businesses operating at the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates should also be considered in evaluating this model.

## **2. LITERATURE REVIEW**

Regarding the research on SWI/SSI procedures, the World Trade Organization (WTO), the World Customs Organization (WCO), and the GMS countries have established the most consistent concepts on SWI/SSI procedures and have harmonized them in the framework agreement for facilitating the transportation of people and goods across borders within the GMS countries (referred to as the GMS Agreement) and the Memorandum of Understanding (MOU) on facilitating the transportation of people and goods across the border gates of GMS countries. Simultaneously, they have selected certain border gate pairs to pilot the implementation of the SWI/SSI model including the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates. As the Lao Bao - Densavanh international border gates was chosen for the initial pilot and remains the sole location where all four phases of SWI/SSI procedures under the GMS Agreement have been successfully executed, the study of this procedural model has gained significant attention from the Ministry of Finance and the General Department of Customs.

However, currently, the scientific project funded by the Ministry of Finance entitled “Theory and Practice of Implementing the Single Window Inspection/Single Stop Inspection Procedures: A Case Study of the Lao Bao (Vietnam) - Densavanh (Lao PDR) international border gates,” led by Le Van Toi as the project director (Le Van Toi, 2014), is the sole study on SWI/SSI procedures. This project provided a comprehensive and systematic overview, along with additional scientific rationale, for customs management measures, inspection mechanisms, and customs monitoring within the context of economic integration, tied to the East-West Economic Corridor (EWEC) and the Greater Mekong Subregion (GMS). Moreover, it evaluated the implementation of the SWI/SSI procedures at the Lao Bao - Densavanh international border gates and proposed solutions to foster the complete implementation of SWI/SSI procedures at the Lao Bao international border gates. In addition, there have been studies on the model of the National Single Window Customs Mechanism, as well as the ASEAN Single Window mechanism, which are important documents for comparison and reference to the SWI/SSI model which is the only one fully implemented with all four phases at the Lao Bao international border gate. These include the research study on “Solutions for Implementing the ASEAN Single Window Customs Mechanism at Road Border Gates between Lao PDR and Cambodia” by Le Duc Tho (Le Duc Tho, 2011), the research study on “Application of Legal Gap Analysis in Establishing a Legal Framework for Ensuring the Implementation of the National Single Window Mechanism participating in the ASEAN Single Window Mechanism” by (Le Nhu Quynh, 2012) , and the research study on “Harmonization and Standardization of Information Criteria supporting the Development of Electronic Documentation in the National Single Window Customs Mechanism” by Pham Duyen Phuong (Pham Duyen Phuong, 2014).

### **3. SINGLE WINDOW INSPECTION/SINGLE STOP INSPECTION FRAMEWORK OF LAO BAO (VIETNAM) AND DENSAVANH (LAO PDR) INTERNATIONAL BORDER GATE**

According to Article 4 of the Agreement on facilitating the transport of goods and people crossing the border signed on November 26, 1999, in Vientiane, Lao PDR, between the governments of the Lao People’s Democratic Republic, the Kingdom of Thailand, and the Socialist Republic of Vietnam, the concept of “Single Window Inspection” is defined as follows: *“Single Window Inspection involves procedures for the inspection and control of persons (passport, visa, driver’s license, foreign currency, customs, health, translation department), transport vehicles (vehicle registration certificate, certificate of insurance) and goods (customs, quality, quarantine of flora and fauna). The competent authorities of the contracting parties, such as customs, police, immigration, trade, agriculture, health, conduct joint and simultaneous inspections.”* The concept of “Single Stop Inspection” is defined as follows: *“Single Stop Inspection, who assist each other in carrying out their duties. The competent national authorities of the two adjacent countries conduct joint and simultaneous inspections. If the ground conditions do not permit the installation of adjacent border checkpoints, the checkpoints of one Contracting Party are permitted to perform their duties on the territory of the other contracting Party.”*

Based on the concepts of “Single Window Inspection” and “Single Stop Inspection” outlined the GMS agreement, the concept of “Single Window Inspection, Single Stop Inspection” can

be defined as follows: *the procedure of “Single Window Inspection, Single Stop Inspection” is that the authorities at the border (gate) of the two adjacent countries jointly coordinate joint and simultaneous (or almost simultaneous) inspection of goods, vehicles and people at the joint inspection site located on the territory of the importing country.*

According to the GMS agreement, the authorities at the border gates of the two adjacent countries include customs authorities, immigration check-in agencies (border guard/gate police), and quarantine agencies (medical quarantine, phytosanitary and animal quarantine).

The “Single Window Inspection, Single Stop Inspection”, according to the GMS agreement, is fully implemented through four steps:

*Step 1:* Actual inspection of goods at the joint inspection site in the importing country’s CCA by customs authorities from the two border crossings.

*Step 2:* Customs clearance and actual goods inspection at the CCA in the importing country by customs authorities from the two border crossings.

*Step 3:* Customs clearance and actual goods inspection at the CCA in the importing country, as well as handling relevant documents, by customs authorities from the two border crossings.

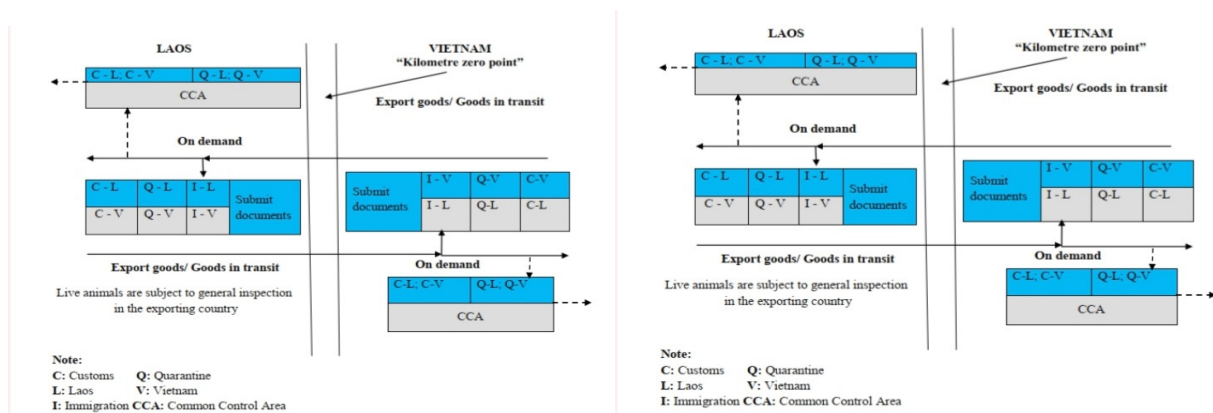
*Step 4:* Full implementation of the SWI/SSI procedure, which involves joint inspections, document processing, and goods clearance by the authorities from the two opposite country border crossings (customs, quarantine, immigration) at the joint inspection site located on the territory of the importing country. (Vietnamese Government, 2005)

According to the actual SWI/SSI model at Laobao border crossing (Vietnam) - Densavanh (Lao PDR), the four steps of the SWI/SSI model have been officially implemented since 6/2/2015. In the border crossing area between Vietnam and Lao PDR, workrooms have been arranged for the authorities from both sides (customs, quarantine, border guards), and they coordinated the implementation of their functions (inspection and document processing) at the border checkpoint of the importing country. Specifically, for exported goods and vehicles, passengers exiting from Vietnam to Lao PDR do not stop at the Vietnamese border crossing but proceed to the control area at the Lao border crossing to carry out exit procedures with the Vietnamese authorities and import procedures at the Lao authorities. Similarly, for imported goods and vehicles, passengers entering from Lao PDR into Vietnam do not stop at the Lao border crossing but proceed to the control area at the Vietnamese border crossing to conduct exit procedures with the Lao authorities and entry procedures with the Vietnamese authorities.

### **Diagram 1**

**Full 4-step process of “Single Window Inspection/Single Stop Inspection” under the GMS Agreement at Lao Bao (Vietnam) and Densavanh (Laos) international border gates**





The SWI/SSI procedure is primarily designed to facilitate the transportation of people and goods across borders between GMS countries. It aims to promote trade and investment and contribute to improving economic efficiency and competitiveness in the region. Harmonizing and simplifying the exchange of information between the government and the business community is one of the fundamental objectives in the development of the SWI/SSI procedure. By achieving this objective, the SWI/SSI procedure can bring tangible benefits to the governments of GMS countries and the business community. Specifically, the SWI/SSI procedure simplifies and streamlines the process of providing and sharing information, enabling businesses and competent agencies to comply with the trade laws more easily. The adoption of this mechanism enhances efficiency in the process of control and reduces costs for governments and businesses through the more efficient utilization of resources. Governments can realize various benefits, including the more efficient use of resources, budget adjustments (typically increases), improved business compliance, enhanced security, and increased integrity and transparency.

Furthermore, the SWI/SSI procedure serves as a prerequisite for the customs authorities of advanced countries to implement the ASEAN Single Window customs mechanism. This mechanism is one of the measures aimed at promoting the implementation of modern economic initiatives, including the ASEAN Free Trade Area (AFTA) initiative.

**4. CURRENT CONTEXT OF SINGLE WINDOW INSPECTION/SINGLE STOP INSPECTION FRAMEWORK OF LAO BAO (VIETNAM) AND DENSAVANH (LAO PDR) INTERNATIONAL BORDER GATE**

Comparing the results of import and export procedures, specifically the value of imported goods and the number of joint inspection declarations, over the years of adoption of the SWI/SSI model serves as a basis for evaluating the effectiveness and scale of adoption of the SWI/SSI model. The comparison period spans from 2006 to 2020, as the SWI/SSI model began on June 30, 2005, and its implementation was halted in April 2021.

**Table 1. The data on customs import and export procedures through the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates from 2006 to 2020**

Year	Number of check-in declarations	Weight of imported and exported goods (tons)	Value of imported and exported goods (USD)
2006	3,036	505,519	171,676,606



2007	3,014	367,554	144,802,564
2008	3,558	409,409	194,113,025
2009	4,303	469,449	215,891,183
2010	4,221	567,045	254,120,650
2011	5,321	416,771	391,391,712
2012	5,039	472,726	340,773,681
2013	4,770	650,377	435,522,612
2014	4,464	513,047	366,799,846
2015	4,515	343,154	181,366,101
2016	4,858	222,555	136,976,860
2017	5,892	269,279	191,616,758
2018	6,681	1,257,004	297,785,420
2019	9,444	978,822	416,683,000
2020	9,304	1,183,961	329,853,710
<b>Total</b>	<b>78,420</b>	<b>8,626,672</b>	<b>4,069,373,728</b>
Compare 2020 with 2006 (times)	3.06	2.34	1.92

Source: Customs Department of Lao Bao international border gate

**Table 2. The general inspection customs clearance figures at the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates from 2006 - 2020**

<b>Year</b>	<b>Number of check-in declarations</b>	<b>Weight of imported and exported goods (tons)</b>	<b>Value of imported and exported goods (USD)</b>
2006	408	-	22,104,097
2007	1,501	85,951	20,052,179
2008	1,889	63,211	16,637,784
2009	1,497	56,380	14,165,383
2010	405	27,400	10,338,922
2011	463	53,852	17,080,921
2012	515	46,781	35,694,975
2013	608	42,179	29,429,157
2014	594	35,679	25,992,810
2015	2,098	26,537	31,000,000
2016	2,684	24,293	52,490,694
2017	781	11,024	12,588,276
2018	777	30,430	13,710,000
2019	566	18,111	14,000,000
2020	279	4,599	7,039,018
<b>Total</b>	<b>15,065</b>	<b>526,427</b>	<b>322,324,216</b>
Compare 2020 with 2006 (times)	0.68	-	0.32
Compare total of Table 2 with total of Table 1 (%)	4.5	-	6

Source: Customs Department of Lao Bao international border gate

Analyzing the above statistics, it can be observed that compared to the period from 2006 to 2020, the number of declarations for general customs inspection procedures increased by 0.68 times; while the turnover of goods for general import and export Inspection increased by 0.32 times. Although the total turnover and total weight of general inspection and export goods accounted for a relatively low proportion of the total number of procedures (with

an increase of 4.5% in the number of procedures and 6% in value), they fundamentally changed the management method of state customs administration. When customs authorities at Lao Bao (Vietnam) and Densavanh (Lao PDR) border crossings conduct joint inspections, enterprises save time and costs. For instance, the general inspection area streamlines the process by conducting a single inspection instead of separate inspections at the export and import gates. As a result, transparency is enhanced in import and export relations between customs and enterprises, as well as in policies governing import and export activities between Vietnam and Lao PDR.

However, the data also indicate that the success of the SWI/SSI model declined in later years. Although the main objective factor was the COVID-19 pandemic, which led to the governments of both countries advocating for the suspension of the SWI/SSI model in April 2021, this development has sparked a heated debate about the effectiveness of the model. Therefore, further research is necessary to find answers and address these concerns.

## **5. RESEARCH METHODOLOGY**

The scale is developed based on a qualitative study conducted through technical group discussions with experienced public sector officials and experts at international road crossings. It draws upon the theories of the quality model of Customs Management at the International Road gate and the content of Public Service Quality Management. At the same time, the scale is further adjusted and supplemented with specific factors associated with the practice of import and export activities through the Lao Bao international gate (Vietnam) and Densavanh (Lao PDR), which are representative of the SWI/SSI model.

The research findings in this section were confirmed and refined through preliminary quantitative research. A sample of 263 enterprises was included in the study. The number of enterprises was identified based on the average number of businesses clearing goods through the Lao Bao and Densavanh international border gates during the period from 2013 to 2017 from statistical data of the Quang Tri Customs Department. Among the 263 survey questionnaires sent to enterprises, 231 responses were positive with comprehensive information. The cooperative spirit of enterprises with customs was confirmed through this survey (Table 3).

Among the 231 surveyed enterprises, 93 of them are currently engaged in importing and exporting activities through the Lao Bao and Densavanh international border gates (accounting for 40%), and 46 businesses used to have operations at the Lao Bao and Densavanh international border gates but shifted their operations to other border gates (accounting for 20%). The remaining 92 businesses completely stopped their importing and exporting activities in the past year (accounting for 40%). About 36% of enterprises located their headquarters in Quang Tri province, while the remaining 64% comprised businesses were from different provinces and cities across the Northern, Central, and Southern regions. Notably, there were some businesses that, despite having their headquarters and production facilities in Hanoi, Ho Chi Minh City, Hai Phong, Vung Tau, etc., conducted customs clearance procedures for import and export goods through the Lao Bao and Densavanh international border gates.

**Table 3. Descriptive statistics of the sample**

No.	Variables	Proportion (%)
1	Exporting enterprises	10
2	Importing enterprises	25
3	Importing-Exporting enterprises	65
	Total	100
1	Enterprises with 01 customs procedure staff	80
2	Enterprises with 02 customs procedure staff	18
3	Enterprises with 03 customs procedure staff	2
	Total	100
1	Customs procedure staff with long-term training at University/College	4
2	Customs procedure staff with short-term training	9
3	Customs procedure staff without training	87
	Total	100
1	Enterprises maintaining importing-exporting activities at Lao Bao and Densavanh international border gates.	16
2	Enterprises with no customs clearances for importing-exporting activities at Lao Bao and Densavanh international border gates	74
	Total	100
	Frequency of customs clearances at Lao Bao and Densavanh international border gates	
1	Daily	8
2	Once a week	63
3	Once a month	11
4	Once a quarter	9
5	Once a year	9
	Total	100

*Source: Author's survey, survey (2017)*

These scales are evaluated and adjusted through a scale conformity test using the Cronbach alpha reliability factor. In this test, observed variables with a correlation coefficient (item-total correlation) lower than 0.3 are eliminated. This process is repeated until an appropriate set of observation variables is reached as a scale for each factor, satisfying the Cronbach alpha standard higher than the reference level of 0.6. This procedure is applied to all groups of factors until a set of scales meets the quantitative technical standards and aligns with practical considerations. The results are subsequently presented in the section below.

**Table 4. SWI/SSI factor scale**

Coefficient Cronbach's Alpha	Coefficient Cronbach's Alpha Normalized	Number of observations
0.794	0.809	7

Construct	Item	Factor loading	Cronbach alpha
c62	SWI/SSI helps to shorten the time for customs clearance of exported goods compared to the traditional method	0.577	0.759

c63	SWI/SSI helps to shorten the time for customs clearance of imported goods compared to the traditional method	0.527	0.768
c66	SWI/SSI helps businesses save customs clearance costs compared to the traditional method (thanks to reducing the cost of loading and unloading goods).	0.604	0.751
c67	SWI/SSI has facilitated the exchange of people and goods across borders	0.562	0.76
c70	Language on profile synchronized between three parties in SWI/SSI model	0.404	0.788
c71	The language in the three-party synchronized communication in the SWI/SSI model	0.586	0.764
c72	Samples of certificates and papers have been synchronized between the two countries	0.504	0.777

*Source: Author's survey, survey (2017)*

After testing, the SWI/SSI factor scale consists of seven observed variables, as listed in Table 4, with an equivalent Cronbach alpha factor of 0.794. This scale represents the unique characteristics of Lao Bao international border gates (Vietnam), which is one of the initial pairs of international border gates to implement the SWI/SSI procedure. The procedure involves coordinated steps to streamline and consolidate duplicate procedures on both sides of the border gates into a unified step, enabling businesses to reduce the time, procedures, and costs associated with customs clearance for goods, vehicles, and people crossing the border. This set of scales covers specific aspects such as time, cost, document, and language

## 6. RESULTS OF ENTERPRISES' SATISFACTION LEVEL FOR SINGLE WINDOW INSPECTION/SINGLE STOP INSPECTION

To facilitate import and export activities, the SWI/SSI inspection procedure initially received consensus from the business community and people (Immigration passengers). It also gained attention and support from the leaders of Quang Tri (Vietnam) and Savannakhet (Lao PDR), and the General Directorate of Customs of both Vietnam and Lao PDR. Over 17 years, the implementation of the SWI/SSI procedure in customs management has achieved significant results in facilitating the transportation of goods and people across the border, in line with the GMS-CBTA Agreement and the Lao PDR-Vietnam Memorandum of Understanding (MOU). However, according to the satisfaction rating of enterprises, SWI/SSI has not been as effective as expected. On the contrary, the lack of synchronization in terms of documentation, language, and work processes has often resulted in efficiency issues, contrasting with the theory of facilitating goods and vehicles through this model compared to the traditional model. According to the survey, 94% of enterprises believe that customs declarations have not been harmonized between Vietnam and Lao PDR; 95% of enterprises believe that quarantine certificates have not been harmonized between Vietnam and Lao PDR; 96% of businesses believe that the only accepted document is the goods invoice recognized by both parties.

**Table 5. Statistical description on enterprises' feedbacks to SWI/SSI**

	Medium	Standard error	Conclude
SWI/SSI helps to shorten the time of customs clearance for export goods compared to the traditional one	3.52	0.065	Normal/Neutral
SWI/SSI helps to shorten the time for customs clearance of imported goods compared to the traditional method	3.45	0.996	Disagree

Is the total time of customs clearance for export goods faster or slower than you expect thanks to SWI/SSI	4.33	0.537	Very slow
Compared with other border gates, customs clearance time at Lao Bao border gates is faster thanks to SWI/SSI	3.73	0.748	Disagree
SWI/SSI helps businesses save customs clearance costs compared to traditional methods (thanks to reducing the cost of loading and unloading goods).	3.44	0.911	Normal/Neutral
SWI/SSI has facilitated the exchange of people and goods across borders	3.37	0.847	Normal/Neutral
Legal processes and procedures between the two countries have been synchronized and harmonized in the SWI/SSI model	3.67	0.930	Asynchronous
Common language between the two border gates	4.00	0.000	100% do not use common language
Language on profile synchronized between three parties in SWI/SSI model	4.54	0.820	Completely out of sync
The language in the three-party synchronized communication in the SWI/SSI model	3.94	0.598	Asynchronous
Samples of certificates and documents have been synchronized between the two countries	3.98	0.549	Asynchronous

*Source: Author's survey, survey (2017)*

Opinions from enterprises and passengers at the border crossings have also highlighted concerns. The presence of numerous people and multiple authorities participating in checks for transportation and import/export goods has caused psychological discomfort and fear for businesses and passengers. The requirement for goods exported from Lao PDR to undergo checks in Lao PDR and then in the CCA for Vietnam has been seen as troublesome and expensive. Additionally, some individuals from the functional sectors at the two border crossings have displayed uncivilized attitudes, causing further difficulties and disturbances.

## 7. DISCUSSION AND CONCLUSION

The SWI/SSI Model Management is one of the modern applications in customs management aimed at maximizing the facilitation of international trade activities and associated with customs reform and modernization. The implementation of the SWI/SSI procedure is an important aspect of the GMS agreement within the framework of the GMS-CBTA cooperation, which aims to facilitate the movement of people and goods across borders. However, as the first and sole SWI/SSI pilot in the world, there were numerous challenges and barriers in customs management during the SWI/SSI implementation at the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates. Therefore, this study aims to propose recommendations for solutions to effectively achieve the objectives and principles set by the model. This is done by addressing limitations identified by businesses in three fundamental aspects including i/ failure to improve customs clearance time; ii/ inconsistent cross-border procedures and legal processes between the two countries; and iii/ language barriers. In practice, many imported and exported goods are still inspected in both exporting and importing countries. Additionally, management stakeholders (businesses, vehicles, travelers, etc.) passing through the border gates are not ready to adapt to the transparency of the SWI/SSI model. As a result, the level of cooperation remains low, and in some cases, businesses have moved to other border gates that have not yet adopted this model. In addition, these difficulties are in line with and explain the results of the assessment of business satisfaction levels.

Solutions and the potential application of the SWI/SSI model at other border gates are as follows:

*Firstly*, organizing a conference to evaluate the SWI/SSI pilot at the Lao Bao (Vietnam) and Densavanh (Lao PDR) international border gates at the governmental level of both Vietnam and Lao PDR. During this conference, the implementation results and effectiveness of the SWI/SSI model in various sectors such as trade, investment, tourism, etc. will be assessed. Subsequently, a joint government agreement to unify the inspection and control procedures based on the SWI/SSI model at the desired border gates should be signed. This agreement aims to ensure consistent and coherent legal foundations in deploying inspection and control processes between the respective functional forces of both sides at the border gates.

*Secondly*, the relevant ministries and departments of both Vietnam and Lao PDR should conduct a thorough review of the SWI/SSI model and promptly establish a Memorandum of Understanding (MOU) for each sector at the border gates. Simultaneously, strict adherence to the commitments regarding the inspection nature of the model during its implementation should be ensured.

*Thirdly*, adherence to the principles of the agreements related to SWI/SSI must be rigorously upheld by each involved country. In the event of disputes regarding jurisdiction in handling violations and the application of laws by each party, a code of conduct and professional ethics should be established among all participating forces in the model.

*Fourthly*, intensify public awareness about the single window/single stop mechanism through public outreach. This is one of the recommendations outlined in Recommendation 33 of the United Nations Centre for Trade Facilitation and Electronic Business. Therefore, the promotion and dissemination of information, transparency, and procedures related to SWI/SSI are of significant importance for the success of the model. In terms of communication content, a program and plan should be developed to increase awareness and knowledge for all civil servants about SWI/SSI procedures, with a focus on highlighting the changes and differences in the new operational mechanism compared to the conventional model. For the business community, which constitutes the primary participant in SWI/SSI procedures as the input side, comprehensive communication efforts are essential to ensure a deep understanding of SWI/SSI procedures, the benefits of participating in a single window/single-stop customs system, and to help businesses grasp specific requirements and regulations for involvement in SWI/SSI procedures.

*Fifthly*, to overcome language barriers, it is essential to assign customs officials with proficiency levels in foreign languages, especially English, to work at international border gates. This will ensure fluent communication and facilitate interactions, especially with neighboring countries that share a common border. Both international border gates should use a standardized declaration form (bilingual in English and the local language, and with consistent criteria to be included in the declaration).

*Finally*, the leadership of the Customs Department should proactively focus on research, leadership, and problem-solving in the implementation of the SWI/SSI pilot procedures. Customs offices at the international border gates should hold regular monthly meetings to



promptly address any challenges in the customs procedures of both countries. For urgent cases, customs leaders at the two border gates can actively and directly meet to find appropriate solutions.

To achieve a consistent SWI/SSI model across the borders, further studies and pilots should be conducted at other international border gates with substantial potential for trade, people travel, and vehicles, along with well-established basic infrastructure. Additionally, the governments of countries such as Lao PDR, Thailand, Myanmar, China, and relevant international organizations should implement the SWI/SSI model at border gates between provinces within the East-West Economic Corridor, North-South Economic Corridor, etc. This will establish connectivity and coherence of this model at national and international scales. The implementation of SWI/SSI has both national and international significance, requiring unified guidance from both countries where the SWI/SSI model is applied. At the national level, synchronization should be established from the local level (border gates) to the central government.

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# METHODS OF EVALUATING THE IMPACT OF THE FREE TRADE AGREEMENT BETWEEN VIETNAM AND EURASIAN ECONOMIC UNION ON VIETNAM'S AGRICULTURAL EXPORTS TO EAEU

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**Abstract:** *The paper presents methods used to evaluate the impact of a free trade agreement (FTA) on a country's trade activities during the implementation of the free trade agreement. Following that, the paper proposes an appropriate method to evaluate the impact of the free trade agreement between Vietnam and the Eurasian Economic Union on Vietnam's agricultural exports to the EAEU market.*

**Keywords:** *method, FTA, VN-EAEU FTA, agricultural exports.*

## 1. INTRODUCTION

In the context of broad international economic integration, more and more free trade agreements have been signed between economic communities and non-regional countries. Once the free trade agreements come into effect, they are deemed to have a great impact on trade relations in general and agricultural exports in particular between partners in different directions and degrees. Obviously, evaluating the impact of the free trade agreement between Vietnam and the Eurasian Economic Union on Vietnam's agricultural exports to the Eurasian Economic Union (EAEU) as the two sides have signed a free trade agreement will provide concrete empirical evidence as a basis for improving the effectiveness of state management on agricultural exports, thereby promoting Vietnam's agricultural exports to this economic union market during the implementation of the free trade agreement signed by the two sides.

## 2. THE THEORITICAL BACKGROUND

The impact of a free trade agreement on trade relations between members in general and on a specific country's agricultural exports, in particular, is an issue that has received much attention from economic researchers. There have been many studies on the impact of free trade agreements on the flow of trade between countries that have signed the agreement. To date, there are two methods commonly used in empirical studies on assessing the impact of free trade agreements on a country's agricultural exports to a signed trading partner, which are (1) the GTAP model based on the general equilibrium model theory CGE and (2) the gravity model.

### **Theory of the general equilibrium model**

Based on the theory of the general equilibrium model (CGE), empirical studies often use the GTAP (Global Trade Analysis Project), which exploits the global trade database to simulate, analyze, and evaluate the impact on a country's economy when participating in

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international trade. The GTAP model was built and developed by Thomas Hertel (1997) at Purdue University - USA, allowing to analyze the interactions between economies in the context of globalization. The GTAP model assumes that in a perfectly competitive market, production efficiency does not vary with the size of commodities differentiated on the basis of origin (Armington, 1969). The GTAP model provides an analytical framework for assessing the impact of policies and changes in the structure of resource distribution by clarifying the beneficiaries and those subject to damage due to the impact of the policy (Dimarana & Dougall, 2022; Todsadee et al., 2012). The characteristics of the GTAP model are as follows: first, the consumer is the one who decides the consumption of goods, the level of saving, and the level of government spending to maximize the Cobb-Douglas utility function, and the government is a component of the model; second, the representative of each industry in each territory is the decision maker for the production inputs and intermediate goods; prices of goods and factors of production are determined at the equilibrium level of supply and demand in the market. In Hertel's GTAP model (1997), supply and demand are in equilibrium in all markets, i.e. the cost of a product is equal to marginal cost. The government uses tax and subsidy instruments to create the difference between the price that producers get and the price that consumers pay. Government policy intervention is expressed in the form of percentage taxes, tax subsidies, or quantitative norms.

- *Advantages of GTAP model*

In the CGE model, the economy of each country is divided into many different sectors and fields; therefore, it is possible to assess the impact of participating in international trade relations on the entire economy as well as on each specific industry.

The database in this model is global, based on I/O tables of many countries. This data sheet has been calibrated to ensure consistency and minimize discrepancies in the timing and sectoralization of the data.

The GTAP model is suitable for analyzing the impact of international trade participation on individual countries in the context of globalization.

This is a built-in model that everyone can use for their own analysis and research purposes.

- *Disadvantages of GTAP model*

The GTAP model has the following disadvantages: first, this model cannot analyze the transition between two equilibria; second, there is no financial market in this model, hence it is not possible to deal with issues related to exchange rates, interest rates, inflation as well as the impact of monetary policy; third, the database is integrated from many countries' data, with differences in structure and timing, thus consistency is not guaranteed; fourth, the model is complicated and difficult to apply.

It can be seen that the GTAP model is used as an analytical tool to predict the impacts of FTAs on the economy, and the economic structure between sectors, thereby identifying the industries with bigger advantages to develop in each country. However, due to inherent disadvantages including the complexity of the model, the application of the GTAP model in experimental studies is limited.

### **The gravity model**

The gravity model was first used by Tinbergen (1962) and Poyhonen (1963) to assess bilateral trade between European countries. Since then, the gravity model has gradually become a useful and commonly used tool in empirical studies to estimate, analyze, and evaluate issues related to international trade.

The gravity model is widely used in research to estimate the impact of exchange rate fluctuations, the implementation of free trade agreements, geographical distance, etc. on trade turnover between parties due to the need to understand the factors and extent of influence of the participation in international trade relations on the socio-economic fields of a country and due to its following advantages (Baldwin and Taglioni, 2006):

First, the database used in the model is standardized, hence it has a high degree of reliability and is easier to access.

Second, the gravity model has been applied by many researchers, thereby forming a standard procedure and principles to ensure the reliability of the estimation results.

Third, the gravity model can consider the effects of groups of factors affecting supply, demand, and trade between two countries simultaneously. This model measures the effects of both qualitative and quantitative variables.

However, in the gravity model, it is assumed that trade flows between two countries depend only on the economic characteristics of that pair of countries while in reality, the degree of multilateral trade dependence is very large. It can be seen that several assumptions in the model are not reliable as important variables may be omitted (for example, variables regarding the trade cost gap between two countries, the quality of infrastructure, and waiting time at the border). This is a significant limitation of the model. Therefore, when using this model, policymakers as well as researchers must be very careful during the interpretation of research results since the estimated effects of an FTA are only genuinely effective if the estimated data are reliable.

The use of the gravity model in international empirical studies is quite diverse and widespread. When studying bilateral trade between European countries, Tinbergen (1963) and Poyhonen (1963) used the gravity model to explain the effects of economies of scale (measured in GNP or GDP) and the gap between two countries on a country's export performance. After that, the gravity model has been widely used and become increasingly popular in the empirical study of international trade. The gravity model was used by McCallcum (1995) to measure the impact of borders on trade. In the gravity model used by Endoh (1999), trade flows were said to be negatively affected by the population variable. Another variable, income per capita, was also included as a variable that had a positive effect on international trade (Frankel, Stein, and Wei, 1995; Elliott and Ikemoto, 2004). In addition, a number of other variables such as geography, culture, and institutions were included in the model to help analyze the impact on trade and investment flows better. In the gravity model derived from the partial equilibrium model of Radman (2003), trade flows between two countries  $i$  and  $j$  were explained by the following factors: country  $i$ 's total potential supply, country  $j$ 's total potential demand, and

barriers to trade. Radman's research (2003) showed that Bangladesh's trade is determined by the size of the economy, GNP per capita, geographical distance, and market openness. In a study on China's tea exports from 1996 to 2009, Wei et al. (2012) used the gravity model to assess the impact of food hygiene and safety standards on tea exports in China. Hygiene and safety variable was included in the model as dummy variables and there was no obvious impact because food safety standards were different among consuming markets. Yang (2006) and Martínez - Zarzoso (2004) used the gravity model in which, besides GDP, population, and language variables, the authors included two more variables, including shared borders and free trade agreements, to measure the impact of these factors on the export turnover of countries in the ASEAN - China free trade area.

It is clear that over time the gravity model has been developed both in theory and in practical application. From a model that lacked a theoretical foundation, the gravity model has been developed to become a tool with a solid foundation for research and estimation purposes.

In Vietnam, a lot of research on Vietnamese trade during the implementation of free trade agreements has utilized the gravity model.

Tu Thuy Anh and Dao Nguyen Thang (2008) used the gravity model to explain the impact of factors such as economic growth (through GDP, GDP per capita, geographical distance, and trade relationship in the ASEAN+3 region) on the level of trade concentration of Vietnam in these countries throughout the period 1998 - 2005. In the model, the authors included independent variables including GDP, GDP per capita, geographical distance, and dummy variable ASEAN and assessed the impact of these factors on the dependent variable, which was the indicator of trade concentration between Vietnam and ASEAN+3 countries. The results showed that economic growth had a great impact on the level of trade concentration of Vietnam in ASEAN+3; geographical distance affected exports, but did not affect the concentration of trade, the actual implementation of commitments with ASEAN+3, and did not significantly affect the growth of trade between Vietnam and ASEAN+3 countries. In this study, the gravity model successfully quantified the factors affecting the level of trade concentration of Vietnam in the context of implementing commitments with ASEAN+3.

In a study to analyze the impact of the ASEAN and Korea free trade area on Vietnam's trade by Nguyen Tien Dung (2011), the gravity model with secondary data in the period 2001-2009 was used to analyze the influence of GDP, GDP per capita, income disparity, geographical distance, exchange rate and FTA (dummy variable) on Vietnam's import and export turnover. It was shown that GDP had a positive impact on both exports and imports; geographical distance had a negative effect on both exports and imports; exchange rate had a positive impact on exports and a negative impact on imports; dummy variables received positive coefficients in both exports and imports. These findings were consistent both in theory and in practice.

Ngo Thi My (2016) used the gravity model to analyze the factors affecting the export of Vietnamese agricultural products, including the economic size of the importing and exporting countries (GDP); the population of exporting and importing countries; agricultural land area of exporting and importing countries; quality of agricultural products; prices of agricultural products on the world market; inflationary; infrastructure for export activities; comparative advantage;



science and technology; export promotion/management policies; distance between two countries; openness of the exporting country's economy; international relations. The research results showed that these factors all had an impact on Vietnam's agricultural exports with the tendency and the level of impact consistent with the model's hypothesis. In particular, the exchange rate was the factor that had the strongest impact on Vietnam's agricultural export turnover.

Nguyen Thi Thanh Huyen (2019) used the gravity model to assess the impact of trade agreements on Vietnam's rice exports. The dependent variable in the model was the value of Vietnam's rice exports. The independent variables included the GDP of Vietnam, the total final consumption expenditure of the importing country, the actual bilateral exchange rate between Vietnam and the importing country, and the geographical distance between Vietnam and the importing country (distance between two capitals). Dummy variables such as the sharing of borders, colonial history, contiguity to the sea, and participation in regional trade agreements were included in the model for estimation. The results showed that the signing of free trade agreements did not always have a positive impact on Vietnam's rice exports.

In the gravity model done by Bui Quy Thuan (2021) to study the impact of the Vietnam - Eurasian Economic Union free trade agreement on trade between Vietnam and the Russian Federation, the independent variables were taken into account including the GDP of exporting and importing countries; the population of exporting and importing countries; the distance between the two capitals of the two countries; the real exchange rate between the two countries; the import country's tax rate applied to imported goods along with a dummy variable that measured the impact of FTAs on imports and exports between two countries. The dependent variables in the model were the export turnover and import turnover of Vietnam. This research showed that the free trade agreement between Vietnam and the Eurasian Economic Union had a positive impact on bilateral trade between Vietnam and the Russian Federation. This finding was consistent with the assumption and previous empirical studies on the impact of FTAs on international trade flows.

In the gravity models mentioned above, the following variables are included:

*Dependent variables:* Export turnover and import turnover or two-way trade.

*Independent variables:* The variables related to the supply of the exporting country, the variables related to the demand of the importing country, the variables related to the degree of trade attractiveness or trade barriers, the variables related to population which represents the market size, real exchange rate, average tax rate; while WTO and FTA are listed as dummy variables.

*In summary,* two popular methods used in studies on the impact of free trade agreements on trade flows in general and agricultural exports, in particular, are the GTAP model based on the theory of the equilibrium model CGE and the gravity model. The CGE model-based approach helps to review the overall linkages in the economy, forecast trends, explain resource allocation mechanisms when implementing FTAs, and impacts on economic growth in the context and specific conditions of each country. The gravity model, with its advantages, is more commonly used to evaluate the impact of signing free trade agreements on the country's agricultural exports.



### 3. PROPOSING A FRAMEWORK FOR ANALYZING AND EVALUATING THE IMPACT OF THE VIETNAM- EAEU FREE TRADE AGREEMENT ON VIETNAM'S AGRICULTURAL EXPORTS TO THE EAEU DURING THE IMPLEMENTATION OF THE FREE TRADE AGREEMENT

It can be seen from the literature review of methods used in evaluating the impact of a free trade agreement on a country's international trade that the gravity model has outstanding advantages. Therefore, it would be reasonable to choose this model to evaluate the impact of the free trade agreement between Vietnam and the Eurasian Economic Union on Vietnam's agricultural exports to the EAEU market since the FTA came into force.

The first gravity model applied by Tinbergen (1962) quantified the effects of three factors including the size of the exporting country's economy, the size of the importing country's economy, and the distance between the two countries on trade turnover between the two countries, using the following simple formula:

$$T_{ij} = AY_i^{b_1} Y_j^{b_2} DIS_{ij}^{b_3} e^{u_{ij}}$$

In which:

$T_{ij}$ :	Trade volume between country i and country j
A:	Drag coefficient
$Y_i$ :	The size of the economy of country i
$Y_j$ :	The size of the economy of country j
$DIS_{ij}$ :	The distance between country i and country j
$b_1; b_2; b_3$ :	Individual regression coefficients of the influencing factors in the model
$u_{ij}$ :	Random error

In the application process, factors such as the population size of the exporting and importing countries, the exchange rate/real exchange rate policy, the gap in the level of development between the two countries, and the policies related to trade barriers have been added to the gravity model.

Accordingly, factors affecting the export of Vietnamese agricultural products to the EAEU market in the context of the implementation of the VN-EAEU FTA include GDP, population size, total agricultural land area, economic development gap, geographical distance, exchange rate, participation in free trade areas, etc.

- *The size of the economy of the exporting country (GDP)*

The scale of GDP reflects the production capacity or ability to produce and supply goods and services of an economy. However, the degree of impact of GDP size on agricultural exports varies across different economies, depending on the socio-economic development strategy of that country/territory. If the economy is export-oriented, GDP scale and agricultural export turnover are closely related. On the contrary, if the economy is not export-oriented, the size of GDP and export turnover of agricultural products have little to do with each other. Because in that economy, goods and services are produced mostly to meet domestic consumption needs. Theoretically, a variety of scenarios can be put forward regarding the magnitude of the impact of the exporting country's economic size on export turnover. However, in the process of international economic integration, these two factors have a positive relationship and are closely linked (Tinbergen, 1962).

- *The size of the economy of the importing country (GDP)*

The size of the importing country's economy has a great influence on the import and export turnover between the two countries (Tinbergen, 1962). First, the high GDP size of the importing country shows that the country has a large purchasing and importing demand. GDP also reflects the country's production capacity; a high GDP size means a large production capacity. Therefore, imported goods will face stiff competition from domestic goods. On the other hand, the demand for imported goods also depends on the nature and necessity of each type of product. Hence, the size of the economy of the importing country affects the export and import turnover of each commodity in different directions and degrees. For that reason, it is difficult to clearly state whether the impact of the size of the importing country's economy on the export value of agricultural products of the exporting country is positive or negative. However, it should be noted that agricultural products are essential goods, and most countries consider them important goods to serve the basic needs of the people. When the GDP of the importing country increases, it means the country has focused on production to increase output and the quality of domestic agricultural products, which indicates that the demand for agricultural imports will decrease. At that time, the impact of the size of the importing country's economy on the export turnover of agricultural products was negative.

- *The population of the exporting country*

Population is a factor that directly affects the production capacity of a country (Nguyen Thi Huyen, 2019). The level of impact of population on export turnover of goods in general and on agricultural exports in particular is considered in the following aspects:

- Firstly, when the population increases, the size/number of labor increases, contributing to the increase in production capacity and in the output of exported goods. However, this also creates competitive pressure on businesses (Bui Ngoc Son, 2019). This encourages domestic enterprises to promote technical innovation, increase productivity, improve quality, and diversify products, increasing the supply of goods and creating favorable conditions for export promotion. Besides, in the context of advancing science and technology, a highly qualified labor force will gradually replace unskilled labor. Therefore, when considering this factor, it is necessary to consider both sides: quantity and quality, so that results will be reflected in a complete and accurate manner. Clearly, the size of the population of the exporting country has a positive effect on the export turnover.

- Second, a large population means a large consumer market. This means that the production and supply of goods mainly serve domestic consumption needs. Export activities will receive less attention. That is, export activities in general and agricultural exports in particular will most likely be constrained by the large population size. From this perspective, large population size has a negative impact on export turnover. Thus, in theory, the exporting country's population can have a positive or negative impact on the export value of agricultural products of a country.

- *The population of the importing country*

Since agricultural products are considered essential goods, an increase in the size of the population of the importing country means an increase in demand for agricultural products

(Linnemann, 1966). This also causes certain impacts on agricultural product exports. However, whether the population size of the importing country has a positive or negative effect on the agricultural exports of the exporting country depends on the quality of the labor source of that country. Firstly, an increase in population size also means an increase in demand, which causes an increase in the import demand for goods, or an increase in the export turnover of the exporting country. Second, an increase in population also means an increase in the importing country's labor force. This means that the production capacity of the importing country increases, leading to an increase in the scale of goods in general and agricultural products in particular to meet domestic consumption demand. At that time, the demand for importing agricultural products will decrease, which means that the export turnover of agricultural products of the exporting country will decrease.

- *Total agricultural land area of the exporting country*

This is the area of land used for agricultural production of a country. The area of agricultural land not only determines the scale of domestic production but also affects the agricultural import and export strategy of that country. When the area of agricultural land increases, the scale of agricultural production is expanded, thereby, the output of agricultural products is increased, raising the supply of agricultural products for export and reducing the demand for imported agricultural products. Thus, for the exporting country, the area of agricultural land has a positive relationship with the export turnover of agricultural products. However, while studying this factor, it is essential to consider it in the current context, where the urbanization process is taking place widely, making the possibility to increase the total arable land very difficult. Furthermore, the increase in total agricultural land area has different impacts on different types of agricultural products, depending on the suitability of each type of agricultural product with each type of arable land (Ngo Thi My, 2016).

- *Total agricultural land area of the importing country*

Similar to the exporting country, the agricultural land area plays an important role in the agricultural production of the importing country (Ngo Thi My, 2016). For the importing country, if the scale of agricultural land is large, it means the scale of agricultural production is large, helping to produce a larger output of agricultural products. At that time, the demand to import agricultural products from other countries decreases, which means that the export turnover of agricultural products of the exporting country decreases. In brief, the agricultural area of the importing country has a negative impact on the export turnover of agricultural products of the exporting country.

- *The quality of agricultural products*

The quality of agricultural products has a great impact on the export turnover of the exporting country. Because the quality of agricultural products is considered as a barrier to the market entry of agricultural products, especially in large and difficult markets such as the EU, Japan, and the United States... Besides, globalization encourages countries to make efforts to improve the quality of agricultural products, thereby enhancing their competitiveness against other competitors. In summary, there is a positive relationship between the quality of agricultural products and the export value of agricultural products of the exporting country (Wei et al., 2012).

- *Prices of agricultural products on the world market*

The price of exported agricultural products has a great impact on domestic production, thereby affecting the import and export turnover of a country. If a country has an advantage in the production and export of agricultural products, that country will aim at agricultural exports to earn foreign currency for domestic socio-economic development. For agricultural exporting countries, high prices of agricultural products in the international market will arouse the desire to export agricultural products, thereby increasing export turnover. Conversely, if the price of agricultural products is low, it will reduce the export turnover of agricultural products (Flawewo and Olakojo, 2010).

- *Inflation*

Inflation (in the exporting country), meaning a decrease in the purchasing power of the local currency, is likely to cause a certain impact on the export turnover of goods in general and agricultural products in particular. Rising inflation causes the prices of goods in general and agricultural products in particular to increase in the domestic market. This will reduce the competitiveness of domestic enterprises, thereby affecting the export turnover of agricultural products. When inflation decreases, domestic commodity prices fall, leading to an increase in agricultural the export turnover. Thus, inflation negatively affects export turnover of goods in general and agricultural products in particular (Sevela, 2002).

- *Infrastructure for export activities*

The infrastructure for export activities includes a logistics system, banking system, insurance system, goods quality inspection, etc. In which, the modern logistics system will reduce loading and unloading time, simplify delivery procedures as well as ensure the safety of exported goods, thereby increasing export turnover, especially for agricultural products whose quality is greatly affected by storage conditions and delivery time. In addition, the development of the banking system allows exporters to make payments and mobilize capital more conveniently. Along with that, the system of insurance and quality inspection allows export activities to be carried out in a safer way, and at the same time reduces damage when risks occur. Thus, the modern export infrastructure will create more favorable conditions for the export of goods, especially the export of agricultural products (Robert, 1994).

- *Comparative advantage*

Comparative advantage is a fundamental requirement in international trade. A country's comparative advantage ranges from advantages in resources such as land, labor, mineral resources, and capital to advantages derived from government policies and business operations. Making good use of advantages will help countries improve their competitiveness in the international market, thereby increasing the export turnover of goods, including agricultural products (Balassa, 1965, 1975, 1977).

- *Science and technology*

In production, the presence of science and technology contributes to both increasing the output and improving the quality of products to meet the increasing demand of consumers. Science and technology directly increase labor productivity, reduce production

costs, increase the proportion of intellectual capital in products, and increase the diversity of products. In agriculture, the research for new varieties of plants and animals or the invention of new production and processing technologies have created agricultural products with higher productivity and quality. These factors play an important role in improving the competitiveness of products in the international market, thereby directly affecting the import and export results of a country. Evidently, science and technology is a factor that has a strong impact on a country's agricultural product exports.

- *Export promotion/management policy*

Government policies of exporting countries that have a direct or indirect impact on the export performance of that country may include:

- *Tariff and non-tariff policy*

Barriers to international trade include tariff and non-tariff measures. An increase in import tax or a higher standard of imported goods in general and of agricultural products, in particular, will have the effect of reducing a country's export and import turnover. On the contrary, when these barriers are reduced (i.e. countries participate in free trade areas, sign economic cooperation agreements, reduce taxes, provide flexible standards, etc.) it will lead to an effect of boosting exports) (Hatab et al., 2010).

- *Exchange rate policy*

Exchange rate is the price of one currency compared to another. In essence, the impact of exchange rate policy on exports is the impact of exchange rate changes on exports. The exchange rate directly affects the price of exports - an important factor in determining market demand. As for the volume of exported goods, when a country's domestic currency depreciates relative to other foreign currencies, the price of exported goods in the value of foreign currency will decrease, then the demand for this good will increase, causing the volume of exports to increase (Krugman, 1996). Conversely, if the domestic currency depreciates relative to the foreign currency, it will cause export output to decrease. For export turnover, the extent and tendency of impact of the exchange rate policy on export turnover depends on the price elasticity of export demand. If the demand for goods is price elastic, an increase in the value of foreign currency will cause the total export value measured in the value of foreign currency to increase. If the demand for goods is inelastic, an increase in the exchange rate will cause a decrease in exports in the value of foreign currency. The price elasticity of demand is varied across different groups of goods. Therefore, the impact of the exchange rate will also be uneven across export categories. Besides, the exchange rate also affects the supply of export goods. When the exchange rate changes causing the revenue of enterprises to increase, the decrease in input costs will promote the expansion of production and increase the supply of goods for export. In some specific situations, when the exchange rate fluctuates, exporters have to spend some extra costs to hedge against risks, which reduces motivation for export. However, if the enterprise stops exporting due to exchange rate risk, it will have to bear the cost of exiting the market. Thus, exchange rate fluctuations cause unclear impacts on commodity exports.



- *The distance between the two countries*

The distance between the two countries includes both the geographical distance and the discrepancy in the level of development (level of socio-economic development, level of science and technology, ...).

- Geographical distance

The geographical distance between the two countries will directly affect the freight charges (Tinbergen, 1962) as well as the risks in the transportation of goods, especially agricultural products. The longer the distance between two countries, the greater the transportation cost, the longer the delivery time, affecting the quality of the goods. Particularly for agricultural products, whose quality is greatly affected by transportation time and storage conditions. Therefore, the geographical distance between two countries has a huge impact on a country's agricultural exports.

- Development gap

The gap in the level of development can attract or hinder import and export activities between the two countries (Dao Ngoc Tien, 2008). Two countries with the same level of development are deemed to have similar needs and tastes for goods and quality requirements. Therefore, the goods of one country will meet the needs of the other country. Clearly, this is a factor that facilitates exports. On the contrary, if a big gap exists between the two countries, it will be difficult or impossible for the goods of one country to enter the other one, reducing the export turnover.

Besides the two factors mentioned above, there are many other factors that also cause indirect effects on trade exchanges between countries such as culture, history, political institutions, etc. through production relations, affecting export supply and through consumer tastes, affecting export demand. Thus, the impact of these factors is often unclear on a country's exports.

- *Openness of the exporting country's economy*

Economic openness is the result of the implementation of a country's foreign trade policy, which is calculated as the ratio of total import and export turnover to GDP. Foreign trade policy in the direction of liberalization will lead to an open economy that helps increase the scale of commodity exports. Thus, the openness of the economy has a positive impact on the export of goods in general and agricultural products in particular (Rahman, 2009).

- *International economic relations*

In the context of international economic integration, international economic relations have a great influence on the import and export activities of goods in general and agricultural products in particular (Rahman, 2009). When exporting goods to a certain country, it means that the goods enter another market and the exporter will face barriers such as import taxes, import quotas, etc. Whether these barriers are tightened or loosened depends a lot on the bilateral economic relationship between the exporting country and the importing country.

Meanwhile, the current trend of globalization has facilitated many economic alliances to form at different levels such as ASEAN, APEC, EU, etc. Many bilateral and multilateral trade agreements between countries and economic blocs have been signed aiming at reducing tariffs among the participating countries in order to promote trade relations between the countries.



If the exporting country and the importing country have a good relationship, it will create a favorable premise for the increase in export turnover of goods in general and agricultural products in particular of the exporting country. Therefore, joining economic unions or signing bilateral/multilateral free trade agreements is considered one of the measures to help increase a country's export turnover.

#### 4. CONCLUSION

Up to now, there has been no work using the gravity model to evaluate the impact of the free trade agreement between Vietnam and the Eurasian Economic Union on Vietnam's agricultural exports to the EAEU market. In fact, the gravity model has been used relatively commonly, and it is considered as a superior method in analyzing and evaluating the impact of a free trade agreement on the international trade of a country. Therefore, it is practically significant to use this model to study and evaluate the impact of the free trade agreement between Vietnam and the Eurasian Economic Union on Vietnam's agricultural exports to the EAEU.

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# ENHANCING THE TOURISM DESTINATION COMPETITIVENESS OF NINH BINH IN A SUSTAINABLE WAY

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**Abstract:** *The article focuses on clarifying and defining the concept of competitive destination capacity, the necessity of sustainability, the impact of sustainability on tourism destination competitiveness, and the role of the government in enhancing sustainable tourism destination competitiveness. Secondary sources of information and documents are collected and processed using synthesis, classification, and systematization methods. This section emphasizes the necessity for Ninh Binh as a destination to enhance its competitiveness in order to attract more tourists, create economic opportunities, and promote social development while still ensuring the preservation of cultural and natural heritage.*

**Keywords:** *tourism, competitiveness, sustainability*

## 1. INTRODUCTION

Tourism plays a pivotal role in the economic development and social well-being of destinations worldwide. As competition among tourist destinations intensifies, enhancing their competitiveness becomes increasingly crucial. Ninh Binh, a region located in northern Vietnam, is no exception. Renowned for its breathtaking natural landscapes, cultural heritage, and historical significance, Ninh Binh has attracted a large number of domestic and international tourists in recent years.

Nowadays, destinations are increasingly evaluated based on their sustainability (Mihalic, 2013). Sustainability in the tourism industry involves managing all resources in a way that meets economic, social, and aesthetic needs while maintaining the integrity of culture, necessary ecological processes, biodiversity, and support systems (Butler, 1999). Striking a delicate balance among these factors is necessary to ensure the long-term success of the tourism industry in Ninh Binh. As this region experiences an influx of tourists, it faces opportunities and challenges in maintaining its attractiveness while preserving its natural and cultural resources.

This article aims to explore the importance of studying and understanding the contributing factors to enhance the competitiveness of Ninh Binh as a sustainable tourist destination. It will further investigate the economic, environmental, and socio-cultural dimensions of sustainable tourism development, shedding light on the interplay between these aspects and their impact on the destination's competitiveness.

## 2. LITERATURE REVIEW

### 2.1. Tourism destination competitiveness

In the early stage of tourism development, competition is often primarily measured based on price. This phase is characterized by mass tourism, and destinations mainly compete

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based on cost and the number of tourist attractions they can offer (Buhalis, 2000). One of the notable works on destination competitiveness is by Ritchie and Crouch (1993). They define the competitiveness of a destination as “the extent to which a destination can attract and retain tourists effectively when facing competition and meeting the needs and desires of tourists, while also meeting the needs and desires of its own residents.” This definition emphasizes the importance of balancing the interests of tourists and residents to achieve sustainable tourism development. It also highlights the dynamic nature of competitiveness, requiring continuous efforts to attract and retain tourists in an ever-changing market. Building upon this foundational work, Dwyer and Kim (2003) proposed a new framework for destination competitiveness and concluded that overall destination competitiveness can be accepted based on three main groups of factors: (i) comparative advantages that enable price competitiveness, (ii) capabilities in strategy and management, and (iii) resources related to history, culture, and society. Destination competitiveness can be evaluated at various levels, either macro or micro.

Furthermore, the competitiveness of a tourism destination is closely related to the concept of sustainability. The United Nations World Tourism Organization (UNWTO) defines sustainable tourism as “tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities.” Therefore, a competitive destination must be sustainable, ensuring the long-term prosperity of the environment, society, and economy.

The development of the concept of tourism competitiveness shows how it has become more comprehensive and sophisticated over time. It emphasizes the shift from competition solely based on price and quantity to a more holistic and balanced view of competition, considering the development of local communities, the quality of tourists’ experiences, and the sustainability of tourism practices.

## **2.2. Understanding Sustainability**

Economic sustainability plays a crucial role in determining the vitality of a tourist destination. This aspect of sustainability involves maximizing the economic benefits of tourism while minimizing costs, particularly for the local community. It is a strategy aimed at enhancing wealth and quality of life for all stakeholders within the current economic ecosystem and the potential of the region (Bramwell & Lane, 2011). Furthermore, economic sustainability in tourism should bring satisfactory profits to operators and generate revenue in the areas where tourism activities are conducted, particularly through expenditures on goods and services. The ultimate goal is to achieve continuous financial support for broader sustainable development strategies of the region or related communities (Buckley et al., 2017). Therefore, in the context of tourism, the economic sustainability of a destination will be related to its ability to generate long-term tourism income without negatively impacting the local economy, society, culture, and environment (Harris, Griffin & Williams, 2002).

Social sustainability in tourism revolves around the idea that tourism should not only bring economic benefits but also contribute positively to social inclusion at the destinations. This implies that the benefits and impacts of tourism should be fairly distributed, contributing to poverty reduction, and promoting social engagement, gender equality, and community

development (Scheyvens, 1999). Social sustainability in tourism includes both the conservation and respectful display of cultural and heritage assets. Tourism has the potential to contribute to cultural exchange, mutual understanding, and peace among diverse cultures (Richards, 2002). Ultimately, social sustainability in tourism also involves managing the behavior of tourists. This includes encouraging responsible tourism behavior, respecting local customs and culture, engaging with the local community, and minimizing negative social impacts (Budeanu, 2007).

Environmental sustainability can be divided into two main aspects: minimizing the negative impacts of tourism activities and enhancing positive impacts through conservation efforts. The first aspect focuses on reducing the harmful impacts of tourism, such as habitat destruction, water pollution, and greenhouse gas emissions, through methods like eco-friendly transportation and waste management (Koens, Postma, & Papp, 2018). The second aspect relates to enhancing environmental awareness among tourists, supporting conservation projects, and using tourism as a tool to protect endangered species and environments. The ideas of “green” or “eco” tourism have emerged as an important subcategory of environmental sustainability. Green tourism emphasizes visiting natural areas to conserve the environment and improve the livelihoods of local people (Scheyvens, 1999). It is a multidimensional approach to ensure that tourism activities do not harm the environment and secure natural resources for future generations (Farrell & Twining-Ward, 2004).

### **2.3. The Role of the Government in Enhancing Sustainable Tourism Destination Competitiveness**

Firstly, the government plays a role as a policymaker, setting the foundation for sustainable tourism. They establish legal frameworks guiding the industry’s practices and align them with sustainable objectives. These legal frameworks may include regulations on land-use planning, sustainable construction, or waste management to protect the environment (Hall, 2011). The government also facilitates and promotes sustainable tourism activities through incentives such as tax exemptions or subsidies to encourage businesses to adopt and implement more sustainable practices (Ko, 2015).

Through various programs, the government can raise awareness among tourists and local communities about the importance of sustainability, thereby promoting responsible tourism behavior. Moreover, the government can invest in research and development to generate innovative solutions for sustainable challenges within the tourism industry (Buckley, Zhong, Ma & Chen, 2015).

Most importantly, the government has a responsibility to ensure that the benefits and costs of tourism are distributed fairly in society. They can implement policies to promote local employment, reduce income inequality, and prevent social-cultural disruptions arising from tourism activities (Budeanu, Miller, Moscardo, & Ooi, 2016).

Lastly, the government often plays a crucial role in crisis management, minimizing negative impacts and facilitating recovery in the tourism industry. They can establish early warning systems, develop contingency plans, and coordinate responses to environmental disasters, public health emergencies, or social-political upheavals affecting tourism (Ritchie & Jiang, 2019).



In summary, the government's active involvement in promoting sustainable tourism is vital for ensuring the long-term competitiveness and prosperity of tourist destinations. By setting appropriate policies, providing support, and addressing social and environmental concerns, governments can contribute significantly to the sustainable growth of the tourism industry while safeguarding the well-being of local communities and preserving natural and cultural heritage.

#### **2.4. The Impact of Sustainability on Tourism Destination Competitiveness**

From an economic perspective, sustainable practices ensure the industry's sustainability by stimulating the local economy, creating job opportunities, and encouraging reinvestment. Government-led initiatives promoting sustainable business practices can enhance economic benefits and improve the destination's marketing capacity (Tosun, 2006).

On a social level, tourism can play a role in conserving and promoting local culture and traditions, fostering community development, and improving residents' quality of life. Through responsible policies, the government can ensure the social inclusiveness of tourism, thereby enhancing the destination's attractiveness and competitiveness (Koens, Postma, & Papp, 2018).

Regarding the environment, sustainable practices in tourism protect natural and cultural resources, a crucial element for maintaining the destination's competitiveness. Government regulations, incentives, and guidance can promote environmentally friendly practices among businesses and tourists. This not only preserves the environment but also enhances the destination's reputation as a sustainable tourist spot (Buckley, Zhong, Ma, Chen & Chen, 2014).

Integrated sustainable practices, when implemented effectively, can lead to a "cycle" of benefits, where economic gains can stimulate investment in social welfare and environmental conservation. This, in turn, can increase the destination's attractiveness and competitiveness, resulting in higher tourism demand and economic benefits.

In conclusion, the impact of sustainability on tourism competitiveness is significant. The government plays a crucial role in balancing economic, social, and environmental development. Successful integration can enhance the destination's competitiveness, contribute to the sustainability of the tourism industry, and lead to overall development. By adopting and promoting sustainable practices, tourist destinations can attract more visitors, generate long-term economic benefits, and ensure the well-being of local communities while preserving their unique natural and cultural assets.

### **3. RESEARCH METHODOLOGY**

According to Smith and Smith (2008), secondary research is a common approach for a systematic investigation, where the researcher relies on existing data or secondary sources for the research process. In this study, secondary data was collected to analyze the tourism destination competitiveness of Ninh Binh.

The secondary data used in this article includes: Theories related to tourism destination competitiveness; Statistics on the number of tourists, revenue, and investment in tourism in Ninh Binh over the years; Information on the context and global consumer trends that may impact



the tourism destination competitiveness of Ninh Binh; The data was collected from various sources, including: Laws, documents, programs, plans, and reports from the Government and central agencies related to tourism; Reports and data from the People’s Committee of Ninh Binh province, the Ninh Binh Department of Tourism, and other relevant organizations involved in tourism management and development in Ninh Binh; Published articles and studies related to tourism and the competitiveness of Ninh Binh as a tourist destination; Statistical data from the General Statistics Office of Vietnam; Academic data from Google Scholar and reputable journals such as Proquest/ABI Infor, Emerald, Sciencedirect, Thomson Scientetic, and other online sources.

The secondary research method allows the researcher to analyze and interpret existing data to provide valuable insights into the tourism destination competitiveness of Ninh Binh. By relying on credible and comprehensive secondary data, this study aims to contribute to a systematic and well-informed understanding of the subject matter.

## 4. EVALUATION

### 4.1. Economic Sustainability

During the period from 2020 to early 2022, the tourism sector in Vietnam and Ninh Binh province, in particular, suffered significant losses due to the impact of the COVID-19 pandemic. The number of tourists, especially international visitors, declined sharply.

Year	International Tourists		Domestic Tourists		Tourism Revenue (billion VND)
	Quantity (thousand visitors)	Year Over Year Growth Rate (%)	Quantity (thousand visitors)	Year Over Year Growth Rate (%)	
2020	200	21.45	2600	39	1600
2021	19.5	9.75	1325	50.96	935
2022	101	350	3600	360	3207
7 months of 2023	237		4670		4260

*Source: Ninh Binh Tourism Department*

However, in 2022, tourism activities started to recover and develop, especially after the decision to reopen to international tourists from March 15, 2022.

The increase in the number of tourists had a significant impact on economic sustainability, bringing benefits to the local economy in various ways. A large number of tourists resulted in increased spending on various goods and services such as accommodation, food and beverages, transportation, attractions, and souvenirs. This direct expenditure generates revenue for businesses in the tourism sector, stimulating economic growth and contributing to the overall Gross Regional Domestic Product (GRDP) of the destination.

The increase in the number of tourists often requires the development and improvement of infrastructure. Destinations need to enhance transportation networks, upgrade accommodation facilities, expand entertainment and cultural amenities, and invest in public infrastructure. These infrastructure projects not only serve the needs of tourists but also benefit the local population by improving their quality of life and providing a foundation for sustainable economic development. Many tourism-related projects with significant capital investment,

such as Trang An Ecotourism Area, Hoa Lu Ancient Capital restoration project, and the construction of squares and monuments, have been implemented in Ninh Binh.

The province has encouraged and called for investment from various sources into the tourism service sector. As of June 30, 2023, there are 811 businesses providing tourist accommodation services with 10,339 rooms, including 146 hotels (18% of the total), 332 guesthouses (40.9% of the total), and 333 houses with rooms for rent to tourists (homestays) (41% of the total).

To attract investment from organizations, individuals, and enterprises to develop tourist accommodation facilities, the tourism sector has proposed a draft resolution on “Policies to support the development of tourism in Ninh Binh province for the period 2023 - 2030” with various incentive mechanisms to promote investment in tourism development.

However, Ninh Binh also faces competition from other famous destinations in Vietnam and Southeast Asia. Despite being proud of its charming landscapes, other destinations with well-established tourism infrastructure and long-standing international recognition can attract a considerable number of tourists. Additionally, after the COVID-19 pandemic, although the number of tourists has recovered, it has not reached the levels of previous years.

Moreover, the shortage of high-end hotel infrastructure is one of the challenges faced by Ninh Binh as a tourist destination. Developing high-end hotel infrastructure requires significant investment, and ensuring funding for such projects can be a challenge for developers, especially in a competitive market. Preserving the natural beauty and cultural significance of Ninh Binh requires careful planning and zoning to conserve its unique characteristics. Achieving a balance between development efforts and preservation can be a challenge.

#### 4.2. Social Sustainability

The development of Ninh Binh as a tourist destination has created a range of employment opportunities. As of the end of 2022, the total tourism workforce was 19,500 people, with 5,500 direct workers. The tourism sector directly employs people in various roles such as tour guides, hotel staff, restaurant staff, transportation service providers, and souvenir vendors. These jobs not only provide income for local residents but also contribute to the development of skills, as employees gain valuable experience in the tourism and hospitality industry.

	<b>Evaluation criteria</b>	<b>unit</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
1	Tourism labor	People	21.100	21.500	14.500	14500	19.500
	Direct labor		6.200	5.600	4000	4500	5.500
	Indirect labor		14.900	15.900	10500	10000	14.000
2	Training and fostering labor						
	Total number of training classes	Class	22	7	7	3	6
	Total number of students	People	2.173	490	550	129	400

*Source: Ninh Binh Tourism Department*

The impact of tourism on employment extends beyond the direct tourism sector. It generates ripple effects throughout the local economy, creating indirect employment opportunities in related industries. For example, increased demand for accommodation leads to the development of the construction and real estate industries. Local suppliers and producers benefit from

providing goods and services to the tourism sector, such as food, beverages, handicrafts, and transportation services. These indirect employment opportunities help stimulate economic growth and diversify the local labor market. This, in turn, creates opportunities for individuals to start their own businesses, such as homestays, restaurants, travel companies, and souvenir shops. These entrepreneurial efforts contribute to job creation, income generation, and overall economic development in the area.

Ninh Binh focuses significantly on providing training and skill development opportunities for the local workforce. Relevant organizations in the tourism sector collaborate with government agencies to offer training programs, workshops, and capacity-building activities. These initiatives aim to enhance the skills and knowledge of employees in the tourism industry, enabling them to provide high-quality services and meet the changing needs of tourists.

Efficient projects to restore and preserve historical and cultural heritage sites and scenic spots have been implemented. The participation of the entire community in restoration, preservation, and promotion of the values of cultural heritage has been successful. Non-material cultural heritage values such as traditional arts, traditional crafts, folk performances, and traditional festivals are conserved and promoted. They have attracted a large number of people, especially individuals and organizations directly responsible for preserving and promoting non-material cultural heritage values.

Especially, after the Trang An Landscape Complex was recognized by UNESCO as a World Cultural and Natural Heritage, efforts in management, preservation, and promotion of the heritage's values have achieved positive results. The global outstanding values of the heritage are respected and preserved; coordination among relevant parties in the local tourism industry in conserving the heritage is closely linked to sustainable tourism development; community awareness of the role and importance of the heritage has significantly increased; the protection of the karst landscape, special-use forests, ecosystems, archaeological sites, and historical and cultural relics is well ensured and maintained.

One of the top priorities for any tourist destination is to provide a safe environment for visitors. In Ninh Binh, several measures have been implemented to ensure the safety of tourists. This includes the presence of well-trained security personnel at popular tourist destinations, enhanced monitoring and surveillance systems, and the establishment of tourist protection units. These measures aim to prevent potential criminal activities and provide a sense of security for both domestic and international tourists.

Although the tourism industry in Ninh Binh has created many job opportunities, it also faces challenges in labor management and employment. Many tourism businesses are small-scale, and some do not pay much attention to training, workforce development, and marketing and promotion efforts. Ensuring fair employment is another challenge. As tourism develops, it is essential to protect the rights of workers, ensure ethical working conditions, and promote fair wages.

The tourism workforce in Ninh Binh does not fully meet the requirements of development, and the vocational skills of tourism workers are still weak. There is a lack of competent management personnel in tourism businesses, and professional tour guides are needed. The

level of foreign languages, management skills, forecasting, and policy development for staff in the entire tourism industry is still limited. The state budget support for tourism development is low, particularly the funding for foreign promotion and marketing.

The preservation and development of cultural heritage values in economic development, especially in tourism development, are not proportionate to the existing heritage values. Research, introduction, and promotion of non-material cultural heritage values in community life are still limited, and some traditional crafts and folk performances are at risk of being lost.

#### **4.3. Environmental Sustainability**

Government agencies have cooperated to inspect security, environmental sanitation, food safety, and tourism civility at tourism sites and businesses throughout the province. Tourist destinations and businesses have actively guided tourists to comply with environmental protection regulations, provided staff with knowledge about environmental protection and emergency response measures, and updated environmental information for tourists, making efforts to ensure the safety and well-being of visitors. As a result, the effectiveness of environmental protection in tourism across the province has been continuously improved.

Efforts have been made to protect biodiversity in Ninh Binh, recognizing the vital role of biodiversity. Over the years, strict protection has been applied to species listed in the Red Book, such as the critically endangered Delacour's langur and bat species in Cuc Phuong National Park. There are no restaurants selling wild animal products as souvenirs or decorations (such as animal skins, teeth, and claws). The collection of firewood and hunting of wild animals by people living inside and near forests have been restricted. At the same time, tourism development is linked to biodiversity conservation, creating both employment opportunities and a channel for raising awareness among the local population about forest protection and biodiversity conservation.

The "green tourism" model is gaining attention and development in Ninh Binh as a tool to promote sustainable behavior between tourists and the host community. It can help tourists gain a deeper appreciation for the destination, enhancing their overall experience and appreciation for the place. By sharing stories, legends, and traditional knowledge about the local environment, tourists form a deeper connection with the natural and cultural aspects of the destination. This awareness fosters respect and admiration for the environment, leading to a stronger commitment to sustainable activities and a desire to protect and preserve the destination for future generations.

Initiatives to raise awareness and educate about the environment create opportunities for collaboration and connection among stakeholders involved in green tourism. This may include partnerships between tour operators, environmental organizations, educational institutions, and local communities to develop and implement educational programs. By working together, these stakeholders can share knowledge, resources, and best practices, leading to more effective environmental awareness and education campaigns and a greater collective impact on sustainable tourism.

However, there are still challenges for Ninh Binh as a destination. The rapid increase in tourist numbers puts pressure on the existing waste management infrastructure in the region.

Ineffective waste management poses risks to public health and can harm the natural beauty of the destination. Climate change also poses additional challenges to environmental sustainability in Ninh Binh. Extreme weather events and changing weather patterns can increase the risk of natural disasters, such as floods and landslides, which can have serious consequences for both the environment and the local community.

In conclusion, Ninh Binh has made significant strides in promoting sustainable tourism and environmental protection. Collaboration between government agencies, tourism businesses, and local communities has resulted in improved environmental practices and biodiversity conservation. The development of green tourism initiatives has increased awareness and appreciation of the local environment among tourists, fostering a greater commitment to sustainable behavior. However, challenges such as waste management and climate change need continued attention and solutions to ensure the long-term environmental sustainability of Ninh Binh as a tourist destination.

## **5. DISCUSSION AND CONCLUSION**

Ninh Binh - A sustainable tourism destination has achieved significant accomplishments in enhancing its competitiveness with a sustainable focus. In terms of environmental sustainability, efforts have been made to conserve natural resources and biodiversity, promote eco-friendly tourism activities, and develop sustainable tourism destinations.

Social balance is another area where Ninh Binh has made progress. The destination has actively engaged with the local community, preserving local culture and heritage, and ensuring that tourism activities respect and reflect the authentic nature of the destination. Moreover, tourism has brought economic and social benefits to the local community, creating employment opportunities and contributing to overall community development.

On the economic front, tourism in Ninh Binh has played a crucial role in generating revenue and boosting the local economy. Investments in infrastructure and tourism services have increased the destination's competitiveness and attracted a higher number of tourists.

However, Ninh Binh still faces challenges in achieving sustainable development. Environmental challenges include the pressure on natural resources and ecosystems due to the expansion of tourism, the need to strike a balance between tourism development and conservation, and the impact of climate change, which increases the vulnerability of the destination. Social challenges arise from the conservation of the local character while managing tourist flow, balancing the needs and rights of tourists and the local community, and dealing with potential social and cultural impacts of tourism.

To continue enhancing sustainable competitiveness, Ninh Binh needs to address these challenges. Promoting sustainable tourism practices, collaborating with stakeholders, and monitoring progress are essential. By maintaining these efforts, Ninh Binh has the potential to become a leading sustainable tourism destination, providing memorable experiences for tourists while preserving its unique natural and cultural heritage.



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# POLICY FOR FINANCIAL SUPPORT AND FOREIGN INVESTMENT ATTRACTION FOR HIGH-TECH AGRICULTURE DEVELOPMENT OF CHINA, THAILAND AND EXPERIENCE FOR VIETNAM

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**Abstract:** *Developing hi-tech agriculture is the primary trend, the key to the success of many countries worldwide, and at the same time, an indispensable trend for Vietnamese agriculture in the era of the 4.0 technology revolution. The success of China and Thailand's high-tech agricultural development has used many policies that attach great importance to financial support and foreign investment attraction for hi-tech agricultural development, which is also a lesson for Vietnam.*

**Keywords:** *Financial support policy, attracting foreign investment capital, developing hi-tech agriculture.*

## 1. POLICY ON FINANCIAL SUPPORT AND FOREIGN INVESTMENT ATTRACTION (FDI) FOR HIGH-TECH AGRICULTURAL DEVELOPMENT IN CHINA AND THAILAND

### 1.1 Financial support policy and foreign investment attraction for China's high-tech agricultural development.

#### *Policy on financial support for high-tech agricultural development*

As a country with a large area, China's agricultural land area accounts for about 100 million hectares (accounting for 7% of the world's agricultural land). However, it must ensure food supply to feed the population equal to 20% of the global population due to the increasing problem of shrinking agricultural land, urbanization, and the causes of climate change, desertification, erosion, and pollution. China has quickly adopted many policies to support finance and attract foreign investment in agriculture, focusing on high-tech and green agriculture.

Since 2004, China has determined that the "Development of Three Nongs" needs financial support for agriculture and rural areas. The policy of "Three Nongs" is building new countryside in China with the criterion of "two openings, one adjustment" - opening the purchase price and the market for agricultural products; one adjustment is to move from a circulation subsidy to a direct subsidy to farmers. The Chinese government has strongly supported financially for "Three Nongs" with three goals: "Agriculture increases production, rural development, and farmers increase income". Today, in the outbreak of the fourth scientific and technological revolution (4.0), the financial support orientation for Tam Nong is modern agriculture, urbanized rural areas, and professionalized farmers. The current three-farm policy of China has achieved many good results, such as increasing people's incomes and building infrastructure in rural areas.

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In order to implement financial support policies for agriculture and rural areas, especially investment in hi-tech agriculture, China has built a rural credit network with many types and participating organizations. The Agricultural Bank of China is the core of rural credit development, providing continuous support to rural areas. The scope of business and lending services of the Agricultural Bank has been gradually expanded. Banks lend to farmers for many purposes, the most important of which are loans to build rural infrastructure and loans to farmers and businesses to invest in hi-tech agriculture.

China also applies a policy to support the purchase of agricultural machinery. The policy to support agricultural machines was initiated in 1998, mainly encouraging and supporting farmers to buy modern and advanced agricultural machinery. In 2016, the policy of purchasing advanced agricultural growing machines was implemented in all of China's cultivation and livestock development provinces. Organizations and individuals involved in high-tech agricultural production benefit from this financial support policy.

In 2015, the State Council authorized the Ministry of Agriculture (MOA) and other Chinese government agencies to issue the Sustainable Agriculture Development Plan (2015-2030), setting out the goals and pathways for sustainable agricultural development (MOA et al., 2015). This plan requires China to accelerate the development of agriculture, applying advanced scientific and technological achievements to agriculture in order to save resources, be environmentally friendly, and protect the ecosystem, and at the same time, implement effective measures to change the mode of agricultural development from extensive management - consuming resources and damaging the environment - to focusing on intensive farming in high-tech agricultural zones for quality and efficiency fruit. Considering factors such as agricultural production resource capacity, environmental capacity, and ecological types, the plan divides China into optimal development, moderate, and protected areas. Different priorities for achieving sustainable agricultural development have been set in different regions based on the principle of adapting measures to local conditions. A strategy that differentiates policy priorities by region and region will assist in adjusting the location of high-tech agricultural production to reflect resource availability.

*- Policy to attract foreign investment in hi-tech agriculture*

With the reform and opening-up policy, China's FDI inflows into agriculture have grown quite rapidly, positively contributing to China's rapid economic development. According to UNTAD data, from 2005 to 2007, FDI inflows into China's agriculture averaged 0.75 billion USD. In addition, China is the largest country in the use of FDI in agriculture, with priority given to agriculture, applying advanced and modern science and technology to production and farming in 2000-2007. According to the China Statistical Yearbook, China's agricultural FDI reached 2.06 billion USD in 2012. This shows that China's general and high-tech agriculture are attractive to multinational companies.

The scale of FDI in agriculture increased from 628 million USD (1997) to 1.11 billion USD (2004), with an average annual growth rate of 9.19% to 24.11% annually.

FDI into China's agriculture is concentrated mainly in four sectors: cultivation, forestry, animal husbandry, and fisheries. The cropping industry is the industry that attracted the largest

FDI with 1.33 billion USD in 2012, an increase of 54.2%, and is also the industry with the fastest growing trend, accounting for 33.49% of FDI flows into agriculture in 2005 up to 34% in 2012. The fisheries sector attracted 6.13% of FDI inflows into agriculture, an increase of 10.59%. This agricultural sector attracts the lowest FDI in agriculture (Zhi-Zhuan Zhou, 2014).

China has implemented a policy of exemption and reduction of agricultural taxes for enterprises investing in high-tech agriculture. Currently, China has more than 10,000 enterprises operating in rural areas, accounting for 30% of the total number of enterprises in China, most of which are small and medium enterprises (nearly 10 billion VND/enterprise), enterprises with capital from 200 billion or more accounts for 30% of the total number of enterprises.

In order to attract foreign investment in the development of hi-tech agriculture, China calls for investment promotion, focusing on developing biotechnology to create high-quality, productive plant and animal varieties and applying post-harvest processing and preservation technology to improve value, post-harvest product safety, and hygiene.

In addition to attracting foreign investment, the Chinese government determined that for agriculture and rural areas to make progress, it was necessary to attract the private sector. To attract capital, the government offers policy incentives for high-tech enterprises, such as tax incentives, lowering production and business activities standards in rural areas, and reforming administrative procedures.

Rural agricultural investment funds were established to become the primary means of attracting investment capital from the private sector. These funds are encouraged to build new, highly effective investment management models. The state shares risks with tax policies and insurance services. Tax policies to support businesses and cooperatives have been extended, especially for district-level financial institutions entitled to corporate income tax incentives for investing in high-tech agriculture.

## **1.2. Financial support and foreign investment attraction policies for Thailand's hi-tech agricultural development**

Thailand has a fairly developed agriculture, with many varieties of specialty seedlings of high economic value. The rural population accounts for about 80% of the country's population, with about 42% of the land used for agriculture. Agriculture in Thailand plays an important role, contributing to economic growth and ensuring the quality of life for the people. Thailand's strategic orientation is to build high-tech agriculture with high quality and efficiency, with strong competitiveness in the regional and international markets.

### *- Financial support policy for hi-tech agriculture:*

Thailand has decided to prioritize agricultural development as a basic strategy for developing the entire national economy. In 1982, the Thai Government set out the "National Economic Development Strategy with agricultural and industrial modernization as the goal". Then, in 1995, the state promulgated the "Planning to strengthen the development of agricultural mechanization and the application of new techniques to agriculture". In 2000, the state promulgated the "Strategy to support agricultural production with high productivity, increase agricultural product additives, and increase the competitiveness of agricultural products as a goal to strive for".

With the promulgation of legal documents creating a legal corridor for the development of agricultural production, ministries and agencies have established “Boards to promote agricultural production and rice production” to support the development of agricultural production, supporting the government in implementing preferential policies to support agricultural production, especially rice production. Measures such as price subsidies, investment and lending policies, and good handling of capital and technology are in order to maximize the positivity of rice production by farmers. The Ministry of Commerce of Thailand launched the “Strategy for production and export of rice”, aiming to lower costs, adjust the domestic supply network, and strongly develop advanced and modern rice processing techniques.

Financial policy in supporting the application of advanced science and technology in agricultural production and rice production is particularly appreciated by Thailand. In the selection stage, Thailand attaches great importance to suitable varieties and is preferred by the market, such as eight fragrant rice. The government gives this type of rice special attention and has focused on building a complete production line from seed selection to cultivation techniques, harvesting, processing, and consumption in the world market. Therefore, the price of Thai rice is always higher than that of other countries, but it is still popular with customers from other countries.

To promote the development of high-tech agriculture, Thailand has adopted several strategies such as: I. Strengthening the role of individuals and organizations operating in high-tech agriculture. Small and medium enterprises in Thailand also have many opportunities to invest in high-tech agriculture, from producing crops such as rice, rubber, transportation, irrigation management, biopharmaceuticals and industrial technology, and environmentally friendly technology. II. Promote the learning movement to raise the level of individuals and groups by opening classes and professional activities in agriculture and rural areas. III. Strengthen the social insurance work for farmers and solve financial problems in agriculture and rural areas.

For high-tech agricultural products, Thailand has supported increased competitiveness with forms such as organizing fairs and exhibitions of high-tech agricultural products, promoting marketing, and allocating natural resource exploitation scientifically and reasonably, thereby contributing to preventing indiscriminate exploitation of natural resources and promptly recovering areas where resources have been degraded; resolving conflicts related to the use of forest resources, aquatic products, land, biodiversity, allocation of arable land, etc.

Thailand implements subsidies for agricultural products for major agricultural products such as rice, rubber, fruit, etc. Agricultural product subsidies are not only implemented in buying higher-priced agricultural products, but rice farmers also enjoy other incentives such as buying fertilizer at a low price, free transportation of fertilizer, being provided with new high-yielding varieties, receiving low-interest loans from agricultural banks, etc. In addition to implementing the policy to support farmers, the Thai Government also put senior experts in charge of the program to monitor the process from production, distribution, processing, and prices to farmers to find new export markets.

Thailand always prioritizes supporting research and application of science and technology in agriculture. In 1995, total government research spending was US\$207 million, of which US\$127 million was spent on agriculture. In 1987 - 1995, the proportion of the research budget devoted

to agriculture increased from 40% per year to 60%. The Ministry of Agriculture and Agricultural Cooperatives is the largest agricultural research agency, with an annual budget of about 80-90 million USD devoted to crop production, animal husbandry, forestry, and fishery research. The Ministry of Universities, the Thai Research Foundation, and the National Research Council fund many crucial agricultural research programs for state universities. The Department of Science and Technology Development and an independent state federation under the Ministry of Science, Technology and Energy funded the biology program with \$10 million.

*- Policy to attract foreign investment (FDI) for high-tech agriculture*

Agriculture wants growth and development. Without investment, there is no development. Investment is a decisive factor in the dramatic transformation of the agricultural sector, a lever and a driving force for development. Thailand is a country that continuously ranks high in the ranking of countries attracting FDI in agricultural development, leading in Asia.

Thailand plays a leading role in world agriculture, thus attracting a lot of foreign direct investment (FDI). In Thailand, the value of imported machinery for agricultural purposes accounts for nearly \$600 million, serving nearly 9,000 farms and food factories - with more than 120,000 employees - of which nearly 3% are large enterprises (2014).

The government of Thailand has an initial subsidy policy for marine processing factories and direct investment in infrastructure such as ports, cold storage, auction floors, and investment in research and development, promoting the development of small and medium enterprises.

Foreign investment in Thai agriculture continued to increase and reached 327 projects (2012), ranking 4th in Thailand's total number of FDI projects. After the service and infrastructure sector (594 projects), foreign investment in Thai agriculture increased and reached 327 projects (2012), metal processing (558 projects), and electricity and electronics industry (331 projects).

**Table: Top 5 largest foreign investors in Thai agriculture**

Country	Number of projects	Investment value (million baht)	Project order	Order of investment
Japan	328	83.084.10	1	1
US	159	29.390.90	4	2
Malaysia	218	28.529.00	3	3
Taiwan	300	23.638.80	2	4
China	98	20.820.80	5	5

*Nguồn: International Affairs Bureau, BOI.*

Thailand has attractive financial policies for investors such as tax reductions, monetary incentives, foreign currency loans, etc. to attract the most FDI. In the priority strategy to attract investment in high-tech agriculture, processing, and distribution of agricultural products approved by Thailand (September 2014), to attract more FDI, Thailand has changed the policy of attracting foreign investment, encouraging foreign investment in rural areas to narrow the development gap.



The government of Thailand has opened the door to attracting investors in agricultural product processing, focusing on modern technology to create products with strong competitiveness in the market. The government provided initial subsidies to processing plants. It made direct investments in infrastructure such as ports, cold storage, auction floors, and investments in research and development, promoting the development of small and medium enterprises. This is the responsibility of the Department of Industry Promotion, the Department of Agriculture Promotion, the Department of Cooperatives, the Department of Fisheries, the Industrial Product Standards Agency under the Ministry of Industry, and the Ministry of Agriculture. Therefore, Thailand's high-quality agricultural products are diverse, beautifully designed, confident in food safety and hygiene, and accepted by fastidious markets such as the US, Japan, and the EU. Thailand is expanding the market to attract strong foreign investment in high-tech agriculture and food processing industry.

## **2. POLICY ON FINANCIAL SUPPORT AND FOREIGN INVESTMENT ATTRACTION FOR VIETNAM'S HI-TECH AGRICULTURAL DEVELOPMENT IN RECENT YEARS**

### **2.1 Financial support policy for high-tech agricultural development**

Vietnam's agriculture plays a vital role in economic development, contributing to poverty alleviation, job creation, and income increase for rural residents. Agriculture has become a vital commodity production industry, participating more and more deeply in international economic integration. Sustainable development of agriculture and rural areas is always a central issue that the Party and Government of Vietnam are concerned about, which is reflected in many policies and policies of the Party. The agricultural development perspectives focus on the following areas:

Firstly, to develop commodity agriculture with high productivity, quality, and economic efficiency and build concentrated production areas.

Second, promote agricultural development in depth based on the active application of new and advanced technological advances to develop urban and clean agriculture. This focuses on developing hi-tech agriculture in association with market demand, considering hi-tech agriculture as a breakthrough to develop high-quality, efficient and sustainable agriculture.

In order to further promote the development of high-tech agriculture, the state has issued many policies such as planning and development plans, infrastructure investment policies, land policies, Vocational training policies..., notably finance and credit policies, play an important role, creating a great impetus to promote the development of hi-tech agriculture. Several financial policies to promote the development of high-tech agriculture are typical. Decree of the government 210/2013/ND-CP and Decree of the government 57/2018/ND-CP on policies encouraging enterprises to invest in agriculture and rural areas; Decision of the Prime Minister 68/2013/QD-TTg on support policies to reduce agricultural losses; Decree of the government 55/2015/ND-CP on credit policies for agricultural and rural development; Resolution of the government. 30/2017/NQ-CP dated March 7, 2017, directing the Prime Minister on a credit package of VND 100,000 billion from the capital mobilized by commercial banks to lend to industrial agriculture development high technology, clean agriculture with a lower interest rate

from 0.5 to 1.5% compared to the market. With this support, hi-tech agricultural production enterprises will enjoy incentives to facilitate the development of hi-tech agriculture. The decision of the State Bank 813/QD-NHNN on the loan program to encourage the development of high-tech agriculture, green agriculture... As a result, businesses have been encouraged to invest in agriculture and rural areas.

The results of the financial policy to promote the development of high-tech agriculture in Vietnam include:

Regarding the policy of mobilizing, distributing, and using financial and credit resources: The implementation of this policy has helped high-tech agricultural enterprises to mobilize credit capital; Investors have paid more attention to investing in high-tech agriculture, helping to plan some high-tech agricultural areas such as vegetable areas, fruit tree areas, tea areas, coffee areas, livestock areas, and aquaculture farming areas... These are concentrated production areas, applying high technology to produce one or many agricultural products and commodities with advantages of the region, ensuring productivity, quality, high value and environment friendly.

Land finance policy: The exemption and reduction of agricultural land use tax policy has also brought essential results, contributing to implementing the Party and State's guidelines on tam nong. In particular, with the continuous expansion of beneficiaries, it has met the goal of restructuring the agricultural industry, allowing high-tech agriculture to develop. At the same time, the exemption and reduction of agricultural land use tax in recent years has been highly appreciated by farmers, creating a bond between farmers and the state, directly contributing to improving production efficiency - the business of farmers, creating motivation for farmers to stick with the land more, take care of intensive farming, develop production and apply new technologies and varieties to agricultural production, promote high-tech agriculture develop.

However, besides the achieved results, the financial support policy in developing high-tech agriculture has limitations and exists, including whether enterprises want to invest in hi-tech agriculture or apply it. High technology in agriculture still faces many challenges. The most significant barrier is the difficulty in accessing credit capital because agricultural enterprises investing in high technology have little capital and lack collateral. It is difficult for agricultural enterprises to meet high-tech criteria to access preferential loans, regulations on loan interest rates, loan conditions, etc.

## **2.2. Policies to attract foreign investment in hi-tech agriculture**

Although the agricultural sector (agriculture, forestry, fishery) generates an average export revenue of 30 billion USD per year. However, foreign investment capital (FDI) in Vietnam's agricultural sector is still too low, averaging only 0.5 - 1% from 2010 - 2015.

In 2014, Vietnam had 516 FDI projects in agriculture - forestry - fishery in effect, with a total registered capital of more than 3.6 billion USD, accounting for 3% of the total projects and nearly 1.5% of the total capital registered investment. FDI in agriculture comes from more than 50 countries and regions. Taiwan, Japan, China, and Thailand are the leading investors, with registered capital accounting for about 60% of FDI in agriculture.

However, FDI for high-tech agriculture accounts for a deficient proportion, accounting for only about 18% of the total FDI in the agricultural sector. Strategy to attract FDI from 2018 to 2030, improving the efficiency of FDI attraction in agriculture, is one of the key solutions. Accordingly, the agricultural sector will focus on attracting more investment activities using high technology and skills and maximizing added value in the supply chain, creating many jobs and narrowing the gap between the two countries' ways of economic development among provinces and cities and as a basis for the growth of new generation FDI.

According to experts, high-tech FDI projects for the agricultural sector currently focus on several industries: floriculture, vegetables, and agricultural product processing. In other industries, there have been a few high-tech projects, such as research and production of plant varieties, veterinary drugs, and organic plant protection drugs.

FDI projects for hi-tech agriculture have only been concentrated in a few regions, provinces, and cities with potential and advantages. Lam Dong province leads the country with many high-tech agricultural enterprises and projects. Lam Dong province is also the leading locality in the country, attracting investors from Japan in high-tech agriculture. In the north, Ha Nam province is an emerging locality attracting FDI for hi-tech agriculture with 11 investors and a total capital of over 33 million USD. Hanoi and Ho Chi Minh City have seen smart agricultural production projects and high-tech agricultural development.

The attraction of foreign investors to high-tech agriculture is still limited, mainly from Japan. Among FDI investment partners in Vietnam, Japan has the most significant investment in agriculture and high-tech application agriculture. About 20 Japanese enterprises invest in high-tech agriculture in Vietnam, of which more than 10 invest in Lam Dong province. Many Japanese enterprises have sought investment opportunities in agriculture, such as a high-tech agricultural vegetable model in Lam Dong province, Kon Tum province, and a Link to export Cat Chu mango in Dong Thap to Japan. Japan is looking for investment opportunities in high-tech agricultural projects in Vinh Phuc province, developing and guiding tuna fishing and processing technology in Binh Dinh province. The potential for high-tech agriculture development in Vietnam will attract more attention from Japanese investors in the coming time.

### **3. LESSONS FROM CHINA AND THAILAND'S FINANCIAL SUPPORT AND FOREIGN INVESTMENT ATTRACTION FOR HIGH-TECH AGRICULTURAL DEVELOPMENT**

#### **3.1. Lessons on financial support for high-tech agricultural development**

Farmers are always the losers and weak in agricultural production because of fierce competition. Agriculture itself is always risky because of price fluctuations and weather. Investment in agriculture brings low returns, making it less attractive to investors.

Some countries have applied policies to protect the domestic agricultural industry by setting import tariffs, import quotas, and price support policies for other countries' essential agricultural products and offering price support policies. Protecting the domestic agricultural industry can help protect small-scale farmers, creating output markets for farmers. China and Thailand implement policies to support agricultural insurance premiums, support risk management, and ensure a reasonable level of compensation to cover losses and not significantly affect the

production factors of investors if there is any damage. In order to develop hi-tech agriculture, China and Thailand focused on introducing many financial-credit policies (increasing state budget spending, credit packages for research and development activities with low-interest rates tax incentives...) to support and encourage research and development of science and technology and promote the application of advanced techniques to agricultural production. China and Thailand have set up several agricultural insurance funds to support farmers and businesses operating in the agricultural sector with peace of mind to promote the development of high-tech agriculture and promote more businesses and individuals involved in investing in high-tech agriculture.

Vietnam is a developing country with limited financial resources to invest in hi-tech agriculture. Adequate financial support for agriculture in general and high-tech agriculture is a reality and a lesson learned from China and Thailand. Here, we focus on a few issues surrounding this lesson as follows:

To support the WTO's principles, the WTO allows agricultural subsidies (except for export subsidies) to 10% of the industry's GDP. Vietnam can spend 2.0-2.2 billion USD to support farmers. WTO bans support to distort market prices

It is recommended to focus on supporting the development of agricultural technical infrastructure and expanding rural transport, training and improving farmers' qualifications, shifting rural labor, transferring and improving the application of science and technology in production, paying producers directly, and subsidizing marketing and shipping costs at home and abroad.

Support to narrow the income gap and living standards between rural and urban areas through major government programs such as program 35,135,134, new rural construction program etc.

Encouraging and supporting the private sector in research, investment, and high-tech agricultural production has made important contributions to the agricultural growth of Thailand and China. Depending on specific circumstances, such as the growth of the private sector and the development perspective, the government's policies in each country are different. In Thailand, the private sector is quite strong, so the Thai Government focuses on creating an open environment and reducing the state's involvement to encourage private development. The state will have more budget for other priorities the private sector cannot handle. Meanwhile, in China, because the private sector is still weak while the demand for agricultural development is significant, the Chinese government has made the most of external resources to develop science and technology.

### **3.2 Lessons learned on creating favorable conditions for attracting foreign investment (FDI) in the development of high-tech agriculture**

One factor that greatly influences attracting FDI in general and FDI in the agricultural sector is that administrative procedures for foreign investment activities, such as registration procedures and investment licenses, must be completed with maximized simplification because this is the most significant barrier to FDI capital.

In terms of administrative procedures, China now makes transparent the permits and administrative procedures required in various investment fields to limit abuse of power, embezzlement, and corruption of a part of the government public authorities of this country. Another major reform is to allow foreign investors to move profits out of China. This is a great effort of the government to improve the image of the investment environment and strengthen foreign investors' confidence in the Chinese market. According to the World Bank (WB), China's business environment ranking has increased by 15 places, from 46th place (in 2018) to 31st (in 2019).

The Chinese government has issued many mechanisms and policies to promote foreign investment attraction, such as reducing the list of conditional foreign investment fields, opening up the service industry, strengthening exchanges and cooperation with foreign trade associations, removing difficulties for enterprises, protecting the rights and interests of foreign investors; request localities, departments and branches to announce synchronous and specific measures to attract foreign investment; encourage foreign investors to invest in the fields of high-tech manufacturing, modern services, energy saving, environmental friendliness, scientific and technological innovation or investment in western regions or northeast of China.

Thailand promotes technology transfer to receive FDI inflows in developed countries, especially Japan and the United States. In the period 1986 - 1991, Thailand oriented towards serving agricultural development. During 1991 - 1996, technology transfer activities were oriented to high-tech fields to meet the needs of advanced production. Since 1997, technology transfer has been oriented towards sustainable development, such as clean energy, energy-saving technology... Thailand has formed the foundation for transfer activities and technological innovation until 2026.

In September 2021, the government continued to approve a new package of preferential measures to attract wealthy foreigners to Thailand to invest and invite skilled foreign experts, thereby helping post-COVID-19 economic recovery. One of the proposed measures is to issue a 10-year stay visa in Thailand for investors and their relatives. In addition, to attract wealthy investors and skilled professionals from abroad, Thailand also offers many incentives such as automatic renewal of work permits, similar personal income tax rates, etc. equivalent to Thai residents, exemption from tax on income outside Thailand, and ownership of land and houses.

In order to provide financial support and attract foreign direct investment (FDI) to promote high-tech agricultural development from the experience of China and Thailand, it is necessary to draw some lessons on policies to support and attract investment. Foreign investment for hi-tech agriculture: Tax policy: Encourage investors by exempting or reducing taxes related to investors for a certain period. Land policy: We need to encourage improvement, create land, concentrate a large land fund, and assign it to enterprises with the potential to develop hi-tech agriculture and export agricultural products. Credit policy: Credit priority is given to FDI projects in the agricultural sector, not restricting foreign investors from borrowing domestic capital and supporting them to borrow at low-interest rates. Policy to support agricultural insurance premiums: Implement policies to support agricultural insurance premiums, ensuring compensation levels if damage occurs. Infrastructure investment policy: Make appropriate



investments to build infrastructure of hi-tech agricultural zones, select potential investors. Investment promotion: organizing on-site seminars, welcoming investors to visit, advertising in the media, through commercial counselors.

#### **4. CONCLUSION**

World Bank (WB) experts have recommended that high-tech agricultural production is a promising direction, a potential field that can contribute to solving the Union's sustainable development goals. Vietnam has several priority policies to attract investment in high-tech agriculture at national and local levels. However, the performance results are still relatively modest. Therefore, supporting and increasing investment resources from abroad for high-tech agriculture is necessary. To take advantage of this opportunity, the state needs to have policies to encourage, support, and attract investment, and at the same time, needs a long-term strategy to attract foreign investment, focus on and improve the efficiency of planning and development planning of each industry and each product in order to increase the competitiveness and attractiveness of hi-tech agriculture to foreign investors.

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## **SOLUTIONS TO IMPROVE EFFICIENCY AND MAINTAIN SUSTAINABLE FINANCIAL AUTONOMY IN THE NEW SITUATION OF PUBLIC NON-BUSINESS HEALTH UNITS IN THE WESTERN HIGHLANDS PROVINCES**

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**Abstract:** *In the context that the people's healthcare needs are increasing while state resources are limited, the continued implementation of the mechanism of autonomy and self-responsibility for public non-business health units has become increasingly important. Many consequences were brought about by the implementation of the autonomy mechanism and the failure to maintain the level of autonomy when compared with the previous period. In contrast, the policies must simultaneously ensure sustainability in autonomy for public health service units. Especially in mountainous and remote areas, there are many difficulties in mobilizing revenue because people have lower living standards and limited access to and use of health services, including remote areas and provinces of the Central Highlands.*

**Keywords:** *Financial autonomy; autonomy mechanisms and policies; public non-business health unit.*

### **1. FINANCIAL AUTONOMY MECHANISM OF PUBLIC NON-BUSINESS HEALTH UNITS AND VARIOUS IMPEDIMENTS**

Decree No. 60/2021/ND-CP stipulates the financial autonomy mechanism of public non-business units, in which the degree of financial autonomy of public administrative units is classified into 4 groups: public non-business units covering their own recurrent and investment expenditures (Group 1), public administrative units covering their recurrent expenditures (Group 2), public administrative units covering part of recurrent expenditures themselves (Group 3, in group 3 are classified into 03 types depending on the degree of autonomy), public non-business units with recurrent expenditures guaranteed by the State (Group 4).

Practice shows that the renovation of the financial autonomy mechanism in public non-business units has achieved initial results. However, the renovation process still revealed many problems and needs improvement in legal basis, organizational model, and financial management mechanism. In particular, the most notable issue is that units in different fields and locations perform different tasks despite sharing the same mechanism.

***Renovating the autonomy mechanism in public non-business units still needs to be improved.***

The implementation of the autonomy mechanism in the public units has initially helped the units to perform their professional tasks actively, arrange the organizational apparatus, use human and financial resources effectively; mobilize non-budget resources to invest in the development of infrastructure and equipment, modernize facilities to serve the provision of public services, to meet the needs of the economy and society, reduce the burden on the state budget.

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The financial management at public non-business units has gradually been improved and enhanced through active development and completion of the internal spending regulations, the management mechanism, and the use of financial resources. Public non-business units have gradually and proactively reorganized their personnel. Many units have ensured a lean and efficient organization, and at the same time, increased income for employees associated with the responsibility and work efficiency of employees; proactively decide on solutions to improve labor quality and complete professional tasks according to assigned functions and tasks.

***The organizational model is inconsistent, and the legal basis is not synchronized.***

Besides the achieved results, renewing the autonomy mechanism in public non-business units still has shortcomings. Specifically, the nationwide network of public non-business units lacks a master plan. Public non-business units of ministries and central and local agencies are organized in different forms, with inconsistent management mechanisms, creating scattered and overlapping tasks, inefficient operations, waste of resources, and inequality in the same type of public service provision. For example, non-business units under ministries, branches, and localities also provide public services in the training cause, while some units under the Ministry of Construction and the Ministry of Agriculture and Rural Development also provide public services. medical service...

Regarding the legal basis, policy and direction of reforming the organization and management system and improving the quality and efficiency of public non-business units have been promulgated but have yet to be concretized. The legal system still needs improvement and needs to be more consistent and suitable for effective operation and implementation.

Public non-business units are regulated in the Law on Public Employees. However, this law only applies to the unit that recruits, employs, and manages public employees. According to the State Budget Law provisions, a public non-business unit is an object of management and use of public finance and public property that has not been legislated in the form of a public service provider. Decrees on autonomy for public non-business units, ordering public services, and other specialized decrees related to the operation of public non-business units lack guiding documents, are not timely and are complete or have many different interpretations, leading to many contents of the decree lacking validity and not being effectively applied.

Most recently, the Ministry of Finance issued Circular No. 56/2022/TT-BTC, guiding several contents on the financial autonomy mechanism of public non-business units, handling assets and finance upon reorganization or dissolution of public non-business units. However, the implementation has no basis for evaluation.

***The financial management mechanism is still inadequate.***

Notably, public non-business units in different fields, different locations, and performing different tasks despite sharing the exact mechanism will create problems, especially in the health sector. This makes it very difficult for regulators to handle and creates more inequality when unexpected consequential factors such as epidemics exist. Therefore, determining the degree of autonomy is not appropriate. Most of the units are granted financial autonomy. However, they still provide an annual increase in recurrent expenses despite having a significant revenue

source and a surplus for many years, eliminating any need to use it. In many ministries and branches, the degree of autonomy of the units is higher than the level of autonomy calculated according to the assigned estimates; in some units, the actual level of autonomy is much higher than the estimate.

The mechanism for allocating, managing, and using the state budget is based on approved inputs and payroll, not tied to the quality of products, services, and other output factors. Many public non-business units still make allocations according to estimates, and have not yet switched to the mechanism of ordering and bidding for public services; lack criteria to evaluate the effectiveness and quality of public service provision...

Assigning assets to the management unit still needs to be improved; Inefficient use of assets, especially housing, land, rental properties, etc. Salary policy in public non-business units is unreasonable; many units still need to establish wage unit prices and have yet to attract, encourage, and motivate officials and employees. This limitation has created a trend to shift high-quality labor from the public sector to the private sector and may lead to a shortage of staff and a decrease in the quality of public services. The legal provisions on joint ventures and associations for public non-business units still need to be completed. The system of standards and economic-technical norms has been slowly promulgated but is incomplete. The price of public administrative services and public services according to the provisions of the Law on Prices of 2012 has not been fully promulgated.

In addition, the construction and promulgation of public administrative service prices using the state budget are still inadequate. The conversion from fees to prices and the roadmap for adjusting public administrative service prices are not timely. Many units have not yet completed the target by 2021. "Completing the roadmap for calculating public administrative service prices (full calculation of salaries, direct costs, management costs, and asset depreciation) for some areas such as health care, education-training, and vocational education" was proposed at the 6th Plenum of the 12th Central Committee and the roadmap for calculating public service prices using the state budget according to Decree No. 60/2021/ND-CP of the Government.

In particular, the units are autonomous according to level 4 (public non-business units with recurrent expenditures guaranteed by the state) but are not autonomous in service prices, especially medical service prices. This not only does not guarantee autonomy but also creates inequality between the public and private sectors. This shortcoming has been evident in the health sector in recent years, and the management agency needs to study and amend several relevant legal provisions.

The implementation, appraisal, and approval of the financial autonomy mechanism of each locality are different, especially for multi-function medical centers with medical examination and treatment, prevention and population, and commune level. According to regulations, the backup system and population and commune level are guaranteed 100% of recurrent expenditure by the state, so there may be many groups and different types of autonomy in one unit, leading to management inadequacies leading to the determination of the autonomy of localities is often different, some places do not approve financial autonomy for the commune level. Determining the autonomy rate still has many shortcomings, not based on the actual

spending needs of medical units. However, according to the norm of recurrent expenditure in each period and often, each locality is different, with many localities reporting that the budget quota for regular operations is much lower than that of the administrative division, making the units unable to ensure expenditure and increase income. The allocation of payrolls using state budget revenues and sources needs to be more consistent between the finance and funding agencies, leading to lower and lower allocations, which is unsuitable for the ability to ensure from the source collection.

The implementation of the financial autonomy plan after approval still has many shortcomings; most local financial agencies do not comply with the allocation according to the approved plan but allocate according to reality (calculated according to the salary fund, norms of recurrent expenditure, and the ability to balance revenues) leading to medical units not being proactive in using finance, so the actual autonomy efficiency is not high.

The financial autonomy mechanism has many shortcomings, which leads to risks in inspection and examination because the identification of financial autonomy of the locality and the inspection and examination agency is not consistent or because the unit that implements the autonomy experiences a difference between revenues and expenditures higher than the approved plan, after which the inspection agency will recommend a reduction in budget allocation when the financial year is over.

## **2. THE CURRENT SITUATION OF IMPLEMENTING FINANCIAL AUTONOMY OF PUBLIC HEALTH SERVICE UNITS IN THE CENTRAL HIGHLANDS PROVINCES**

The Central Highlands have 05 provinces: Kon Tum, Gia Lai, Dak Lak, Lam Dong, and Dak Nong. Within these provinces, there are 105 public non-business units.

From 2019 to 2022, no unit in the area could self-finance recurrent and investment expenditures (Group 1); there were 11 approved units to self-finance recurrent expenditures (Group 2); there were 83 units self-funding part of recurrent expenditure, of which there were 20 units of type 1, 54 units of type 2 and 9 units of type 3; There were 11 units with recurrent expenditures guaranteed by the State (Group 4).

From 2023 through 2025, no unit in the area can self-finance recurrent and investment expenditures (Group 1); 10 units are expected to be approved to self-finance recurrent expenditures (decreased by 01 unit compared to the previous period); 83 units partially self-finance recurrent expenditures (Group 3), the number of Group 3 units does not change, but in the group of units, the number of types of units has increased and decreased, of which there are 11 units of type 1, type 1. 2 unchanged, category 3 increased by 9 units; 12 units are guaranteed recurrent expenditure by the state (increase by 01 unit).

Until now, in the area, there have been 03 localities approved by the Provincial People's Committee for financial autonomy in 2023-2025. 02 localities still need to approve the financial autonomy plan for 2023-2025, of which the degree of autonomy for the provincial General Hospital has yet to be determined.

The above statistics show that the financial autonomy situation in the period 2023-2025 in the province has decreased compared to the previous period, which means that the financial

autonomy rate in the new period has decreased. The state budget will have to ensure that spending on public health care units in the area will increase higher than in the previous period. The reason for the decrease in the rate of financial autonomy in the new period may be due to several factors as follows:

Firstly, due to the impact of the COVID-19 epidemic, which has hurt all aspects of social life, the Health Sector has to face many great difficulties and challenges. There is a disruption in the supply of drugs and medical supplies due to scarcity of goods and disruption of the supply chain. Other consequences of COVID-19 have affected the operations and financial ability of the units, affecting the operation.

Secondly, the situation of brain drain after COVID-19, highly skilled doctors quit their jobs due to much pressure from lack of working facilities and equipment, shortage of drugs and medical supplies, and the shortage of goods mentioned above. Another reason is that businesses are afraid of risks when selling drugs and medical supplies to public health facilities because of cumbersome procedures and debt problems and risks in post-inspection and inspection, unstable working environment, a lot of pressure in health insurance payment and settlement, in self-control, low remuneration and not as attractive as the private healthcare sector.

Thirdly, the state of payroll reduction in the public non-business sector according to the Government's roadmap to 2025. Reducing the state budget payroll by 10%, localities mainly focus on the health sector because they may assign additional staff to use the revenue to balance the total number of employees. However, the reduction in staffing has not been accompanied by an increasing trend in the allocation of hospital beds; on the contrary, there have been trends of downsizing and reduction of expenditures from the relevant budget for medical units, leading to insufficient expenditure, not creating initiative for units in self-control, increased income. Moreover, the number of medical units is decreasing, causing many consequences.

Fourthly, the Central Highlands is located in a remote area where people have low living standards and limited access to and use health services. In the past, the reduction of support for medical examination and treatment costs for people experiencing poverty according to Decision 14/2012/QD-TTg of the Prime Minister, along with degraded facilities and high-tech equipment, a shortage of specialist doctors, in conjunction with a decrease in the number of people participating in medical examination and treatment with health insurance due to the influence of the Prime Minister's Decision No. 861/QD-TTg dated June 4, 2021, has had a great impact on medical examination and treatment, the number of patients decreased, the revenue decreased significantly, affecting the self-control process.

Fifthly, Medical examination and treatment Health insurance still have many shortcomings because there are many regulations in the implementation process, causing difficulties for medical facilities in allocating human resources and equipment for implementation. Estimated and total cost of medical examination and treatment Health insurance makes it difficult for units to overshoot the ceiling, and exceeding funds often occurs at medical units, leading to prolonged outstanding debts, affecting the initiative in using financial resources, reducing the estimate and total cost of medical examination and treatment in the following year.



### **3. IN THE NEW SITUATION, PROPOSE SOLUTIONS TO IMPROVE EFFICIENCY AND MAINTAIN SUSTAINABILITY IN THE FINANCIAL AUTONOMY OF PUBLIC HEALTH SERVICE UNITS IN THE CENTRAL HIGHLANDS PROVINCES**

#### **3.1 The process of continuous implementation of policies, a need for laws to pay attention to views, directions, and tasks**

- Continue to implement the ideology that investment in health is an investment in developing medical facilities at the grassroots level, promoting socialization, and mobilizing resources to develop the health system. The state will lead in people's health care, continuing to maintain and strengthen the public hospital system. Public hospitals will provide services and perform political tasks to ensure social security, perform tasks assigned by the Party and State, and ensure equality in people's health care.

- Continue to renovate the health financial mechanism in the direction of gradually transferring the Regular Government Expenditure from the state budget directly to hospitals to support people to participate in health insurance in association with the correct and complete schedule and appropriately valued medical services; allocate budgets for prevention and health promotion activities according to the ordering mechanism, and assigning tasks associated with outputs.

- Greatly update the management and organization of activities of public hospitals. Improve the professional quality of medical staff and the administrative capacity of hospital directors in public hospitals when implementing the autonomy mechanism. Promote the exercise of autonomy in professional tasks, organizational structure, personnel, and finance in association with accountability, publicity, transparency, and non-commercialization; promote the supervisory role of the people in the implementation organization.

- Strengthen state management; review, evaluate, and perfect the legal system on the autonomy mechanism for public health service units, on borrowing, capital mobilization, joint venture, association, investment, socialization in the field of health and related policies to ensure consistency, and transparency suitable to new circumstances in addition to meeting the development requirements of the public health system; develop and implement synchronous solutions to prevent, and deter the act of taking advantage of the policy of socialization, autonomous mechanism to abuse public resources to serve the hospital's interests, resulting in inequalities in accessing and enjoying health services and affecting people's right to health care and preserving health insurance funds.

#### **3.2 Recommendations**

Firstly, the National Assembly swiftly declared the Law on Investment as a public-private partnership, creating a legal corridor for public non-business units, including public hospitals, to participate in investment, operating under the public-private partnership model. Pay attention to allocating the state budget for social security work, including the health sector, in the spirit of Resolution 20-NQ/TW and Resolution No. 18/2008/QH12 of the National Assembly; Continue to strengthen supervision of the implementation of policies and laws on health in general and on hospital autonomy in particular.

Secondly, the Government direct the review and assessment of the implementation of the Law on Health Insurance to promptly propose that the National Assembly consider



amending and supplementing several articles of the Uniform Law on Health Insurance with the amendment of the Law on Medical Examination and Treatment; reviewing documents, supplementing missing regulations to institutionalize Resolution 19-NQ/TW, Resolution 20-NQ/TW to promptly overcome problems and inadequacies of the legal document system the law on autonomy mechanism and related mechanisms in the health sector in the direction of promoting comprehensive autonomy to remove difficulties in the implementation process promptly. Providing autonomy goes hand in hand with obligations and accountability, publicity, transparency, and accountability before the law; Continue to improve the system of policies and laws on socialization, including the content of the autonomy mechanism for public hospitals to develop a health system to meet the people's health care requirements in new situations; Prioritize the allocation of the state budget to ensure health care for hospitals in disadvantaged areas, border areas, islands, preventive medicine, grassroots health care, medical examination and treatment for leprosy, tuberculosis and mental illnesses; have strong enough policies to encourage and attract people with good professional qualifications to work in health facilities and these fields; Introduce and finalize the employee benefits for medical staff, while simultaneously stipulating the salary level, income ceiling, transparency of revenue and expenditure; consider and stipulate appropriate allowance levels for doctors in charge of management, but due to the shortage of doctors in special health facilities, they must participate in professional work in medical examination and treatment.

Thirdly, the Ministry of Health takes the initiative and coordinates with the Ministry of Finance, the Ministry of Planning and Investment, and relevant agencies to review, study, amend, and supplement to promulgate or submit to the competent authority. According to its competence documents, the state promulgates to promptly overcome problems and inadequacies of the system of legal documents on the autonomy mechanism (borrowing capital, joint venture, association, investment in the form of contracts). public-private partnership, socialization, organizational structure, personnel, salary, remuneration) Moreover, related mechanisms in the health sector, Speeding up the roadmap for completing the correct and adequate calculation of medical service costs; Coordinate with the Ministry of Finance and relevant ministries and branches to study and issue financial autonomy mechanisms and policies suitable to the reality of each type of hospital, especially district and group health centers hospitals by degree of autonomy; policies on appropriate prices for medical examination and treatment services, mechanisms for mobilizing and efficient use of financial resources; Continue to reform administrative procedures in medical examination and treatment; soon have a plan to promptly solve problems related to the payment and settlement of medical examination and treatment expenses covered by health insurance; develop mechanisms and policies on operational and financial mechanisms for commune health stations to do well in prevention, health promotion, health management, and treatment and management of several non-communicable diseases such as blood pressure, diabetes, and heart disease at commune health stations; Strengthen the management capacity of hospital leaders; standardize and also have an information system for hospital management, improve accountability and ensure publicity and transparency in management; Strengthen the inspection, examination and handling of violations in the health sector; Continue to research and evaluate the impact of the implementation of autonomy on

hospitals and users of hospital services effectively and fairly; To guide the implementation or promulgate economic-technical norms or unit prices of public health services for uniform implementation nationwide.

Fourthly, the Ministry of Finance finalize and issue guidelines for unifying land rent, cost of land use purpose conversion, and other costs between the Land Law and the law on management and use of public property. When implementing public-private cooperation projects for non-business units in the health sector, Promulgate regulations on the application of corporate income tax to suit medical examination and treatment activities carried out under public - self-contained projects, projects funded by public hospitals, joint ventures, and associates, mobilize capital for investment, solutions to implement the roadmap for correct and sufficient calculation in service prices, especially the structure of salary costs according to the state's salary adjustment roadmap; Submit to the Government or promulgate according to its competence regulations and guidelines for localities to increase the allocation of state budget for grassroots and preventive medicine.

Fifthly, the Ministry of Planning and Investment implement solutions to invest and allocate the state budget for the health sector by the law by the spirit of Resolution 20-NQ/TW and Resolution No. 18/2008/QH12; Coordinate with the Ministry of Health and relevant agencies to issue policies to promote the mobilization of non-budget capital sources for public hospitals; study the mechanism of centralized bidding, negotiate appropriate and effective prices of drugs, chemicals and medical supplies; Strengthen inspection and supervision of the implementation of policies and laws on health investment.

Sixthly, for local governments, giving autonomy to non-business units, especially those that are self-sufficient in recurrent expenditures (Group 2), must be based on their ability to secure revenue and on the basis to create initiative for units in performing tasks, financial expenditure, have a specific roadmap to have solutions to support resources for implementation, not for the sake of self-control but affect the operation of the company. Unit movements lead to consequences of brain drain, inspection, post-inspection risks, etc., making the units unable to maintain sustainability in financial autonomy. Do not divide salary beneficiaries from the budget and those receiving salaries from revenue sources when assigning payroll quotas to the health sector or calculating salary funds in the plan regardless of revenue sources or state budget sources. Increase the norm of recurrent spending for the health sector; Having its mechanisms and policies on attraction, remuneration, and training to develop highly specialized human resources; Funding for infrastructure repair and equipment procurement when implementing the self-financing mechanism; direct the financial agency to advise and allocate annual state budget estimates to units that have not been able to self-finance recurrent expenditures (Group 2) by the approved plan so that units can take the initiative in performing their tasks financial services and expenditures; periodically to evaluate the implementation of the financial autonomy plan to make adjustments to suit actual conditions, and changes in health care regimes, policies, and prices.

#### **4. CONCLUSION**

The financial autonomy mechanism at local public health service units implemented in the past few years has achieved remarkable results, and the role of public health service units

is becoming increasingly important in providing public services and the protection, care, and improvement of people's health. Financial autonomy contributes to saving budget expenditure, creating initiative, and dynamism of units performing tasks. However, the implementation must also be cautious, regularly evaluated, and adjusted to avoid causing consequences like in the past.; The change in financial autonomy mechanism and policy and operation mechanism of public health service units is an urgent factor to improve efficiency and maintain sustainability in the financial autonomy of public health service units in the Central Highlands provinces in line with the current new situation.

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# THE SIGNIFICANCE OF GREEN INVESTMENT: CASES OF FDI IN VIETNAM

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**Abstract:** *In the past decade, foreign direct investments (FDI) have been getting more and more attention regarding possible environmental impact on Vietnam's economy. Projects with investment capital of up to billions of USD from well-known brand names worldwide must have commitments on environmental impacts in their proposals. These commitments bring about a greener and cleaner environment in the factory operation, producing, transporting, and trading products and services from major industrial parks across the country, contributing to the overall goal of sustainable development. This study applies statistically descriptive and data analysis methods, combined with secondary document research on FDI projects in Vietnam and the environmental impacts of projects, to conclude the importance of green investments to the local and national economy. The cases studied will be typical for the size of the investment, the affected area, and the green commitment contents.*

**Keywords:** *Green investment, FDI, Vietnam*

## 1. INTRODUCTION

After 35 years of implementing the open-door policy to attract foreign direct investment, Vietnam has received investment from 140 countries and territories around the world. Foreign capital flows have been present in most localities in the country, with projects invested by global giants such as Apple, Intel, Microsoft, Foxconn, Samsung, Sanyo, Sony, Fujitsu, Toshiba, and Panasonic. The National Strategy on Green Growth for 2021 - 2030, with a vision to 2050, was approved by the Prime Minister of Vietnam in Decision No. 1658/QĐ-TTg dated October 1st, 2021. The national strategy has three main objectives, which are: Restructuring and perfecting economic institutions towards greening existing industries, encouraging the development of energy-efficient economic regions and resources with high added value; Researching and applying advanced technologies more and more widely, in order to effectively use natural resources, reduce the intensity of greenhouse gas emissions, and contribute to an effective response to climate change; Improving people's living standards, building environment-friendly lifestyles through creating more jobs from green industries, agriculture and services, investing in natural capital and developing green infrastructure (PMoVN, 2021). This is the premise to guide all economic policy activities related to sustainably promoting Vietnam's economic development.

In addition to policies and actions referring to green investment and sustainable growth, the Government of Vietnam is also very interested in attracting green investment capital from all economic sectors. Vietnam requires a lot more capital for green growth and climate change, which is expected to account for 3-5% of annual GDP by 2030. It is

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estimated that Vietnam needs 30 billion USD for 2016 - 2030 to adapt to climate change. Besides other resources, FDI inflows continue to be highly valued by the government as an important investment channel, helping Vietnam effectively respond to climate change and build a green economy.

FDI capital associated with environmental pollution reduction (aka. green FDI) is an inevitable investment trend, and at the same time, host countries are increasingly focusing on strengthening environmental protection policies. Therefore, when a country receives an FDI project, it will have the opportunity to receive modern, environment-friendly technologies that increase national economic benefits and ensure the long-term environment with little negative impact on people's livelihoods and lives. However, we can also see the reality of a large amount of FDI capital devoted to industrial parks, export processing zones, and industrial clusters. The risk of increasing environmental pollution is excellent when the waste treatment capacity of industrial clusters is still inadequate, so most industrial parks in Vietnam still violate regulations on waste treatment despite having successfully built a centralized wastewater treatment system (Anwar, S., Nguyen, L. P., 2011).

In the global context of FDI shifting to developing countries in the ASEAN region, Vietnam has become a bright spot for investment capital flows from large transnational and multinational corporations. The FDI inflows are constantly increasing in size within the country. From 1988 to 2004, the total registered FDI in Vietnam reached 57.85 billion USD, and the realized FDI capital reached 31.21 billion USD (Nguyen et al., 2012). From 2005 to 2018, the registered FDI capital has cumulatively reached nearly 360 billion USD, especially after Vietnam joined the World Trade Organization in 2008, the registered FDI capital has reached 71.7 billion USD, 3 times higher than in 2007 (Nguyen Thi Ngoc Loan, 2019). Although FDI in Vietnam decreased significantly during the period of the global financial crisis (2008 - 2010), it quickly recovered with an average realized FDI capital of 45% annually, reaching about 160 billion USD from 2005 - 2018. In 2019, FDI capital in Vietnam reached more than 38 billion USD, among the three largest FDI host countries in the ASEAN region. By mid-2020, Vietnam had 32,025 valid FDI projects with a total registered capital of 376.6 billion USD. The accumulated realized capital of FDI projects is estimated at US\$218.48 billion, equal to 58% of the total valid registered investment capital (Pham Hong Bien, 2021). By the beginning of 2022, the country has 34,700 valid projects with a total accumulated registered capital of over 418.8 billion USD (Nguyen Thi Huynh Giao, 2022). Therefore, the study of green FDI becomes an urgent need of the economy, especially when it is necessary to evaluate the environmental performance of foreign investment projects being implemented in the country to reaffirm the importance of green FDI and the importance of attracting and selecting investment capital sources that have a positive impact on the country's environment.

## **2. LITERATURE REVIEW**

Green investment can be explained in diverse ways. In the 1990s, there was much talk about the concept of investment associated with social responsibility for the environment and society and with a strong focus on governance issues, including environmental factors. In other words, green investments may go beyond the rate of return criteria because they are also



calculated based on ethical, environmental, and social governing criteria. During the 2000s, the concepts of sustainability and long-term investment became more popular, especially when some green investment funds showed more concern about the depletion of natural resources and the efficient use of those resources (Ngo Thang Loi, 2012).

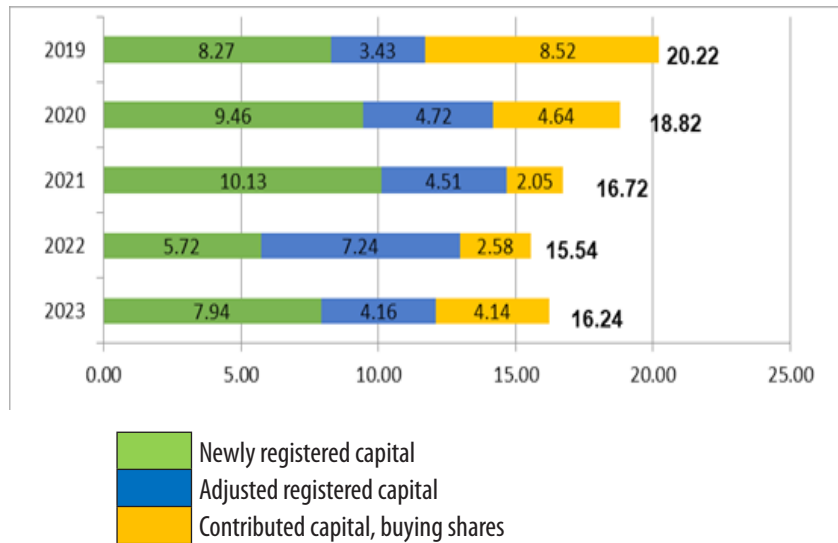
In general, green investment is a process of making decisions based on environmental protection criteria to positively impact the environment and create a specific financial return for it. A commonly used approach to classify green investment capital in each country is to detach the sources of green investment capital into foreign and domestic capital. This approach allows countries, especially developing ones with low national resources for green investment, to accurately calculate the value of capital to be mobilized from the foreign sector. The sources of green investment capital from the foreign sector include green FDI, green FPI (or FII), and green ODA. This study chooses to focus on green FDI.

Again, green investments refer to environmentally beneficial, low-carbon investments and funded projects primarily in renewable energy, clean technology, environment-friendly technology, or others related to sustainability and climate change. Thus, green investment practices include emission reduction activities that provide energy, green research and development, energy efficiency, water security, and various forms of carbon sequestration initiatives or reforestation measures.

FDI is a form of direct investment of foreign investors, where they bring capital to other countries, called host ones. The owner of FDI can directly participate in the capital management and administration process while having obligations and benefits from production and business activities corresponding to a level of capital contribution (Newman, C. et al., 2015). In the case of foreign investors with 100% of the capital, they have the full right to decide if they share the capital with others. This right depends on the level of the contribution. Income from this investment depends entirely on production and business results. The degree of profit is divided according to the capital contribution ratio of the parties therein. FDI includes not only the initial investment capital of foreign investors in the form of charter or legal capital but also loans from investors for project implementation and expansion. The investment is deducted from profit after tax from the results of production and business activities.

Besides economic benefits, FDI also negatively impacts the local environment – one of the main pillars of sustainable development. On the one hand, investment activities are accompanied by modern, environment-friendly technology and clean product production to serve the host country's market. This will have a positive impact on the environment. On the contrary, when FDI inflows are only aimed at profit, not focusing on wastewater treatment, emissions, and industrial waste, it will be a big environmental threat.

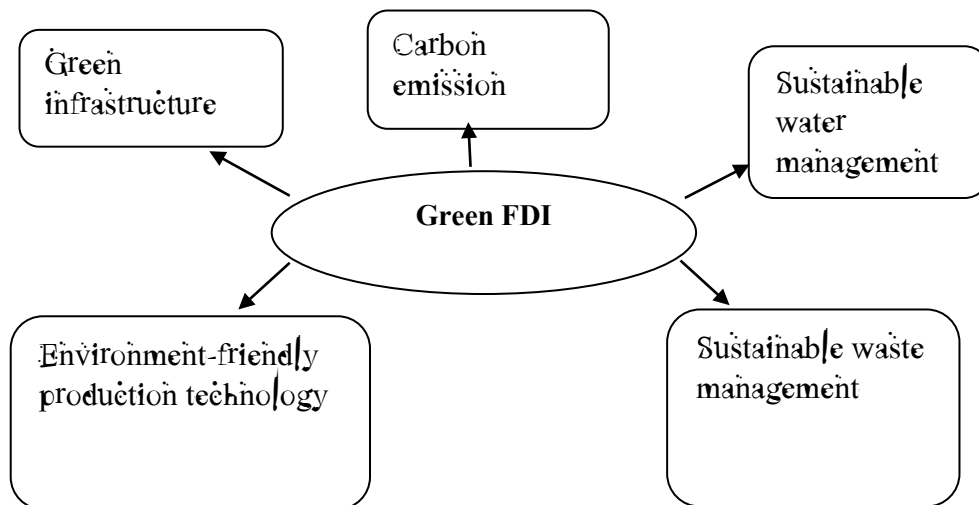




**Figure 1. Registered FDI in Vietnam as of July 20<sup>th</sup>, 2019-2023**

*Source: (GSO VN, 2023)*

Moreover, countries have an environmental comparative advantage: each will establish regulations based on domestic resources and needs. Countries with low income, high tolerance for environmental pollution, and rich resources will lower the standards to attract FDI. As income increases, the investment enterprises, the host country, or the community also show an increase in environmental demands. Thus, FDI is often expected to come with new technologies that are more modern and more environmentally friendly than domestic producers (Mohammad A.A & Mahmoud K.A, 2013). Figure 2 shows the components that a project using FDI capital needs to pay attention to to be certain about the green contribution level of that capital.



**Figure 2. Aspects of green FDI**

*Source: (Pham Hoang Mai, 2002)*

**3. METHODOLOGY**

This study is carried out by statistical description and data analysis (Grbich, C., 2007), combined with qualitative research on secondary documents of the situation of attracting and using FDI in Vietnam from 1988 to 2023. However, the data for the period 1988 - 2018 are only

used to show the process, development, and volatility of attracting foreign direct investment capital into Vietnam. In fact, the study focuses more on the period of 2019 - 2023 with the green contents of FDI capital on aspects of green FDI which has been shown in Figure 2. The observations, synthesis, and analysis need to be further evaluated in other ways and with diverse data collection and processing methods. However, the research results of this article have also significantly contributed in clarifying the overall picture of green foreign investment capital into Vietnam during the recent years.

#### **4. FINDINGS AND DISCUSSION**

In general, most FDI projects in Vietnam have been concentrated on less environmentally friendly areas, with high emissions and low added value. In contrast, green FDI projects have received little attention. In addition, some FDI projects still need to comply with the legal environmental protection regulations strictly. Many FDI enterprises have also imported outdated and polluting machinery and equipment into Vietnam but were not detected in time, leading to serious environmental consequences in some locations and long-term impacts on the environment, people's health, and regional ecosystems. The main reason is that Vietnam needs more experience, mechanisms, and environmental standards to screen FDI projects effectively. Thus, several FDI projects' potential risks of environmental pollution have yet to be fully anticipated, especially those that generate significant waste sources, to have effective management and monitoring measures. Coordinating all levels and sectors in controlling waste sources from FDI projects could have been more effective, synchronous, and tight. The lack of liability and sanctions to ensure compliance with investors' commitments and specific measurement criteria leads to the assessment and attraction of FDI not being close to the preset goals and requirements of the legislative and executive authorities. Meanwhile, the awareness of investors in the process of implementing environmental protection regulations is low.

However, if we look at the aspects of green FDI as shown in Figure 2 on a national scale, we may also see some typical examples of FDI projects that help to make valuable analyses and comments about FDI overview story in Vietnam.

##### **Green infrastructure**

Up to now, Vietnam has not had an industrial construction project of any FDI that has been designed, built, managed and operated to meet the criteria of zero emission. Intel is the first to be interested in construction and installation of solar power system for production. This is Intel's first and only solar photovoltaic system in Asia, and the sixth largest of Intel's 15 solar PV systems globally. With its solar power infrastructure, Intel Vietnam is committed to achieving "zero" greenhouse gas emissions by 2040. Besides, the manufacturer of Lego (Denmark) has signed an MOU with the Vietnam - Singapore Industrial Parks Joint Venture Company Limited (VSIP) to build a carbon neutral factory using on-site energy from solar cells invested by Lego itself and green energy from other energy supply projects. Lego, together with VSIP, will plant 50,000 trees in Vietnam to compensate for the ones that was cut down during the construction of the factory. They are the two typical, yet rare, stories of FDI enterprises with good care of the green environment and infrastructure.

In general, green investment commitments will also go along with the construction of green infrastructure for the host country. In Vietnam, the eco-industrial park (EIPs) model is still being piloted in some specific localities, so it is currently impossible to comprehensively assess the level of development of green infrastructure that FDI brings. However, we can also assume that the commitments will green production and business infrastructure in Vietnam in the following years.

### **Carbon emission**

The increase in CO<sub>2</sub> emissions leads to global warming and climate change, which causes negative impacts and serious consequences for people and environment in Vietnam, hindering the sustainable development of the country's economy. In the early stages of FDI, host countries competed with other countries to attract more investment by loosening the environmental standards. Since then, capital inflows have increased massively leading to rapid industrialization, creating impetus for the economy, and at the same time increasing energy production and consumption, which are the main causes of problems with environment.

For domestic enterprises, Vinamilk's dairy factory and one dairy farm in Vietnam have been certified to be carbon neutral, meaning that the amount of CO<sub>2</sub> released into the environment during the production process is equivalent to the amount of CO<sub>2</sub> captured by the absorption unit. This green production trend is also the core factor to achieve the goal set by the government of net zero emissions by 2050.

As for the FDI, Lego's project is to invest in the first carbon neutral factory in Binh Duong province, expected to be operating in 2024. This is the 6th factory globally, also the first carbon neutral factory of the group. Also, the project of Pandora Group (Denmark) to build a factory with investment capital of 100 million USD to realize a new world-class jewelry manufacturing facility in Binh Duong province. The factory is built according to Leed Gold standards, a leading certification for green building, completely using 100% renewable energy. Another is SEP Group (Korea), which plans to invest US\$200 million to establish Vietnam's first carbon-neutral shoe industry complex and infrastructure to reduce carbon emission on an area of 180ha at the Tam Lap 2 Industrial Complex, Binh Duong province. DHL Express, the world's leading international express delivery service provider, has also inaugurated its newest operation center in Vietnam. It is worth mentioning that DHL has put the goal of sustainable development at the heart of all business activities, so it has equipped the new exploitation center with a series of technologies to help reduce carbon emissions to the environment and optimize efficiency of the operation, with such air conditioning systems using VRV (Variable Refrigerant Volume) technology, industrial ceiling fans and electrically operated delivery vehicles.

With the above-mentioned cases, there is a basis to affirm that carbon neutral factories in particular and green production in general will be one of the criteria for selecting FDI flows in the coming time in Vietnam. For Vietnam, the parameters of CO<sub>2</sub> emissions have always increased in recent years, showing that Vietnam is tending to import industries that use a lot of fossil energy, with outdated technology. Possessing the advantage of holding on to abundant fossil resources, it is this advantage that makes the use of this energy source to be fully utilized. Moreover, the use

of clean energy in Vietnam is less efficient than other countries in the region. Therefore, the task of promoting clean energy development must be considered extremely urgent.

### **Sustainable water management**

The case of Formosa Ha Tinh, causing serious marine pollution causing mass fish deaths occurred in early 2016 in 4 central provinces of Ha Tinh, Quang Binh, Quang Tri and Thua Thien – Hue, has been a typical example. The discharge of a large amount of untreated wastewater into the environment, although showing the irresponsibility of Formosa investors, also shows a gap in state management at the stage of inspection and monitoring of wastewater quality towards the local environment. At the time of appraisal of the Formosa project in 2008, FDI projects were following the Decree 108/2006/ND-CP dated September 22nd, 2006 detailing the implementation of the 2005 Investment Law (Ngoc, B. H., Hai, D. B., 2019). Accordingly, this FDI project approval has been decentralized to the Provincial People's Committee, the ministries and branches only play the role of appraisal. In fact, many other industrial parks across the country have been put into operation but have not yet implemented with the construction of a local wastewater treatment system, or have not operated inefficiently or have being degraded after long-time of operation. However, currently only about 66% of the 289 industrial parks across the country have centralized wastewater treatment plants. In particular, in the Mekong Delta, 75% of industrial zones and 85% of industrial clusters do not have centralized wastewater treatment.

Data on sustainable water management for FDI projects and enterprises in Vietnam needs to be improved. There is no official report or in-depth study on this issue within Vietnam's market. However, we can admit that sustainable water management for production, business and community is an extremely necessary issue. An assessment of the effectiveness of water management should be soon carried out.

### **Sustainable waste management**

According to the inspection results of the General Department of Environment in 28 northern provinces in 2017, 2018 and 2019, the rate of FDI enterprises violating regulations on environmental protection has increased over the years. Specifically, in 2017 there were 12/27 violating enterprises, accounting for 44.5%; in 2018, there were 14/25 violating enterprises, accounting for 56% and in 2019 there were 13/19 violating enterprises, accounting for 68%. FDI enterprises understand and implement waste water, gas and solid waste management regulations. However, there are still some businesses that unintentionally or even intentionally violate regulations, causing severe consequences for the ecosystem and reducing the sustainability of economic growth. Typically, FDI enterprises allow violations of waste management to occur such as: performing periodic but incomplete waste monitoring according to regulations; incomplete declaration of transferred hazardous waste in documents; self-treating hazardous wastes without approval from the competent authorities. In many cases, enterprises abruptly violate regulations on wastewater management by discharging wastewater in excess of technical regulations or installing pipelines to discharge untreated waste into the environment.

As for the FDI enterprises, an increasing number of China's renewable energy from waste (EfW) companies have been witnessed in Vietnam in the recent years, because ours is an emerging market. Everbright International, an environmental company under China's state-owned conglomerate China Everbright, is a good example. This company has operated Vietnam's first EfW project in Can Tho (with an investment of 47 million USD), processing 400 tons of waste per day with a capacity of 7.5MW. The Asian Development Bank (ADB) has agreed to provide a \$100 million loan to the company to support a series of other waste-to-energy (WTE) plants in tier 1 and 2 cities in Mekong Delta. Besides, China Tianying Group has invested in a waste power project with a value of more than 7,000 billion VND in Soc Son, Hanoi in 2017. Its Thien Y waste power plant has officially connected to the national power grid to operate with a waste incineration capacity of 15 MW in the first phase of 2022. The plant has 5 incinerators with 3 generating sets. The plant is to be implemented in 3 phases: Phase 1 has an incinerator and an operating unit with a waste incineration capacity of 1,000 tons/day, Phase 2 and Phase 3 continue to have 4 more incinerators and two generating sets. After completing the three phases, the plant is expected to process waste incineration with a volume of 4,000 tons/day and night, equivalent to nearly 5,500 tons of wet waste, solving 60-70% of the landfill's waste of Hanoi. However, these still need to be a sustainable way of treating the waste from the production process of the FDI due to their used technology and their final outcomes.

### **Environment-friendly production technology**

Vietnam's government is now attracting foreign investment in the fields of advanced and environment-friendly technology, clean energy, renewable energy, medical equipment manufacturing, health care and education and training services, smart tourism, financial services, logistics, smart agriculture, modern infrastructure, and new industries on the Industry 4.0 platforms.

However, many FDI projects in Vietnam are on raw manufacturing, with high processing capacity, high emission level, low value-added, and lack of supporting industries or high-tech manufacturing industries. The number of FDI enterprises with high technology capacity still needs to be increased, accounting for merely 5% of FDI enterprises with high technology, 80% with medium technology, and the remaining 14% with low and deficient technology (Nguyen Manh Toan, 2010). Although it is expected to use more modern machinery, equipment, and production lines, the reality shows that FDI enterprises are not superior to domestic ones. Technology plays a critical role for the economy to reduce emissions to zero by 2050.

As an example, with the idea of implementing technology in regenerative agriculture, Nestlé takes the lead in encouraging farmers to apply and have solutions to adapt to climate change, reduce carbon emissions, and absorb carbon dioxide in the atmosphere to improve soil quality. Thus, it will promote sustainability in the entire production process, increase labor productivity, and prioritize health issues, helping farmers increase efficiency while minimizing the use of chemicals in production. In addition, Nestlé also directs its factories and distribution centers to switch to using renewable energy products from biomass, reducing carbon emissions. With these, 95% of Nestlé's packaged products can now be recycled; by 2025, it will be 100%. This is also a pioneering FDI enterprise that cares a lot about reducing plastic waste and using water responsibly.



It can also be noted that the technology localization rate of FDI enterprises operating in Vietnam is currently very low, only reaching somewhere around 20-25%. Sectors and fields of active FDI enterprises with high localization rates are textiles and garments, footwear, 40-45%; household electronics, 30-35%; synchronous equipment, 30-40%; truck assembly, 55%; passenger cars and specialized cars, 40%; and information technology and telecommunications, 15% (Tran Hoang Thanh Vinh, 2020). In general, the number of small-scale, low-tech, labor-intensive projects is large, coping with uneven distribution, while the ratio of realized capital to registered capital still needs to be higher. This leads to the fact that the FDI linkage and interaction with other areas of the economy is tight enough. In contrast, the spillover effects on productivity and technology are not high.

## 5. CONCLUSION

In developed countries, well-educated consumers are increasingly interested in green and environment-friendly products. When deciding to spend money in Vietnam's market for exporting targets, foreign investors must also consider whether the products are competitive enough in terms of price, environmental friendliness, and greenhouse gas emissions. The selective attraction of FDI capital should focus on high-tech and environment-friendly fields, with priority given to projects with advanced technology, new technology, clean technology, modern governance, high added value, spillover effect, connecting global production and supply chains, being consistent with the orientation of economic restructuring and sustainable development goals, protecting the environment, ensuring national defense, security, security, social order and safety, and enhancing the independence and self-reliance of the economy.

Although FDI creates a growth engine for Vietnam's economy, the problem of environmental pollution has been severe even though Vietnam has yet to be an industrialized nation. This triggers the government of Vietnam to consider the environmental impacts in their policy decisions. Many FDI projects, which only use natural resources and cheap labor, have low efficiency but still receive many incentives from cities/provinces regarding land, water, and natural resource prices, and even in terms of lowering environmental standards for approval. In addition, the State should consider not allowing the expansion or extension of operation for FDI projects that use outdated technology, potentially causing environmental harm and resource degradation. The following solutions need to be paid attention to and should be promoted in the coming period when it comes to green FDI:

- To complete the decentralization mechanism in FDI management to improve the efficiency of the invested capital and, simultaneously, strongly reform investment and tax policies to avoid taking advantage of incentives to encourage investment. It is necessary to adjust preferential policies to match the orientation of attracting environment-friendly FDI. This can only be done by promptly detecting, preventing, and strictly handling violations of environmental protection.

- To study and supplement the sanction according to the actual discharge level instead of the current maximum and minimum fines; formulate and promulgate criteria, standards, and regulations on exploitation and use of natural resources and environmental protection in attracting and using FDI; and at the same time revise environmental standards to be more innovative.



- To prioritize attracting FDI into industries and fields of high and advanced technology, environment-friendly technology, clean energy, renewable energy, high-tech agricultural production, and smart agriculture.

- To strengthen the linkages between FDI and domestic investment within prioritized areas, developing clusters of industry links and value chains, improving domestically added value, product competitiveness, and the country's competent position in the global value chain./.

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# PUBLIC SPENDING ON EDUCATION IN VIETNAM: A COMPARISON WITH OTHER COUNTRIES AND POLICY IMPLICATIONS

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**Abstracts:** *Experts in the field of public finance are unanimous about the important role of government spending on education and training. However, they are usually debatable about the way to appropriately and effectively allocate funds for programs and activities within the field of education and training so that education can best contribute to the economic and social development of the country. This article aims to synthesize data on the allocation of public spending on education in a number of developed and developing countries, comparing and analyzing these data with the current state of public spending on education in Vietnam. Thence, some policy implications are drawn for effectively allocating public spending on education in Vietnam.*

**Keywords:** *public spending, public expenditure, education*

## 1. INTRODUCTION

Public spending on education usually receives reasonable attention from policymakers as well as other sponsors. In the field of public economic theory, education is not a kind of public good. It fails both nonexcludable and non-rivalrous conditions, according to the standard definition of a public good. However, no policymakers and experts in the world have ever concluded that governments should not spend their funds on public schooling. The justification for public spending on education is based on the social rate of return. Studies proved that government spending on education can increase economic growth, promote income equality, and reduce poverty (Barro, 1997) (Chu et al., 1995) (Tanzi & Chu, 1998).

Besides, markets in education witnessed a few market failures that required the intervention from government. The most common market failure derives from the great positive social externalities, particularly from literacy and numeracy that people get in primary school. There is evidence from many nations that education has externalities beyond the individual. Education is found to help decrease the rate of low fertility. Parents with well-educated basis have positive influences on their children's education, mothers' education leads to lower infant mortality and better nutrition (Jimenez, 1995). Another important benefit is reflected in the reduced training costs imposed on private firms. Because of these externalities, education might usually be underprovided by the private sector. (World Bank, 1992).

Capital market failures and imperfect information are cited as another reason for government intervention. In particular, it is generally difficult for individuals to

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borrow against their future lifetime earnings that come from education improvement. The government may have the same or worse information as the private creditor, but addressing these problems would point to financial sector interventions, such as the guarantee or provision of credit for university education, rather than free provision or grants (Pradhan, 1996).

Studies have found that the social rate of return is highest for primary education, followed by secondary and higher education (Psacharopoulos, 1994). The above suggests that lower levels of education, in particular primary education, provide externalities and therefore a more compelling rationale for government intervention and public expenditures. At the same time, evidence suggests that spending on tertiary education in many countries is excessively high (Sanh & Bernier, 1993) (Gupta et al., 1998). These imbalances and issues provide a necessity to review the practical activities and trends in public spending on education in other countries and compare the results with the actual circumstances of Vietnam.

## 2. Public spending on education in some other countries

The first point people usually think of when considering government expenditure is the scope of spending. Two typical indicators would be used in this case, which are the percentage of spending on education out of total GDP and out of total government expenditure.

**Table 1. Percentage of spending on education out of total Expenditure and out of total GDP of some regions, 2020**

Region	% of Total Expenditure	% of GDP
Low- and middle-income countries		
Sub-Saharan Africa	14,3	3,4
East Asia and the Pacific	15,3	3,7
Europe and Central Asia	11,0	5,1
Latin America and the Caribbean	14,3	4,2
Middle East and North Africa	12,3	3,8
South Asia	10,6	2,9
High income countries	11,2	5,2

*Source: (World Bank, 2023)*

As we can see in Table 1, there are some differences between high-income and low- and middle-income countries in spending on education. Poor countries tend to have a larger share of total education spending than high-income countries (about 15% and 11% respectively). But that doesn't mean rich nations spend less on education. Looking at the ratio of spending on education to GDP, we see that high-income countries spend more than 5,0% of GDP on education while these figures in low- and middle-income ones are only about 3,0 %. The difference between these two figures can be explained by the more government revenue to GDP in high-income countries than in low- and middle-income countries.

Given the identification of education programs, the relative allocation of expenditures across levels can provide a useful overall picture of the relative emphasis placed. Trends and international comparisons of expenditure shares between different levels in the education system (see Table 2) can suggest some implications.

**Table 2: Public Recurrent Expenditure on Education by Level, 1990 (percent)**

Region	Primary	Secondary	Tertiary
Low- and middle-income countries			
Sub-Saharan Africa (22)	42.9	28.0	19.7
East Asia and the Pacific (4)	41.3	30.5	14.8
Europe and Central Asia (5)	49.3	26.8	15.9
Latin America and the Caribbean (11)	39.4	28.5	18.4
Middle East and North Africa (3)	36.0	41.5	16.1
South Asia (3)	41.5	30.4	13.9
OECD countries (15)	30.7	39.0	20.6

Source: (Pradhan, 1996)

If the principal objectives of the government are to ensure greater access and better quality of basic education, the implication would be to underscore allocations for lower levels of education. For developing countries, the proposition of public expenditure allocation between educational levels is quite similar to the recommendations of experts. The rate of public spending on primary education is at the highest level, about more than 40.0% of total spending on education, and gradually decreases through higher levels in the educational system. However, this is not the situation in OECD countries. Governments in these nations allocate significantly more funds for secondary level. This can be explained by the fact that household income in these countries is good enough to afford children's education costs, so public spending will gradually shift towards training quality human resources. This will also be the shifting trend of developing countries when they reach a certain level of development.

The net impact of different program expenditures needs to be considered the role and performance of the private sector. In this context, it is important to note that there is a significant private-sector provision of schooling in developing countries (see Table 3). Typically, schools have been provided free or almost free by governments. However, this has not crowded out private supply completely because given fiscal constraints, the government has limited the size of the public school system below full enrollment. Moreover, the participation of the private sector would create a competitive environment in the field, so that both public and private institutions tend to upgrade themselves to meet the learners' demands.

**Table 3: Relative Role of the Private Sector in Education (percent)**

Advanced industrial countries	Private primary	Private secondary	Developing countries	Private primary	Private secondary
Median	10	13.5	Median	11	27.5
Mean	18	21.4	Mean	16.1	31.3

Source: James (1991)

Table 3 shows the median and mean figures about the role of the private sector in education. The median and mean numbers are calculated from a sample of 12 advanced industrial and 38 developing countries. On average, the roles of the private sector are similar for primary schools in both developing and developed countries at around 10 percent. However, the rate for secondary schools is significantly higher in developing countries at an average of 28 percent versus 14 percent in developed countries.

As mentioned above, due to the efficiency and effectiveness of national development, basic education ought usually to be a priority of public spending on education. Even though spending per higher education student fell as a proportion of spending per primary student in all regions, the levels of subsidization of higher education are still very high (see Table 4). The subsidization of higher education is most acute in Africa, where public spending per student in higher education is about 44 times more than the spending per student in primary schools. The share of tertiary education in public spending on education is higher in Africa than in any other region, at the same level as in OECD countries (World Bank 1995).

**Table 4: Public Spending per Student: Higher Education as a Multiple of Primary Education, 1980-1990, percent**

Region	1980	1990
AfricaFR (8)	65.3	44.1
East Asia and the Pacific and Sub-Saharan Africa (4)	30.8	14.1
Latin America and the Caribbean (4)	8.0	7.4
Middle East and North Africa (2)	14.6	8.2
OECD (15)	3.0	2.5

Source: (World Bank, 1995)

The great gap between spending on compulsory education and on higher education might be realized as less effective in public expenditure. The rationale for it is based on increasing social benefits and human equality. The knowledge taught at the tertiary level of education is highly specific and career-oriented. Therefore, this learning will bring benefits to individual learners and employers instead of mutual social benefits and addressing inequality. Therefore, when this difference is too large, especially in low- and medium-income countries - countries that need to spend and invest a lot on basic education, it will often be assessed as unjustly distributed.

### 3. A COMPARISON WITH THE CONTEXT OF VIETNAM

With comparable indicators as analyzed in the previous section, there are some common and indigenous characteristics in the distribution of public expenditure on education in Vietnam.

*First*, public spending on education as ratios of total government spending and of GDP are quite similar to other developing countries. As shown in Table 5, Vietnam's public expenditure on education in the past 5 years has fluctuated around 15% of the total state budget expenditure, equivalent to more than 4% of GDP.

**Table 5. Percentage of public spending on education out of total expenditure and out of total GDP of some regions, 2016-2020**

Year	% of Total Expenditure	% of GDP
2016	15.6	4.3
2017	15.1	4.1
2018	16.1	4.2
2019	14.0	4.1
2020	14.4	4.1

Source: (World Bank, 2023)

This is a significant level of expenditure compared to many developing countries. It reflects the Vietnamese Government's interest in education. However, this expenditure ratio

tends to decrease over time. There might rise two reasons for that: (i) the government has other concerns and priorities in spending to be allocated; or (ii) a portion of education spending has been taken up by the private sector, as the result of some policies that encourage the private participation. If the cause of this decline comes from the latter, it will be a quite positive signal. Because this both reduces the burden on public spending and helps increase competition in the education market thereby it would help improve the quality and efficiency of education.

*Second*, the allocation of public spending on education according to educational level is quite similar to the situation in developing countries. The ratios of spending primary and secondary levels fluctuate around 40.0% and tend to increase slightly. This is also quite reasonable, due to the need for quality education. However, the proportion of spending on vocational education tends to decrease. This is hard to consider as a positive signal for the development of Vietnam's human resources and labor resources in the current context of scarcity of high-quality human resources. Obviously, it is possible that this rate has decreased due to greater participation of the private sector in the field of vocational education. However, if the quality and scale of the private sector do not meet the needs of the market, policies of socialization on education may have the reverse effect.

**Table 6: Public Expenditure on Education by Level, 2018-2020 (percent)**

Year	Primary	Secondary	Tertiary
2018	38.8	38.9	19.8
2019	39.2	42.2	18.5
2020	39.4	43.3	17.3

*Source: (Pradhan, 1996)*

*Third*, in relation to private spending on education, government expenditure still accounts for about 75 - 80% at all educational levels (see Table 6). Particularly, private participation in education at secondary level is much higher than the figures at primary level. This is also consistent with the general trend of the world, when the government plays a key role in lifting up the rates of literacy and literacy in the community. Otherwise, private participation in tertiary education reflects an unstable trend. This reinforces the above statement when analyzing the trend of reducing the proportion of public spending on vocational education. If the private sector cannot supply these goods well to the market, the withdrawal of the state can sometimes have less positive impacts.

**Table 7. Shares of public expenditure in education, seperated by levels, 2009-2013 (percent)**

Year	Public expenditure in Primary education	Public expenditure in Secondary education	Public expenditure in Tertiary education
2009	80.1	74.5	70.7
2010	77.9	73.3	76.6
2011	81.2	75.5	77.2
2012	83.7	78.8	78.9
2013	82.5	77.3	76.5

*Source: World Bank 2023*



*Forth*, public spending per capita on higher education is still very low. According to the author's calculations, public expenditure allocated to the tertiary level is only 1.7 times that of the primary level. This level is much lower than the 2.5 times level of OECD countries shown in Table 4. Meanwhile, the average recurrent expenditure per capita of each graduate student is far more higher than that of students in the compulsory system. It is caused by the far more higher costs expense at the higher education level (i.e., wages for professors, teaching equipment, books and documents, laboratories, etc. are very expensive). Therefore, a low allocation level like this often directly affects the educational effectiveness in two different ways (i) unsecured educational quality caused by poor conditions of infrastructures and human resources; and (ii) the training scale is not enough to meet the labor demand of the economy. Along with that, the existence of credit and loan programs for students is still lackluster with poor loan amount, narrow scope of coverage, and unreasonable lending conditions (Tapchitaichinh, 2019), making these programs could not perform as expected.

#### **4. POLICY IMPLICATIONS FOR THE CASE OF VIETNAM**

From the comparison between Vietnam's distribution of public expenditure on education with different countries in the world, some policy implications can be drawn, as follows:

*Initially*, it is necessary to maintain a reasonable level of public spending on education. This rationality does not only reflect the scope of spending in relation to the total budget expenditure but also the proportions allocated across levels of education. Currently, the ratio of public expenditure distribution between primary and secondary levels of Vietnam is quite appropriate, compared with similar countries. Vietnam needs to maintain this ratio in the short term. However, this level of allocation may not be appropriate if the economy develops and reaches a higher level. Therefore, in the medium and long term, the Vietnamese Government needs to have a plan to adjust the expenditure structure for education in the same direction as that of developed countries.

*In addition*, it is necessary to encourage the private sector to participate in education. This activity needs to be carried out in a synchronous and gradual manner to keep the quality of education stable. Again, the following point needs to be emphasized: government only withdraws from any educational sectors that the private sector can do really well.

*Finally*, higher education and vocational education need more attention and proper spending. The socialization of higher education is a correct strategy, but that does not mean that the government will withdraw at all costs. On the contrary, in the context of scarce high-quality human resources, public spending on higher education needs to be paid more attention and promoted. In addition, credit support programs for students also need to be innovated, so that this becomes a financial channel to help reduce spending pressure on public funds.

#### **5. CONCLUSION**

The paper has compared the intrasectoral allocation of public spending on education in Vietnam with a number of developed and developing countries in the world. From those comparisons and analysis, the article presents three policy implications for Vietnam about (i) intrasectoral allocation of public spending on education; (ii) the issue of educational

socialization and the participation of the private sector; and (iii) measures to improve the quality of higher education. Some limitations are clearly recognized, such as the data collected is not complete, the information comes from many different sources so it is difficult to compare effectiveness, or the time the data is collected is short and inconsistent. However, the paper opens up an attractive future research direction on the topic of public spending on education and promises that the research results will bring valuable policy implications for Vietnam./.

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# CHINA'S EXPERIENCES OF PRIVATE ECONOMY DEVELOPMENT IN THE CONTEXT OF DIGITALIZATION AND LESSONS FOR VIETNAM

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**Abstract:** *The digitalization trend is occurring globally in all fields, especially the economy. The impacts of digitalization on the economy present opportunities and challenges for the private sector. China, the second largest economy in the world, has made remarkable achievements in private economic development for digital transformation thanks to institutional focus, investment in digital infrastructure, and improvement in the quality of intelligent human resources. From these policy experiences, Vietnam can draw some lessons to apply private economic development in the context of digitalization worldwide today.*

**Keywords:** *Private economy, Digitalization, China.*

## 1. INTRODUCTION

In recent years, the Internet, Big data, cloud computing, AI, blockchain, and other technologies have driven innovation and are increasingly integrated into the worldwide economy and society. China, as one of the leaders of the world's economy, has identified the digital economy as a critical driver of growth over the next few decades and has made achieving technological self-sufficiency a national priority.

Over the years, China has emerged as one of the fastest-growing digital economies in the world, with an average annual growth rate of about 10-20% continuously since 2016. China's digital economy in 2022 has reached 50.2 trillion yuan (about 07 trillion USD), accounting for about 41.5% of GDP. In terms of periods, the size of China's digital economy has increased 2.2 times between 2016 and 2022. Another popular way to gauge the growth rate of the digital economy is based on the ratio between the growth rate of the digital economy and the GDP growth rate. According to this criterion, China's digital economy growth rate is about 3.7 times the GDP growth rate. Meanwhile, this rate is about 2.5 times the world average (Wu, 2022).

First, China has unified the perception and theory of the digital economy from the central to local levels. The Chinese Party and State identify the digital economy as the core focus and competitive advantage for China to break through other countries. This determination manifests from the head of the Communist Party of China and spreads the entire political system from the central to the local. Moreover, China has many institutional breakthroughs associated with vision and quick response to reality. In addition, the leading role of state agencies, especially in infrastructure development, is a fundamental factor in developing the digital economy. At a high level, the Communist Party of China and the State Council actively develop and issue guidelines to promote the development of the digital economy, focusing on industrial digital

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platforms. Finally, a young workforce and the ability to absorb digital achievements quickly is also a great advantage for China's digital economy development.

Vietnam has many socio-economic characteristics similar to China. Although the size of the economy cannot be compared, the impact of China's digital economic achievements on the Vietnamese economy is undeniable, especially for the nascent private sector. The digitalization trend is happening very quickly, primarily catalyzed by the COVID-19 epidemic, global political instability, and the disruption of traditional production. Suppose Vietnam does not seize the opportunity to transform. In that case, private enterprises will undoubtedly lag behind the rest of the world, lose competitive opportunities, and even be eliminated from the global playing field.

## **2. CHINA DEVELOPS THE PRIVATE ECONOMY IN THE CONTEXT OF DIGITAL TRANSFORMATION**

Following the guidelines of the Central Committee of the Communist Party of China and the Government of China on promoting private economic growth, the National Development and Reform Commission of China implemented several policies to develop the private economy to invest in the private sector in many key areas such as infrastructure, transportation, clean energy, advanced technology, modern agriculture... The condition when investing in these industries is excellent support from the authorities, such as finance for private projects, exemption and reduction of taxes, fees, and procedures...; quick information provision, and increased online media transparency for easy access by private businesses. The Government guarantees and affirms a fair, competitive environment among economic sectors (Thai Binh, 2023).

The private economy in China accounts for 60% of the country's GDP, with large, multi-sector corporations covering technology, finance, and e-commerce... However, for many vital national sectors and businesses, The private sector is still lagging behind state-owned corporations. However, thanks to the policy of being more open to the private economy, China has many giant private economic groups of international stature. One of the most critical priorities for China's private economic development in the current period is to promote the private economy in association with the digital economy, creating a new growth spurt for this billion-people national economy. (Tang, 2023)

By 2021, China's digital economy will reach \$7.1 trillion, second only to the United States. The statistics also show that the share of the digital economy in national GDP, as measured by the combined value of technology products and integrated digital inputs, will reach 39.8% by 2021. , up from 20.9% in 2012. An expansion of digital infrastructure construction has accompanied the rapid growth of China's digital economy. Accordingly, China has policies to promote the rapid development of 5G technology. By the end of 2022, the country has 2.31 million 5G base stations and more than 1 billion 5G users.

The outstanding growth in mobile technology and mobile payment helps China quickly close the gap with economic powers such as the US, the UK, and France. The percentage of people aware of mobile payment services in China is up to 77% (in 2017), far ahead of many other economies on the list, such as Australia, Germany, Japan, and Russia (Maclean, 2017). The digital economy creates many "giants" in private startups. More than 300 "unicorn" companies worldwide are from China (Yang, 2023). Achievements in China's digital economy development are reflected in the following areas:

In 2015, China rose to the top of e-commerce worldwide, with online shopping accounting for 18% of total retail sales, compared with just 8% in the US. China has accumulated vast amounts of data in e-commerce and 5G technology, accelerating the adoption of 5G technology based on the scale of modern economy and industry. These are essential foundations of the digital economy - the strategic content of China's Five-Year Plan (2021 - 2025). Core industrial output is expected to account for 10% of China's GDP by 2025. (Wu, 2022)

China's digital economy is characterized by the strong development of digital media and e-commerce with the presence of 3 giant domestic suppliers, including (i) E-commerce (Alibaba) ; (ii) Online games and social networks (Tencent); (iii) Search engine (Baidu). Each year, the e-commerce group Alibaba handles more purchases than eBay (the US company that runs the eBay.com website) and Amazon (the US multinational technology company) combined. With strengths in online games and social networks, Tencent is currently the 10th most valuable company globally (about 275 billion USD). Baidu is the company that dominates the search engine segment in the domestic market after Google had to withdraw from the market due to censorship. (Chen, 2021)

To promote digital transformation in enterprises, China developed the Internet Plus Action Plan (2015) to support businesses integrating into the Internet using technology from Baidu, Alibaba, and Tencent. According to the plan, China will vigorously develop Internet-based services and establish a closer relationship between these services and businesses. China is also developing a new Internet-based industrial ecosystem that includes networking, services, and Internet-connected industries. China has 731 million Internet users (in 2016), more than the EU and US combined, and increased to 940 million in the first half of 2020. (Chen, 2021)

China is also considered one of the countries with one of the world's largest and most advanced network infrastructure. In addition, the country has also promoted the integration of big data, cloud computing, and artificial intelligence. By 2025, China is forecast to account for nearly 30% of the world's total data volume with a rich variety of data. According to the International Data Corporation (IDC) forecast, at least 80% of China's new enterprise applications by 2025 will use AI technologies. (IDC, 2023)

The Chinese Government's orientation focuses on digital technology fields that require moderate technology, such as e-commerce, followed by developing more difficult digital technology areas, such as AI and robotics. China is investing billions of dollars to support AI developers, including a \$2 billion AI development park in Beijing. IDC Group forecasts that about 51.3% of China's GDP in 2030 will be related to the digitization trend in that Chinese enterprises are accelerating the digitization of business activities. (IDC, 2023)

China has made the digital economy essential to its national development strategy. The 14th Five-Year Plan for the Development of the Digital Economy provides a detailed roadmap and incentives to strengthen the sector (Zhang & Shuang, 2022) . According to the plan, China will enhance its capabilities in strategic areas, such as sensors, quantum information, communications, integrated circuits, and blockchain. It will also promote research and development of next-generation technologies like 6G. The plan will also facilitate the digital transformation of the supply chain to make better use of data sources and improve the governance of the country's digital economy. (Aisyah, 2022)



China's 14th Five-Year Plan for Digital Economy Development also aimed to increase the output of core industries in the digital economy to 10% of the nation's GDP by 2025, up from 7.8% in 2020 (CW, 2023). This number refers explicitly to the direct added value of media, software, and information technology services. Other goals include increasing the connection rate of Chinese industrial enterprises with "industrial internet platforms" to 45% and increasing the number of Chinese households connected to broadband with speeds of at least 1 gigabyte/second to 60 million by 2025. (Wu, 2022)

The decision to protect the digital technology market has given China's domestic enterprises monopoly, opening an ideal space for businesses to dominate the potential technology market against foreign competitors. The Chinese Government creates conditions and space for digital businesses to experiment. Governments are both investors and consumers of digital technologies. China also has policies to support and invest in developing science and technology and innovation in digital technology. The Chinese Government's orientation focuses on digital technology fields that require moderate technology, such as e-commerce, then moves on to developing more difficult digital technology areas, such as AI and robotics. (Yang et al., 2023)

In addition to issuing the 14th Five-Year Plan on Digital Economy Development, the Chinese Government has also issued many policies and initiatives to promote the strong development of the digital sector, in particular.

- In January 2022, the Central Bank of China (PBOC) announced the Financial Technology Development Plan for 2022-2025, aiming to accelerate the digital transformation in the financial sector over the next four years. This is the second fintech development plan announced by the PBOC, following the 2019-2021 fintech development plan launched in 2019. The plan offers open opportunities for Fintech expansion, the Government's critical regulatory goals, China's expectations for advanced fintech applications, and the comprehensive development of the country's fintech sector. (Zhou, 2022)

- In February 2022, China announced "Eastern Data, Western Computing." The plan is to expand the reach of data centers to improve China's data processing, storage, and computing capabilities. Accordingly, the plan will consider building eight computing centers and 10 data center clusters in key regions in the east and West of China, aiming to bring data from the world's densely populated and economically developed regions of China to the resource-rich and sparsely populated western regions. Through this, China hopes to correct the imbalance in demand and supply of computing power, create greener and more energy-efficient data centers, and enhance its overall computing capacity to support the country's digital transformation and technological development. (Huld, 2022)

- In July 2022, the Cyberspace Administration of China (CAC) published a document titled "Security Assessment Measures", which detailed the security assessment requirements for cross-border data transmission of companies. This document sets out specific requirements, steps, and procedures for companies to conduct security assessments to transfer data or personal information abroad, a mandatory requirement for processing companies to handle large volumes of data from Chinese users or whose data is classified as important or sensitive. (Huld, 2022)



These new assessment measures are based on three laws related to data and information protection: the Cyber Security Law (CSL), which was implemented on June 1, 2017; the Data Security Law (DSL), which takes effect from September 1, 2021; The Personal Information Protection Law (PIPL) has just been passed and will take effect on November 1, 2021. The security assessment measures will aim to standardize data export from China, protect personal information, and protect national security and public interests. (Chen, 2021)

Of the nearly 40 million digital talents of all LinkedIn users in 31 cities worldwide in 2020, digital talent in IT media is higher in China than in Europe and the US, although digital talent in traditional industries is higher in Western countries than in China. However, most of China's digital talent has only digital skills, while their counterparts in the West have business skills and experience. In order to better harness digital talent and make up for the lack of skills and experience in business, China needs to promote supply-side labor market reforms with a focus on industrial integration of digital arts in other science and engineering fields, nurturing more advanced digital talent with breakthrough skills to accelerate China's digital transformation. (Wang, 2020)

China's digitization speed is the fastest among 62 surveyed countries (Zang, 2019). Building digital infrastructure, developing a new-generation information network, and expanding 5G applications will create a premise for China to develop a digital economy. The outstanding feature of 5G technology is its much stronger data transmission capacity than previous technologies. Therefore, 5G technology has a fundamental role, opening up unprecedented large-scale applications for new technologies, such as big data (Big Data), artificial intelligence (AI), Internet of Things (IoT). China is assertive in 5G application and expansion domestically and globally. The scale of China's 5G investment is expected to reach \$441 billion (Perez, 2017). The applications of 5G digital infrastructure and artificial intelligence have played an essential role in fighting the COVID-19 epidemic and, at the same time, helped China create more than 7 million jobs in the information technology (IT) industry. ) and tens of millions of indirect jobs in the digital economy. It is forecast that 5G technology will contribute about 1.3 trillion USD to global GDP, of which China contributes 220 billion USD. In 2020, China will invest in digital infrastructure up to 3 trillion CNY (more than 420 billion USD); the plan for the next five years (2021 - 2025) direct investment in digital infrastructure construction is 10 trillion CNY (more than 1.4 trillion USD). At least 80% of China's new enterprise applications will use artificial intelligence (AI) technologies by 2025. (PwC, 2021)

### **3. LESSONS LEARNED FOR PRIVATE ECONOMIC DEVELOPMENT IN VIETNAM**

Firstly, to develop the digital economy, it is necessary to have support from the Government with an open management mindset to "untie" businesses. Especially support SMEs to promote innovation. Digital technology-based initiatives bring many socio-economic benefits if properly implemented.

The Government has also set out several tasks and solutions to develop the digital economy in the National Digital Transformation Program to 2025, with orientation to 2030, approved by Decision No. 749/QĐ-TTg dated June 3, 2020 of the Government, that is, promoting the development of the digital economy with a focus on developing digital technology, shifting

from assembling and processing IT to making digital technology products, industry 4.0; digital content development, creative industry; platform economy, sharing economy, e-commerce and intelligent manufacturing (Pitt et al, 2022). Promote digital transformation in businesses to improve the competitiveness of businesses and the whole economy. (Samuel, 2021)

Increase awareness of people and businesses about the digital economy through agencies, businesses, and schools. Press agencies and media need to orient public opinion and help businesses, people, and society have the proper awareness of the digital economy to best prepare and adapt to the trend of business development in the digital economy. Strengthen the responsibility of the Government, businesses, and people in building the digital economy.

Being aware of the correct information and being sensitive about the nature and trends of digital economy development helps businesses actively seize opportunities and ensure international competitiveness in the global digital economy and are ready to cooperate with the Government to integrate into the world's digital economy. Each individual needs to equip themselves and improve their skills in using digital technology to help them work in the future and protect themselves against the risks of online threats and theft of personal information.

Second, build foundations and institutions for economic models. Amend and supplement legal regulations for new industries such as e-commerce, digital finance, digital banking... Institutional reform to attract investment in digital technology in the fields of venture capital in the direction of facilitating capital contribution, share purchase, merger, and acquisition of digital technology enterprises.

Develop specific plans on digital transformation for businesses associated with financial and funding sources to create favorable conditions for businesses to access the digital economy. The Government and the private sector need to invest in upgrading digital infrastructure and modern digital technology to deploy innovative connected digital applications, especially non-cash payment applications, and effective e-government. This is an important platform to deploy to facilitate online activities. Based on a strong telecommunications foundation, Vietnam focuses on building national databases and other databases in parallel with developing technological elements to ensure the safety and security of information in cyberspace.

To upgrade digital infrastructure, the Government and businesses must implement 5G service deployment plans to keep up with world trends. 5G technology will create a good infrastructure for connectivity in line with the Internet of Things trend, opening up many great business opportunities for Vietnamese businesses, especially SMEs.

The Government and the private sector need to invest in upgrading the digital infrastructure system and modern digital technology to deploy innovative connected digital applications, especially wireless payment applications, using cash and effective e-government. This is an important platform that needs to be deployed to facilitate online activities. Based on a robust telecommunications foundation, Vietnam focuses on building national databases and other databases in parallel with developing technological elements to ensure the safety and security of information in cyberspace.

Third, besides upgrading the digital infrastructure, the training of IT human resources plays a crucial role. The IT human resource training program should accelerate the socialization of

IT education. Update IT training curriculum in association with new technology trends such as the Internet of Things IoT, AI, and robotics technology. Promote training links between schools and business sectors in IT application.

Training IT human resources is a key factor determining the success of the digital economy. Vietnam has about 900,000 IT workers, including many AI, IoT, and data science engineers. However, despite the improvements, Vietnam's IT human resources are still ranked on average in terms of quality, highly specialized labor, and creative capacity in the digital economy compared to the world. The rate of trained workers is only 60%, which is still far from digital transformation requirements (Bui et al, 2022). The shortage of IT human resources in both quantity and quality is considered one of the significant challenges to the development of Vietnam's digital economy.

Fourth, Vietnam has large-scale leading technology enterprises with international development prospects but has not achieved the expected effect. There are three large enterprises, VNPT, Viettel, and FPT, but they choose to go in different directions: Viettel focuses on telecommunications business and invests abroad; FPT aims to export software... As a result, the e-commerce and e-payment market has been left open for a long time. When this segment is focused, domestic enterprises such as Vingroup (with Adayroi!) have to compete with firms acquired by foreign enterprises (Lazada, Tiki). FPT had a well-developed social network and online broadcast, but it was not later expanded into a commercial product. Viettel owns many mobile subscribers but only develops a money transfer service via scratch cards, not a form of e-wallet. Regardless of the inefficient investments outside the industry in the financial sector, many large enterprises diversified into the television and game markets but failed to achieve the corresponding market share, VNPT is still in a more passive position. Vietnam still lacks a global digital business leader that can compete directly with the digital empires in the world.

Fifth, Vietnam must create a comprehensive ecosystem for developing businesses, consumers to become the center of products and services, and a trained workforce to participate in startups and creative innovation. Thus, the role of capital markets, venture capital activities for innovative startups, legal institutions and regulations on technical standards, availability of technology research and development institutes, and Cooperation between universities is significant. In addition to economic policies, social policies, and social security for workers in industrial zones, policies on consumer protection, environmental protection, and balanced and inclusive development also play a big role in developing a modern, efficient digital economy that benefits all population groups.

#### **4. CONCLUSION**

China's digital economy has outperformed the rest of the world over the past two decades. This does not come by accident but thanks to the timeliness of the Communist Party and the Chinese Government's awareness of the importance of digital transformation. Realizing those visions, an institutional framework with many priorities for the digital economy has been built, the state prioritizes investment in crucial digital infrastructure, and digital human resources are prepared and trained in the long run. All these factors have contributed to the success of China's digital economy, which is both a foundation and a goal for the country's private

economic development. Large technology corporations that cover the world, like Alibaba, Tencent, and Huawei,... are the most precise proofs of this success, gradually building a digital empire capable of acquiring, defining, and reshaping the order of the global digital economy.

As a latecomer, Vietnam can fully draw lessons from China's private economic development policies in the digital age. In order to make up for the shortfalls in resources and the size of the economy, Vietnam needs to take a shortcut and focus directly on the bottlenecks that need breakthroughs to develop the private economy to meet the requirements of the economy in the digital age. The priorities that need to be paid special attention to in the coming time for the Government of Vietnam are to continue to build a socialist-oriented private economic development institution following the requirements of the digitalization context. In addition, it is necessary to focus on investing in developing digital infrastructure, both hard and soft infrastructure, improving investment efficiency to optimize resources, thereby shortening the gap with previous countries. In addition, it is necessary to have a long-term priority policy for developing high-quality human resources, especially for high-tech industries, which can anticipate the requirements of the domestic and world markets in the next 20-30 years. Finally, it is necessary to build a synchronous and modern digital ecosystem spearheaded by leading digital economic groups, dominating regional and international markets./.

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# ENSURING THE SECURITY OF MEKONG RIVER WATER RESOURCES WITHIN SUSTAINABLE DEVELOPMENT OF THE MEKONG DELTA

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**Abstract:** Currently, many works assess the impact of water security in the Mekong River on socio-economic development in the Mekong Delta. However, a full view of the impact of water security in the Mekong River on the sustainable development goals of the Mekong Delta needs more attention. That fact prompted the authors to study the impact of water security on the sustainable development of the Mekong Delta. In this article, the author would like to present seven issues raised from the challenge of water security of the Mekong River to the culture, politics - security, and ecological environment of the region of the Mekong Delta.

**Keywords:** Mekong Delta, Mekong river, water resources, sustainable development

## 1. IMPACT OF MEKONG RIVER WATER SECURITY ON SUSTAINABLE DEVELOPMENT OF THE MEKONG DELTA

### *First, the socio-economic impact*

As a downstream country, Vietnam (specifically the Mekong Delta region) will often face enormous challenges in terms of water resources, livelihoods, food security, environment, and society due to cumulative impacts, cross-border construction, and operation of hydroelectric projects on the mainstream. This risk will be more significant when compounded by the impact of climate change due to sea level rise. Water security is also related to many aspects, such as human security, food security, energy security, environment, climate change, and epidemics... Each country has a comprehensive, interconnected, multi-layered solution among countries, donors, ministries, branches, localities, and organizations. In particular, the role of people living in the basins must be placed at the center of policy-making processes because the river is the source of life, creating the people's culture and way of life. More than 60 million people in the Mekong River Basin depend heavily on the water, fish (worth billions of dollars), navigation, and many other resources of this precious river. Therefore, the Government of Vietnam needs to take specific actions so that stakeholders in Mekong cooperation are responsible for complying with existing commitments while continuing to seek alternative solutions, including establishing mechanisms for sharing rights and responsibilities in Mekong water resources issues. Specifically, negotiate with the governments of the lower Mekong countries to consider suspending hydropower projects in the region to conduct a comprehensive, independent, and transparent assessment the same time as seeking alternative energy solutions and sustainable development policies, because promoting new energy solutions and sustainable development

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initiatives will contribute to strengthening the resilience of the whole Southeast Asia. The National Assembly of Vietnam needs to actively monitor the implementation of the country's consistent policy in managing and exploiting water resources in the Mekong River. Accordingly, the National Assembly and its committees need specific monitoring programs to ensure the consistent implementation of Vietnam's regional water resource management policy.

Water security in the Mekong River has become an important food and economic security issue for all the countries of the Greater Mekong Subregion. In addition, the Mekong sub-region is an essential link in the global supply chain regional transport network. It is considered one of the most dynamic sub-regions in ASEAN, a bridge connecting the mainland between the Indian and Pacific oceans. In recent years, the over-exploitation of water resources on the Mekong River, especially the construction of a series of hydroelectric dams upstream, has posed great challenges for water security in countries in the region area. At the end of the river, Vietnam (directly in the Mekong Delta) is greatly affected by changes in the flow and water security of the Mekong River. Intending to maintain the most significant food production center in the country, ensuring the lives of more than 20 million people in the region, as well as ensuring the food security of the whole country, Vietnam has made many efforts to work jointly with countries in the region to share benefits and maintain water security of the mother Mekong river

### ***Second, environmental and ecological impacts***

First of all, the depletion of water resources in the Mekong River will aggravate the water pollution in the Mekong Delta. The process of urbanization and the strong planning and development of industrial zones in the Mekong Delta are currently creating great pressures on the environment, especially the water environment. Domestic waste and waste from industrial parks and export processing zones are destroying the water environment in many rivers and canals. Agriculture and aquaculture activities in the region also increase the concentration of toxins and chemicals in the water. In this context, reducing water flow in the Mekong River Basin in the Mekong Delta will reduce the ability to dilute toxins and wastes in the water and exacerbate the water pollution problem. In addition, lack of water also affects tissue hygiene, showing the residents' river culture here. It can be seen that the Mekong Delta was formed by the alluvial accumulation of the Mekong River over thousands of years. The abundance of fish, shrimp, rice, and fruit in the Mekong Delta results from water and water-related resources. Nature's blessings on the Mekong Delta region are the main reason for cultural richness and diversity. Reality shows that the culture of Mekong Delta residents is rich and diverse in many aspects, from cuisine and language to the personality of the people here. Among them, what is especially noteworthy is the influence of river and water elements in the cultural and spiritual activities of the people.

The influence of river and water factors on the language of residents of the Mekong Delta is evident. In everyday language, especially spoken language, words related to rivers and water appear quite often. For example, wading (walking), bus (passenger car), and elements related to rivers and water also frequently appear in folk songs and proverbs in the Southwest region. In addition, with a dense river system and the common names of rivers, streams, canals,

creeks, ditches, troughs, ponds, and lakes... the Mekong Delta also has additional names for small river branches. That river system is canals, mutilated (small creeks), tops, rips, dong, smooths, lunges, bungs, snaps, seas, lagoons, terras, chans, puddles, valleys, slugs,...

In terms of cuisine, the richness of the Mekong Delta also brings diversity and richness in cuisine. There may be no region or region in the country as diverse in cuisine as the Mekong Delta. Snacks such as tea and cakes are diverse, with the feature of using a lot of fruit and coconut milk in processing (resulting from the fruit of a fertile alluvial plain). Besides, the abundance of fish and shrimp also enriches the culinary culture of the Mekong Delta with many types of fish and dried fish. In addition, in the meals of people in the Mekong Delta, fish is the primary source of protein in daily life. Because of that, the way fish is processed is also very diverse and rich, such as fried, braised (there are many types of fish), warehouses such as dry stock, dry stock, tortoise stock, pepper stock), hot pot cooking, salad making,...

Regarding human personality, the richness of the Mekong Delta also greatly affects the behavior of people here. The Mekong Delta, with rich and diverse natural conditions, is favored by nature, creating an open, liberal, meaningful, and realistic character for the people here.

While the river element is a characteristic of the Mekong Delta's culture, these features are in danger of being lost due to insecurity in the Mekong River's water source. The decrease in the abundance of water, fish, and shrimp from the Mekong River along with the depletion of alluvium in the Mekong River will lead to changes in livelihoods, culinary lives, means of transportation, and even changes in the quality of life.

According to Marxist-Leninist philosophy, the infrastructure determines the superstructure, so when the infrastructure changes, it will lead to a change in the superstructure. Future generations of the Mekong Delta will no longer be able to use words bearing the water element as the presence of the water element diminishes in daily life. As for cuisine, the question is whether there will be more types of fish sauce when the need to store food is no longer due to the depletion of aquatic resources from the Mekong River system. Can people live freely if they are no longer favored by nature and struggle daily to make a living when their livelihood from the river is lost? Previous studies have mainly focused on analyzing economic, environmental, and social aspects of water security, but problems arise from water insecurity to the conservation of values. The river culture of residents in the Mekong Delta is less interesting. Therefore, the impact of water security on the conservation of cultural values

#### ***Fourth, the political-security aspect***

A stable political-security environment is essential for the sustainable development of each country, region, or even the world. However, the insecurity of the Mekong water source poses many challenges to each political and security arena in the Mekong sub-region and the political and security environment of Vietnam.

There have also been signs of instability in the Mekong sub-region in the political and security environment. In 2012, people in eight provinces along the Mekong River in Thailand gathered to protest against the construction of dams Xayaburi of Laos. These contradictions and conflicts in the exploitation and use of this water source can also cause tensions in diplomatic

relations between riparian countries and even in the context of increasingly scarce clean water sources due to the impact of water pollution. Climate change and population growth in the basin also have the potential for armed conflict.

At the national level, water insecurity in the Mekong Delta directly threatens Vietnam's food security. The Mekong Delta is considered the rice bowl of Vietnam, helping to ensure food security for the whole country and making an essential contribution to the country's rice exports. However, the decline of water resources of the Mekong River flowing into the Mekong Delta, together with the depletion of alluvium that the Mekong River provides to the Mekong Delta, will limit the irrigation capacity of the agricultural sector to meet the requirements of intercropping agriculture and increase crops, reducing agricultural productivity, especially for rice and fruit crops. At the same time, the reduction of fishery resources will also lead to a sharp decrease in the production of wild fishery products of the Mekong Delta, affecting the ability to provide protein in the meals of residents in the region.

The Mekong Delta region will face many risks of political instability - increased security due to many factors, including water security issues. Hostile and reactionary forces currently use ethnic and religious issues in the Mekong Delta to oppose the Party and State. They often take advantage of the diversity of religions, ethnicity, and ignorance of some ethnic minorities in the region to incite people to oppose the Party and State, causing division among ethnic minorities. In the context that the Mekong water security is facing many challenges, if this issue is not resolved well, it will create more excuses for hostile and reactionary forces to use it to incite people to oppose the Party and State.

#### ***Fifth, about adaptability to climate change***

Climate change is a big challenge and an inevitable trend today, while the Mekong Delta is one of the areas that are considered to be the most vulnerable to the impacts of climate change. Therefore, for sustainable development, the Mekong Delta needs to ensure its ability to adapt to climate change, and water is one of the essential factors to ensure this ability. Climate change and rising sea levels will worsen saline intrusion in the Mekong Delta and Mekong River water resources, which are key factors for limiting saline intrusion. When the water level of the Mekong River rises, it will help push the saline line away from the inland area, helping to protect the land, crops, and livelihoods of people.

In addition, extreme weather events in the Mekong Delta tend to appear more frequently, especially drought. To cope with drought, water plays a key role. Water security in the Mekong River will help ensure the ability to irrigate crops, ensure water for livestock activities in the Mekong Delta, ensure drinking water for people, and reduce damage caused by drought. In addition, water is also a factor that helps to restore the economy and people's lives after natural disasters. Regarding storms and floods, water plays a vital role in recovery after natural disasters, especially in sanitation, cleaning the environment, and restoring people's lives after storms and floods.

In addition, the alluvial source in the Mekong River's water can also help limit riverbank and coastal erosion and limit sea encroachment into the field. Therefore, the Mekong River water source is also essential in protecting land in coastal areas in sea level rise scenarios.

With water's great role in adapting to climate change, the current insecurity of Mekong River water resources is weakening the ability to adapt to climate change in the Mekong Delta.

## **2. GROUPS OF SOLUTIONS TO PROTECT MEKONG RIVER WATER SECURITY FOR SUSTAINABLE DEVELOPMENT GOALS**

Originating from national development goals, Vietnam emphasizes the importance of enhancing sustainable development of the Mekong Delta, improving people's lives, especially poor and vulnerable community groups, to climate change and socio-economic development. Regarding the issue of water resource security, Vietnam emphasizes the need to establish and effectively operate a water resources and ecological environment management system of the Mekong River towards sustainable development, including strengthening international cooperation and joint supervision to ensure fairness and protect the common interests of countries in the region. This helps protect the Mekong Delta from the negative impacts of changing surface water sources and increasing pollution within the basin and in the Mekong Delta. Ensuring water security in the Mekong River helps ensure food security for the Mekong Delta and creates favorable conditions for the region's economic and social development. Strengthening water resource management and monitoring also helps protect and develop the region's ecosystem, focusing on the following group of solutions:

### ***Firstly, the group of solutions for international cooperation on the development of water resources in the Mekong River basin***

With the importance and influence of the Mekong River on Southeast Asia in general and countries in the region in particular, international cooperation is essential to address the challenges currently facing and ensure sustainable development of the region. Promoting international cooperation on the Mekong River issue is understood as cooperative measures and programs between relevant countries, international organizations, and development partners to address water challenges, water security, environmental protection, and sustainable development in the Mekong River region. Strengthen international cooperation and joint supervision to ensure compliance with international standards and respect for the sovereignty and common interests of countries in the region. This could include joining international water resources and environmental agreements and organizations, introducing common regulations and standards for water resources and environmental management, and enhancing economic exchanges, experience, and cooperation among regional countries.

International cooperation can include sharing data and information on the state of water and natural resources, promoting investment partnerships in renewable energy development and water management, and promoting the coordination of development programs among countries to optimize resources and resources. In addition, international cooperation can also focus on strengthening capacity related to both short- and long-term training and scientific research, improving connection infrastructure between different domestic regions and between Vietnam and other countries, promoting the transfer of technology and experience in water resources management from developed countries, not only for Vietnam but also for other countries in the basin.

Specifically, strengthening international cooperation and joint management of water resources in the Mekong River basin is very important to support forecasting and development

orientation in the Mekong Delta, ensuring a balance between national interests and the socio-economic development of the entire region. Management and monitoring of Mekong River water resources must be done through close cooperation between regional countries, international organizations, and relevant parties. Cooperation and information sharing between parties will help enhance the ability to predict and prevent future water security risks, helping to ensure a balance between national interests and the socio-economic development of the entire region.

In addition, strengthening economic cooperation with regional and international countries can include activities such as increasing trade and mutual investment promoting projects related to energy, tourism, agriculture, fisheries, etc. It is necessary to improve relationships between countries in the region and build multilateral economic cooperation mechanisms to strengthen economic connectivity in the Mekong River basin. Strengthen coordination and cooperation among localities in the Mekong River region to develop common solutions and implement effective water security activities. Economic cooperation can play an important role in reducing pressure on downstream countries while providing standard solutions for good management of the Mekong River's water resources.

### ***Second, the group of institutional and policy solutions***

Improving institutions and policies in the Mekong Delta is one of the critical solutions to ensure the region's sustainable development. The Mekong Delta is one of Vietnam's most important agricultural production regions, contributing significantly to the country's economy. Failure to ensure water security and reasonable management of water resources can lead to several negative impacts on agricultural production and the economy, not only of the region but also of the whole country and the entire basin.

To improve the effectiveness of institutions and policies, it is necessary to focus on developing policies and regulations on water resources and environmental management while strengthening international cooperation and joint supervision to ensure fairness, equality and protect the common interests of countries in the region. Some solutions can be identified as follows:

- Improve the efficiency of water resources management: It is necessary to strengthen the management and monitoring of water resources on the Mekong River, while promoting the construction of an adequate water resources management system, resource allocation, and sustainable use of water resources and meet the needs of socio-economic development.

- Adjusting economic development investment policies: It is necessary to ensure that production and business activities meet the requirements of environmental protection and water resources, minimizing negative impacts on the water source of the Mekong River.

- Develop mechanisms and policies to support rural development and environmental protection: Need to create favorable conditions for sustainable agricultural and fishery production activities, protecting the environment and water resources of the Mekong River, while strengthening monitoring and control of resource exploitation and waste treatment activities.



- Improving capacity to prevent natural disasters and respond to climate change: It is necessary to develop national programs to improve capacity to prevent natural disasters and respond to climate change to ensure safety for people, especially in the context of increasingly complex and difficult-to-predict climate change.

### ***Third, Planning solution group***

The planning solution group focuses on building and implementing sustainable development plans and planning for the Mekong Delta, focusing on the use and development of Mekong River water resources. Some possible solutions include:

- Adjust and complete regional planning, land use planning, and water resource planning towards sustainable and equitable development. Specifically, with Decision No. 287/QĐ-TTg, the Prime Minister approved the Mekong Delta planning for 2021 - 2030, with a vision to 2050. This is essential for ensuring water security and sustainable development in the Mekong Delta.

- Control, manage, and use land and water resources effectively, and at the same time, resolve issues related to inter-provincial disputes, especially in areas where other water sources intersect together.

- Invest in building technical infrastructure systems, irrigation works, roads, and waterways, and develop other infrastructure to ensure clean, safe water sources and meet the needs of people and other communities' production and business activities business.

### ***Fourth, Science and technology solution group***

Develop advanced technology to minimize environmental and water resource impacts, improve water resource use efficiency, and provide solutions suitable to local conditions. Some relevant scientific and technological solutions include the following measures:

- Research, evaluate, and manage water resources: Carry out scientific research on water resources; land resources and assess the impact of activities such as resource exploitation, construction of hydropower plants, and water supply. Improve water resource management with innovative technologies, including weather monitoring, measurement, and forecasting systems to manage, protect, and use water sustainably. Research and develop advanced technologies in the use and management of water resources, creating favorable conditions for the sustainable development of the Mekong Delta.

Aquaculture technology development: Using diverse and sustainable methods to replace traditional fish and shrimp capture forms. Apply modern farming technology to reduce water pollution and environmental degradation and increase productivity and economic efficiency.

- Use of new technologies in agriculture: Develop and apply new technologies to increase productivity, reduce costs, and maximize resource use. These technologies include automated irrigation systems, soil and crop sensors, and using organic fertilizers and pesticides to reduce soil and water pollution.

- Development of clean and energy-saving technologies: Apply new and advanced technologies to use and save energy and minimize the impact of business activities on the



environment. These technologies include solar energy systems, conditioning, LEDs, and other energy-saving devices.

Develop monitoring systems to ensure the security of the Mekong River's water resources and the sustainable development of the Mekong Delta. These systems are critical because they help manage, operate, and use Mekong River water resources more accurately and effectively. At the same time, through these systems, stakeholders can make more accurate decisions based on complete and authentic information. These systems may include:

- + Monitoring and tracking system: Build periodic monitoring and tracking systems on the environment, water quality, flow, and status of hydroelectric projects. These systems need to be connected and operate continuously to provide accurate and reliable information for managing and operating Mekong River water resources.

- + Simulation and forecasting system: Uses simulation and forecasting technologies to provide scenarios for different situations, helping managers plan and make effective decisions.

- + Information and communication systems: Build information and communication systems to provide information to management agencies, investors, communities, and other stakeholders about the situation and management of water resources in the Mekong River.

#### ***Fifth, Economic Solutions Group***

Focus on developing economic sectors related to water resources, especially renewable energy and ecotourism. At the same time, strengthen the management and use of water resources effectively to minimize waste and increase production productivity. Several economic solutions, including:

- Develop the regional economy, increase production and business activities, bring products to the market, create a stable source of income for people, and contribute to the overall economic development of the delta and the whole country. In addition, it promotes regional economic cooperation to create a favorable environment for businesses in the region to cooperate and develop together.

- Increase investment in scientific research and technology transfer activities: Investing in research and application of science and technology in water resources will help optimize water use, increase productivity and the quality of crops and animals, and minimize the negative impacts of production activities on the water environment.

- Develop economic sectors related to water resources: Take advantage of water resources from the Mekong River in the Mekong Delta to develop related economic sectors such as tourism, fisheries, agriculture, and electricity production.

Strengthen management and supervision of economic activities: Ensure economic activities in the region do not cause negative impacts on water resources and each school while ensuring safety for hydroelectric projects and exploitation of other water resources.

- Encourage green economic forms: Promote the development of green economic forms such as organic agriculture, agriculture transitioning towards clean production, renewable energy production, and promoting lasting consumption.

Because the economic potential of each country in the Mekong River basin is very different and requires economic solutions to be developed to suit each country. However, in protecting the security of Mekong River water resources and sustainable development of the Mekong Delta, countries in the region need to cooperate closely and reach a consensus in developing policies, plans, and economic development related to the Mekong River Basin. Some economic solutions that countries in the region can apply are as follows:

- Strengthen the development of agriculture and aquaculture: This is the fundamental economic sector of countries in the Mekong River basin and contributes significantly to the GDP of these countries. Improving the productivity, quality, and commercial value of agricultural and aquatic products will help increase people's income and contribute to economic development in the Mekong Delta.

- Tourism development: The Mekong River basin has many attractive tourist destinations, such as natural landscapes, cultural heritage, and traditional festivals. Sustainable tourism development will help increase income for localities and create many jobs for people.

Industrial and service sector development: Economic diversification by developing industrial and service sectors can help countries in the Mekong River basin achieve sustainable economic growth and reduce poverty dependent on agriculture and fisheries.

#### ***Sixth, solution group on communication and awareness-raising***

The group of solutions on communication and awareness raising is fundamental in ensuring Mekong River water security and sustainable development in the Mekong Delta. This will help raise awareness about the importance of water resources and water-related issues, and help communities and stakeholders contribute and actively participate in protecting water and natural resources, reducing the behavior of polluting and wasting water resources. Furthermore, increased communication and awareness raising will help provide early warning of water resource problems and call on stakeholders to actively participate in solving these problems. Some specific solutions to implement this group of solutions include:

- Strengthen information dissemination and raise community awareness about the importance of Mekong River water resources and living environment.

- Develop educational, propaganda, and guidance programs to help people better understand water resource management processes, effective water use, and water resource protection.

- Increase the use of modern communication channels, such as social networks, mobile applications, and websites, to convey information to the community quickly and effectively.

- Organize exchange activities, discussions, and seminars between experts, international organizations, and local communities to share experiences and find practical solutions to ensure water security Mekong River and sustainable development of the Mekong Delta.

- Organize seminars and conferences with local representatives and managers to learn about the actual situation of the Mekong River in the Mekong Delta and propose solutions suitable for each specific region.

- Strengthen communication and education to raise local people's awareness about the Mekong River's important role and related water security issues. This could be through educational programs, local media, and other information campaigns.

With the rapid development of information technology, using communication channels to convey information and raise people's awareness about the situation of the environment and water resources is very important. This helps people have correct knowledge and awareness of the value of water resources and the living environment, thereby helping them consciously protect water resources, not cause pollution and use water sustainably.

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# STATE MANAGEMENT OF LOGISTICS IN HO CHI MINH CITY IN THE ERA OF DIGITAL TRANSFORMATION

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**Abstract:** *This study investigates the management complexities in a rapidly digitizing logistics sector, especially under AI and blockchain influences, focusing on HCMC. We utilize secondary data sources such as government documents, academic research, and statistical data, applying analytical, synthetic, and comparative methods to explore the implications of state policies and regulations. The research aims to fill the knowledge gap about state management amidst the digital transformation era. The study offers fresh insights and actionable recommendations for future state management practices in the logistics sector amidst digital changes. This comprehensive, localized research contributes significantly to the academic discourse and pragmatic understanding of digital transformation's impact on state management in the logistics sector.*

**Keywords:** *Digital Transformation, State Management, Logistics Sector, HCMC, Policy Implications, Technological Adoption*

## 1. INTRODUCTION

In Vietnam, the convergence of digital technology, innovative strategies, and contemporary business models is crucial for enhancing business stability and expansion, especially considering the COVID-19 crisis. However, a lack of comprehensive studies on business innovation theory and application in Vietnam poses a challenge for organizations striving to excel in the post-pandemic era (Thuan et al., 2023). Business innovation, driven by digital transformation, artificial intelligence (AI), and blockchain, plays a vital role in Vietnam's business landscape. Innovative strategies and new business models, such as Axie Infinity, have emerged. The COVID-19 pandemic has further accelerated the need for innovation in all aspects of business, pushing organizations to adopt innovative technologies and approaches (Caballero-Morales, 2021; Clauss et al., 2022; Ly et al., 2022).

Digitalization has become crucial for business continuity, with companies investing in innovative technologies and digital infrastructure to remain competitive (Baoxaydung, 2021). While brick-and-mortar stores have faced challenges due to shifts in consumer behavior, digital channels and platforms like e-commerce, mobile commerce, and social media have witnessed increased usage. These digitalization trends are expected to continue post-pandemic (Thuan et al., 2023). The logistics sector, particularly in rapidly developing regions like HCMC, Vietnam, is experiencing significant transformation due to digital technologies (HCMC, 2022). Blockchain adoption has improved logistics companies' operational efficiency, transparency, and cost optimization. AI technologies are also crucial in providing customer service and

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managing tasks in logistics businesses (Nguyen et al., 2023). In addition, the scheme of “the project of logistics development in the city until 2025, orientation to 2030” sets a target that HCMC enterprises’ growth rate of logistics service revenue will reach 15% by 2025 and 20% by 2030, thereby contributing to reducing the average logistics cost of the whole country to 10%-15% by 2025. The project will contribute to speeding up the progress of closed construction of ring roads and highways connecting HCMC with southern provinces, promoting freight transport by waterway and rail, and enhancing transport connectivity multimodal to logistics centers. According to the project, the total capital demand for logistics development in the 2020-2030 period in HCMC is about VND 95,800 billion (MPI, 2020).

However, HCMC’s logistics and warehousing market faces challenges due to inadequate infrastructure. To address these challenges, state management needs to focus on developing a comprehensive legal framework, implementing effective policies, and investing in infrastructure development. Upgrading transportation routes, adopting green logistics practices, and utilizing renewable energy sources are crucial steps. Strengthening licensing and inspection processes, conducting scientific research, and providing training for human resources are also important for developing logistics services (DUKDN, 2022). Moreover, the role of state management in navigating the digital transformation of the logistics sector is critical. However, there needs to be more research to understand how state management is addressing these transformative changes (Benngport, 2014). This study aims to fill that knowledge gap by exploring the strategies, policies, and regulations the state implements in managing the logistics sector amidst the digital revolution. The findings of this research can inform policy formulation, contribute to academic knowledge, and provide insights for logistics businesses navigating the digital transformation era in HCMC.

This study utilizes secondary research methods, analysis, synthesis, and comparison. The secondary research method involves collecting and synthesizing information from various relevant resources. Analysis and synthesis methods are employed to examine and combine the collected data, providing a comprehensive understanding of state management during digital transformation in HCMC. The findings enhance efficiency and competitiveness in the logistics sector of HCMC via several aspects. Practically, it could inform policy formulation within the logistics sector, helping to refine regulatory strategies that guide industry practices in this digital era. Academically, it could contribute to the body of knowledge on the intersection of state management, logistics, and digital transformation, particularly in the context of HCMC, a significant economic and logistical hub. Finally, it could offer insights for logistics businesses navigating the digital transformation era, providing a clearer understanding of state management dynamics in this context.

## **2. THE STATUS QUO**

The digital era has catalyzed an unprecedented transformation across various sectors, and logistics is no exception. As one of the rapidly developing regions globally, HCMC in Vietnam presents a unique case for investigating the state management of logistics amidst this digital revolution. However, to comprehend this study’s findings, we must understand the context and challenges inherent in the logistics sector and the state’s role in this transformation.

### **Digital Transformation in Logistics: The Vietnamese and HCMC Context**

Digital transformation is driving Vietnam's logistics sector's growth, Le Viet and Dang Quoc (2023) state that AI, IoT, blockchain, and big data have contributed to this revolution. These technologies have improved transparency, efficiency, and customer service by automating routine tasks, optimizing processes, and providing real-time tracking capabilities. Studies have increasingly recognized the critical role of digital technologies in transforming the logistics sector. Adopting technologies like AI, blockchain, and IoT have enhanced operational efficiency, transparency, and cost-effectiveness (Choi et al., 2016). Blockchain technology might transform supply chain management and logistics (Kshetri, 2018). Digital transformation is a significant topic worldwide, but more research on Vietnam needs to be conducted, especially in the logistics industry. According to a study, digital transformation might boost Vietnam's logistics competitiveness (Linh & Huong, 2020). State management's involvement in this change is under-studied (Walsh et al., 2023). Digital technology has transformed Vietnam's logistics business, enabling new supply chain management and customer satisfaction strategies. The government and stakeholders are integrating new technologies like IoT, data analytics, automation, and AI into logistical systems. These activities streamline supply chain procedures, improve tracking and tracing, and improve logistics management (Le Viet & Dang Quoc, 2023; Linh & Huong, 2020). Digital transformation has transformed several industries, including logistics, globally. The country acknowledges the significance of developing green logistics to leverage free trade agreements and boost exports. However, the green logistics sector in Vietnam faces challenges related to logistics infrastructure, transportation networks, and environmental impact. The government's policies primarily focus on road transport, with limited regulations for other logistics infrastructure sectors (Bertot et al., 2016; DUKDN, 2022).

HCMC has the finest economic foundation and developed infrastructure in the nation, leading in the Logistics development index, 70% of Logistics firms in the country. Ho Chi Minh, in the present integration framework, applying scientific and technical advances to the logistics sector is an unavoidable business development (Luong Quang Huy, 2022). HCMC also boasts the best logistics system in the southern main economic zone and the nation. According to Prime Minister Decision 200/QD-TTg dated February 14, 2017, HCMC must immediately create a logistics program to become a vital economic sector in the present era of globalization. Prime Minister on the Action Plan to strengthen competitiveness and grow Vietnam's logistics services by 2025 in HCMC (Chính phủ, 2017), supporting e-commerce.

The digital revolution might boost HCMC's logistics industry despite these challenges. It improves operational efficiency, customer service, and commercial potential, making logistics companies more competitive in local and global markets. It is vital to understand digital transformation, given its significant effects on the logistics industry and the particular problems and possibilities in HCMC. Vietnam must improve its logistics performance and competitiveness in Industry 4.0. Digital transformation goes beyond technology adoption. Integrating these technologies into corporate activities, adjusting business models, and addressing new regulatory contexts is equally complicated. Therefore, a strategic approach must accommodate the changing technological landscape and its implications on logistics operations (DUKDN, 2022).



### *Challenges in the Logistics Sector at HCMC*

While digital transformation presents opportunities for the logistics industry in Vietnam, it has challenges (Linh & Huong, 2020), and Le Viet and Dang Quoc (2023) highlight several obstacles, including infrastructure deficits, human resource limitations, and regulatory issues.

#### **3. LOGISTICS INFRASTRUCTURE**

One critical challenge is the inadequate logistics infrastructure, which needs to be improved to keep up with the industry's growing demands. This deficiency hinders efficient logistics operations, particularly in the era of e-commerce and same-day deliveries. Developing transportation networks, warehouses, and logistics hubs is crucial for digital logistics transformation. Efforts are being made in cities like Ho Chi Minh City (HCMC) to invest in infrastructure projects to support efficient and sustainable logistics operations (DUKDN, 2022). The City People's Committee, HCMC Department of Industry and Trade, has been charged with developing a logistics industry development project for 2025, with a vision to 2030. The proposal should be proposed based on current conditions and worldwide experience. Design efficient solutions to make logistics the city's leading service sector, the region's center, and a cost-cutter. Thus, HCMC's logistics sector planning must prioritize infrastructure development, including the placement and size of three logistics hubs to link freight traffic to neighboring cities. This job must fulfill two requirements: First, store, transit, and provide commodities for inner-city distribution chains. Second, transship and distribute goods across cities, from Ho Chi Minh to the province's cities, and import and export goods via the city gateway (HCMC, 2017b).

#### **4. LOGISTICS HUMAN RESOURCES**

The second challenge pertains to human resources. The digitally transformed logistics industry requires a skilled workforce capable of managing both logistics operations and the technology driving them. However, there is a significant skill gap, making it difficult for companies to find employees who can effectively navigate this digital transition (Linh & Hải, 2021; Nguyễn Thu Hương, 2022). In HCMC in the period of 2018-2025, the proportion of human resource needs of economic groups accounts for 30% of the total human demand, about 100,000 jobs, of which logistics majors need about 18,000-20,000 people per year, including a university degree 25%, college degree 30%, intermediate level 25% and primary vocational level 20% (Trần Anh Tuấn, 2019). Thus, HCMC needs to develop a two-way linkage model between industry enterprises and training institutions, improve the quality of human resources, and build and standardize E-logistics training programs (Trần Vũ Nghi, 2019).

#### **5. LOGISTICS REGULATIONS**

The third challenge revolves around regulations. The existing regulatory framework, designed for a pre-digital era, needs substantial revision to accommodate the changes brought about by digital transformation. The pace of policy change has been slower than technological advancements, hindering the full realization of digital transformation benefits. Harmonizing the legal framework, including logistics-specific regulations, transportation laws, and aviation security measures, is crucial to support the digital transformation of logistics. E-logistics, security, logistics, and express delivery network connections may expand from the People's

Committee of HCMC's Industrial Revolution 4.0 strategy. Investing in VR/AR technologies to link E-logistics. Sensors on shelves and items may link the Internet of Things (IoT) network into the warehouse to boost E-logistics efficiency and online transaction dependability. AI also develops self-learning, industry analysis, and forecasts. Thus, research and technology investment must be encouraged to catch up with worldwide standards and establish the E-logistics business. HCMC could assist E-logistics firms' investment capital and promote high-tech enterprises to lease technology so industrial enterprises do not have to make a substantial initial investment (HCMC, 2017a).

Despite its strategic importance and potential for the economy, HCMC's logistics sector faces formidable challenges that impact its competitiveness and efficiency. Infrastructure constraints, including inadequate physical infrastructure such as roads, ports, and warehouses, persist despite ongoing investments. The need for more skilled professionals and a lack of vocational training programs tailored to the industry's needs further exacerbate the human resource challenge (Le Viet & Dang Quoc, 2023). Complex regulations, inconsistent application of rules, and burdensome administrative procedures create difficulties and increase business costs. Moreover, the regulations have yet to catch up with the rapid pace of digital transformation, causing uncertainties for businesses (Bui & Nguyen, 2023). The uneven adoption rate of digital technologies in logistics also presents challenges such as data security, technological reliability, and high implementation costs (Le Viet & Dang Quoc, 2023). Addressing these challenges requires collaborative efforts from the government and the private sector, emphasizing the importance of researching state management strategies in the digitally transforming logistics sector.

### ***The role of State Management in digitalizing logistics sector***

State management is vital in facilitating and regulating digital transformation in various sectors. Research indicates that effective state management can contribute to successful digital transformation by providing a favorable regulatory environment, supporting infrastructure development, and promoting digital literacy (Bertot et al., 2016). However, the rapidly changing landscape of digital technologies poses significant challenges for state management (Dunleavy et al., 2006). The role of state management in the digital transformation journey of the logistics sector in HCMC is paramount (Benngheport, 2014). It has the potential to either facilitate or impede the progress of digital transformation. The government has initiated policies to foster digital adoption and innovation; however, there is a need for more proactive, dynamic, and flexible policies to keep pace with rapid technological advancements (Anh, 2021; Nguyen-Pochan & Phuong, 2021).

State management is critical in promoting the logistics sector's digital transformation. Firstly, the government is responsible for creating a conducive regulatory environment that encourages the adoption of digital technologies in logistics. By implementing supportive policies, the state can enable logistics companies to enhance their operational efficiency and competitive advantage (Le Viet & Dang Quoc, 2023). Secondly, state management is crucial for infrastructure development (Benngheport, 2014). For an efficient logistics system, government investments and public-private partnerships must improve highways, ports, and warehouses.

To help the logistics industry's digital transformation, the government builds data centers and broadband networks (Tran Thi Hang & Nguyen Thi Minh Hien, 2020). Third, the state builds digital transformation capacity. This includes developing policies to promote logistics education and training and upskilling logistics experts in digital technologies (Hermiatin et al., 2022). Finally, governmental management must protect the logistics industry's digital data. Digital technologies generate a lot of data, so the government must create and implement data protection laws (Nguyen-Pochan & Phuong, 2021).

Understanding state management's role in the digital transformation of Vietnam's logistics sector, notably in HCMC, is vital for ongoing development and improvement. The government can solve issues and create a digital-era logistics sector by investing in infrastructure, encouraging talent development, and modifying legislation.

## 6. DISCUSSIONS

HCMC's logistics sector's digital transformation will change how businesses operate and serve clients. It includes adopting innovative technologies, reforming company processes, developing digital skills, and adapting regulatory frameworks. Digital innovation is essential for economic growth and global competitiveness, driving this change.

AI, IoT, blockchain, and big data have transformed logistics operations, enabling real-time tracking, process improvement, and transparency. These technologies have transformed supply chains, enabling agility, efficiency, and customer-centricity. Businesses may produce products faster, adapt to market demands better, and create individualized client experiences (Le Viet & Dang Quoc, 2023; Linh & Huong, 2020). However, the path to digital transformation has its challenges. Infrastructure limitations, particularly in transportation networks and warehouses, pose significant hurdles to achieving seamless logistics operations. The inadequate physical infrastructure leads to bottlenecks, increased costs, and compromised supply chain efficiency. Addressing this challenge requires substantial investments in infrastructure development, encompassing both traditional logistics infrastructure and digital infrastructure such as data centers and broadband networks. By bolstering the logistics ecosystem, HCMC can create an enabling environment for digital transformation and stimulate further economic growth (Tran Thi Hang & Nguyen Thi Minh Hien, 2020). Additionally, From the results of the current situation study, the air logistics of HCMC, Vietnam, continues to grow at a high rate, leading to overload in transportation. Meanwhile, investment in infrastructure and facilities could be faster and more extensive. Therefore, HCMC needs to quickly review and complete the planning of the airport and airport system in the 2021-2030 period, with a vision to 2050: increase investment in building infrastructure and facilities, exceptionally professional logistics warehouses, in order to improve the capacity of port yards, reduce the time to complete air logistics services, thereby improving air logistics service quality (Xuan, 2023).

Another critical challenge lies in developing a skilled workforce capable of navigating the digitally transformed logistics landscape. The need for more professionals with expertise in both logistics operations and digital technologies hampers the industry's ability to leverage the potential of digital transformation fully. To bridge this gap, there is a need for comprehensive educational programs and upskilling initiatives that equip individuals with the necessary

digital skills and knowledge. By investing in talent development, HCMC can foster a workforce that drives innovation, embraces technology, and effectively integrates digital tools into logistics operations (Le Viet & Dang Quoc, 2023). That shows the quality and quantity of labor in the logistics industry, and air logistics still need to meet the development needs. Therefore, HCMC needs to improve the quality of human resources and the capacity to serve air logistics. Specifically: (i) It is necessary to plan training policies and also proposes to develop formal, methodical, and systematic training programs at Vietnamese universities in the aviation logistics industry particularly, and logistics generally. (ii) It is necessary to closely coordinate between specialized agencies and enterprises to accurately identify labor needs and qualifications, thereby developing specialized training programs. In addition, the state needs to develop professional standards for logistics, support schools to invest in facilities and equipment in the field of logistics, etc. Thereby, meeting the demand for human resources both in terms of quality and quantity, contributing to improving the quality and efficiency of air logistics services in HCMC (Xuan, 2023).

Regulatory barriers pose additional complexities in the digital transformation journey. The existing regulatory framework, designed for a pre-digital era, may need more agility and adaptability to accommodate the rapid pace of technological advancements. Harmonizing logistics-specific regulations, transportation laws, and data protection measures is crucial for ensuring compliance, fostering innovation, and creating a secure digital environment. Proactive and dynamic policymaking is needed to stay up with technological advances and foster experimentation, collaboration, and responsible use of digital technologies (Anh, 2021; Bui & Nguyen, 2023). State management helps digitalize logistics. Government rules and laws can spur innovation and digital technology adoption. The government may support investment, research, and public-private collaboration by working closely with industry stakeholders. State management ensures stable digital infrastructure and promotes public-private collaborations that advance technology (Nguyen-Pochan & Phuong, 2021).

Vietnam's logistics sector's digital transformation is changing how businesses operate, deliver value, and compete globally. Strategic investments, talent development programs, and flexible regulatory frameworks can overcome infrastructural limits, skill shortfalls, and regulatory difficulties. Vietnam's logistics sector can maximize its potential, boost economic growth, and become a digital leader by embracing digital transformation and using effective state management measures.

## **7. IMPLICATIONS**

The comprehensive results from this research offer significant implications for state management, digital transformation, and the logistics sector. The results from this study emphasize the criticality of proactive state intervention in fostering digital transformation. The state's role extends beyond regulation to that of a facilitator, emphasizing the need for strategic policymaking and targeted interventions. The study substantiates the requirement for state authorities to focus on enhancing digital infrastructure and fostering a digitally proficient workforce to cultivate an environment conducive to digital transformation. Besides, the research underscores the criticality for logistics firms to integrate digital transformation

into their strategic initiatives. It is not a mere process of embracing new technologies but a thorough revision of their operational framework to align with the digital era. Firms are compelled to perceive digital transformation as a strategic advantage that could enhance operational efficiency, promote transparency, and improve cost-effectiveness.

Moreover, the insights gained from this research provide substantial value to policymakers. It elucidates the necessity to devise policies that promote the adoption of digital technologies and enhance digital literacy. The findings also stress the importance of policies facilitating symbiotic collaboration between public and private entities to create an ecosystem fostering digital transformation. Additionally, as the logistics sector undergoes a rapid digital transformation, the results from the study highlight the necessity for aligning educational programs with industry needs. The findings advocate for an integrated curriculum that includes digital technologies, data analytics, blockchain, AI, and other relevant aspects of the digital logistics environment. Furthermore, the research findings have potential implications for investors, pointing toward a prospective opportunity in digital logistics operations. The growing requirement for digital infrastructure and services indicates a burgeoning market with potential for significant growth.

Collectively, this study offers insightful implications for all stakeholders within the logistics sector, propelling them to partake actively in the digital transformation process. It emphasizes that digital transformation is not optional but fundamental in the contemporary logistics landscape. The research calls upon all stakeholders to work in tandem and pave the way for the logistics sector into the digital future.

## **8. LIMITATIONS AND FUTURE RESEARCH**

Despite the significant contributions of this research, certain limitations must be acknowledged. First, the research focused mainly on the city of Ho Chi Minh. Although it provides valuable insights, the study's findings may only partially represent the broader Vietnamese logistics sector's condition, especially in less developed regions with different local regulations and cultural contexts. Second, the study utilized secondary data, meaning that the availability and quality of pre-existing data largely influenced its conclusions. While this approach is valid and provides an extensive outlook, the nuances of primary data obtained through first-hand interviews or surveys could be lacking. Lastly, while this research provides a comprehensive overview of state management's role in the digital transformation era, it does not delve deeply into specific technologies such as AI, IoT, or blockchain in logistics. These constraints suggest numerous study avenues. To get a better picture of Vietnam, studies could be done in different cities or regions. To compare state management practices across developing nations, research could be increased. Digital technology adoption and its influence in logistics could also be studied. Logistics organizations could be surveyed or interviewed to understand better the practical challenges of digital transformation and the benefits of embracing these technologies. Finally, future studies might examine state-private partnerships. This could clarify how these relationships affect logistics' digital transformation.



## 9. CONCLUSION

The exploration into the state management of logistics in HCMC, Vietnam, in the digital transformation era, has shed light on the intricate dance between traditional logistics operations and modern technological advancements. Our findings highlight that digital technologies are rapidly becoming an indispensable part of the logistics industry, revolutionizing the existing norms of operations and management. The transformative effect of digitalization is profound, touching every aspect of the logistics sector, from supply chain management to customer service and beyond. However, the journey towards a completely digitalized logistics landscape is full of challenges. The study has identified substantial infrastructure and human resources deficits that hinder efficient sector digitalization. In an increasingly digital world, these challenges can significantly hinder the competitiveness of the logistics sector in HCMC if not addressed timely and effectively. State management has surfaced as a cardinal player in this transformative process. With proactive strategies and policies aimed at bridging the infrastructural gap, enhancing the workforce's digital skills, and updating the regulatory frameworks to fit the digital age, state management can significantly facilitate the digital transformation process. The role of state management thus extends beyond regulation and control to enabling and catalyzing transformation. As the wave of digitalization continues to sweep the globe, the need for adaptive, dynamic, and flexible state management becomes increasingly critical. More than state management is required to react to changes merely; it must anticipate them and shape strategies to turn these changes into opportunities for the sector's growth and development. In the future, we foresee an accelerated pace of digital transformation within the logistics sector in HCMC, driven by the dynamic interplay between technology, market forces, and state management. The road ahead is fraught with challenges, but it also holds immense potential for those who can effectively navigate the digital terrain./.

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# GREEN ECONOMY AND SUSTAINABLE DEVELOPMENT

PhD. Hoang Trung Duc<sup>1</sup>

**Abstract:** *The study of green economy and sustainable development is one of the important studies that has received the attention of researchers and scientists for its importance in the development and growth of society in all its aspects, as it is the nucleus of sustainable development and its main pillar for growth, development and prosperity. The green economy is considered a vivid and ideal model of sustainable development, especially economic development, which affects all aspects of life. Its concept emerged in the recent years due to its importance in reducing the manifestations of poverty and destitution and to raise the standard of living of the population and ensure their welfare. It is worth noting that the role of sustainable development can only be activated by implementing the green economy program and providing a healthy environment. This can only be executed by replacing the means of economy that are harmful to the lives of individuals with other healthy means such as generating thermal energy from healthy sources instead of from fuel sources as the fuel sources lead to environmental pollution therefore harm all forms of life. As for the concept of sustainable development, it is the exploitation of material and human energies, support and employment in an optimal manner, and work to develop them and increase their effectiveness in a way that guarantees the rights of everyone in the present and future, and includes people and natural resources, and affirms that the human being invested natural resources perfectly without depletion and leaves to future generations their right, and ensures the just distribution for the wealth.*

**Keywords:** *environment, pollution, poverty, development, investment, economy, energies.*

## 1. INTRODUCTION

The study of the green economy and its impact on sustainable development is one of the important and vital topics for most researchers, especially in recent years. Green economy is the mechanism that results in mainly improving and developing human well-being, reducing environmental risks. In terms of environmental benefits, it improves the climate by reducing pollution. It also has a significant role in providing employment and investment opportunities, providing material and human resources and capabilities which results in eliminating poverty and destitution, and disparities between social classes which in return preserves resources in a way that serves future generations to ensure their future. It is a long-term strategy for the national economy in order to overcome crises and achieve economic recovery, as the green economy seeks to provide suitable job opportunities for all. The green economy requires efficient and skilled workers and professionals, who have a wise mind, and work to refine and develop their skills through enrolment in training and professional courses to give them the required experience. One of the most important goals of the green economy is the need to reform policies and regulations that would impede or achieve the green economy.

Achieving a green economy requires fundamental changes in the structure and strategies of most companies, in order to achieve sustainable physical and human development. The

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research will shed light on important aspects, including the concept of the green economy, its importance, objectives and levels, the most important green jobs, the necessity of moving to a green economy and the most important obstacles that prevent its achievement, as well as an indication of the impact of the green economy on sustainable development.

## **2. THE CONCEPT OF THE GREEN ECONOMY AND ITS OBJECTIVES**

The United Nations Environment Program (UNEP) defines a green economy as mechanism resulting in an improvement in human well-being while significantly reducing environmental risks and scarcity of ecological resources. In simple terms, it is an economy in which emphasises on producing lower carbon emissions and on resourcefully accommodating all social groups. It aims to reduce pollution and carbon emissions by increasing the efficiency of resources and energy consumption. The green economy also aspires to growth in income and job opportunities that must be driven by public and private investments. These investments need to be stimulated and supported by targeted public spending, policy reform and changing regulations. The development path must preserve and improve natural capital. Indeed, its construction is restricted when needed, as it is a source of public benefit, especially for the poor, whose security and lifestyle depend on nature [1].

The concept of green economy appeared on the scene in the past few years. Its idea was discussed in the context of sustainable development and poverty reduction. The United Nations Environment Program defined green economy as that which arises with the improvement of human existence by reducing environmental risks, and it has a small percentage of Carbon gas, in which resources are used efficiently. It also enhances the growth in income and offers employment in public and private investments. Its main mission is to reduce carbon emissions and pollution, while enhancing the efficiency of resource and energy use, and preventing the loss of biodiversity. This can only be achieved through reforming policies and legislation governing this [2]. In addition, the principle of “green economy” does not replace sustainable development as some might assume. Instead, achieving sustainability is based almost entirely on reforming the economy. On the other hand, creating new wealth through the “brown economy” model have not dealt with social marginalization and resource depletion, and is still far from achieving the Millennium Development Goals Sustainability. Although it might appear to be a long-term goal, but we must work on “greening” the economy in order to reach this goal [1].

The green economy aims to significantly reducing environmental risks and scarcity of resources. So, low levels of carbon, rational use of resources and social integration can be introduced. In this context, the green economy can use new alternatives such as the exploitation of wind energy. Wind energy can meet 47% of the electricity needs and 25% for heating and 22% for transportation. As for the levels of solar energy, it has developed by 66% compared to 2009 while at the end of 2010, the photovoltaic installations reached a capacity of 35,000 megawatts in the world, equivalent to 35 nuclear reactors, at a small, short cost. Green economy is known to mean the importance of nature and the benefit of investment. This is in addition to encouraging the rational use of natural resources and the activation of energy, which requires conservation [3].

The green economy is based on the knowledge of environmental economics, which is balanced with the interdependence between the economic systems and the group of natural systems, as the green economy is a clean economy that depends on green development. It uses resources and energies for optimal use, as it is not produced in a way that is not unfairly produced, but rather in a manner that harmonizes and preserves the environment. On the other hand, the black economy is an oppressive one that harms the environment where the race prevails to increase wealth. The green economy is a clean economy that depends on green development optimization, while avoiding pollution, environmental degradation, depletion of natural resources therefore, help solving the problem of climate change (global warming). Thus, achieving sustainable economic growth, and promoting the green economy saves the global economy from a long stage of recession, job loss, and exacerbation of poverty [4].

It is a system of economic activities related to the production, distribution and consumption of goods and services that lead in the long run to improving human well-being. On one hand, it does not expose future generations to environmental risks or major ecological scarcities. On the other hand, it is an economy in which growth in income and employment is directed by investments in both public and private sectors. This can lead to enhancing the efficiency of resource use, reducing carbon emissions, waste, and preventing biodiversity loss and ecosystem degradation [2].

The green economy has been described as a long-term strategy for national economies to overcome crisis. With the goals of economic recovery, the eradication of poverty, and aims to promote economic growth and development while ensuring the use of natural assets for sustainable development and it supports progress in social development [5].

### **3. LEVELS OF THE GREEN ECONOMY**

The green economy is similarly characterized in the general economy in two levels, namely the micro level, which represents the institutional level as the basic unit in the economy, and the macro level, which represents the macroeconomic level or on a national scale [8].

**Micro Green Economy:** It revolves around the institution's economy, which cares and analyzes the institution's relationship with the natural environment, the qualitative development of the surrounding environment and the impact of environmental policies on the institution. The functions of the partial green economy are represented in the following matters [8]

Studying and analyzing the procedures and effects of environmental protection on the institution, its objectives and profit maximization

Providing publications and advice to the established institution that is in harmony with environmental protection organizations

Contributing to directing production in accordance with the requirements of directions and instructions and environmental regulations.

Studying environmental investments that reduce the environmental risks.

Providing information about environmental protection costs, investment expenditures and the impact of environmental protection on profit and loss accounts, and analyzing the environmental feasibility of projects.



Giving interests, analyzing problems, and studying future prospects for some branches of the national economy in light of environmental developments, such as service institutions, transportation, environmental protection (A friend of the environment), commercial and insurance industries.

**Macro Green Economy:** This branch of the green economy deals with environmental problems and their reduction at the level of the economy as a whole or nation, and aims to reach higher levels of sustainable social welfare and takes into account the preservation of the quality of the environment at higher levels, and deals with the material and monetary evaluation of environmental damage, the evaluation of the environmental improvement resulting from the environmental policy in the activity of the public and private sectors, as well as it identifies the existing relations between the environment and macroeconomic objectives and study it, and the existing relations between economic policies on one hand and environmental policies on the other hand [8].

The most important jobs under the macro green economy are to provide information and advice on the basis of which decisions can be made, through the following evaluation [8]. Environmental damage and environmental protection measures, and the results of those measures at the macro level. Developing environmental policy tools, whether local or global, and determining to what extent they can solve the existing problems. The impact of environmental protection and its tools on macroeconomic goals, specifically on economic growth and the level of employment. The impact of environmental protection and its tools on other policy goals, as the environmental policy affects transport policy, energy policy, commercial political resources ... etc.

#### **4. GREEN JOBS**

Green jobs refer to ensuring the reduction of the environmental impact of companies and economic sectors and lead to reducing its levels to bearable limits. Examples of these jobs are those that exist in many sectors of the economy, such as energy, waste recycling, agriculture, construction and transportation. All of these jobs would contribute to reducing energy consumption and optimization of raw material and water through strategies that work to rid the economy of carbon gas, reduce emissions of greenhouse gases, reduce or eliminate all forms of waste and pollution, and protect and repair ecosystems and biodiversity [9].

It aims to combine poverty reduction goals with those related to reducing greenhouse gas emissions by creating decent job opportunities. This initiative constitutes a strategy in response to the negative effects of climate change resulting from work. It also aims at the same time to reduce the environmental reality of the enterprise and economic sectors to reach permissible levels [9].

#### **5. MOVING TO A GREEN ECONOMY**

The transition to green development is not an instant event that can be achieved with a single decision at a high level. It is rather a long and arduous process, guided by a political outlook from the top to the bottom and public participation from the base to the top. This approach gives political and social legitimacy the shift required to ensure the mobilization of efforts on



a large scale, to make this transformation a reality [2]. The comprehensive transformation to a green economy would achieve a higher per capita income compared to its counterpart under the current economic models while reducing the environmental footprint by approximately 5.0% in the year 2050 as compared to the usual business approach. Thinking of moving to a green economy came from the disappointment of the current prevailing global economic system, and the multiple crises concurrent with market crashes, financial and economic crises, high food prices, high unemployment, climatic fluctuations, rapid decline in natural resources and acceleration of environmental change, and the growing scarcity of productive lands [2]. In order to move to a green economy, the following measures must be taken. Reviewing government policies and redesign them to stimulate shifts in production, consumption and investment patterns.

Paying attention to rural development with the aim of alleviating poverty in the countryside with increasing resources. Paying attention to the water sector, controlling its use and rationalizing it, and preventing its pollution. Working on sustainable investments in the field of energy and measures to raise energy efficiency. Establishing low-carbon strategies for industrial development and adopting more efficient production technologies in new factories. Supporting the mass transit sector. Adopting land classification systems and mixed-use development and adopting environmental standards in construction. Addressing the problem of municipal solid waste and investing it in a beneficial and environmentally friendly way.

## **6. BENEFITS OF MOVING TO A GREEN ECONOMY**

The green economy invests with natural capital, including agriculture, fresh water, fisheries, and forestry. With the passage of time, it results in improving the quality and quality of soil and increasing returns from the main crops.

The increased efficiency in the agricultural, industrial and municipal sectors works from the demand for water, which reduces the pressure on ground and surface water in the short and long term alike. So, the green economy contributes to alleviating poverty through the wise management of natural resources and ecosystems. This is in order to flow benefits from natural capital and deliver them directly to the poor, as well as the creation and increase in new jobs, especially in the sectors of agriculture, plants, energy and transportation. The green economy involves a separation between resource use, environmental impacts and economic growth. As it is characterized by a significant increase in investments in green sectors, backed by empowering policy reforms in public and private investments. This is done by providing the necessary mechanism for redrawing the features of businesses, infrastructure and institutions, and paving the way for the adoption of sustainable consumption and production processes. The redrawing of these features will lead to an increase in the share of green sectors in the economy, an increase in the number of green and decent jobs, and a decrease quantity of energy and materials in production processes, reduced waste and pollution, and a significant decline in greenhouse gas emissions [2].

## **7. GREEN ECONOMY AND SUSTAINABLE DEVELOPMENT**

Development is a dynamic process consisting of a series of structural and functional changes in society that occur as a result of the intervention in directing the volume and quality

of the resources available to society. In order to raise the level of well-being of the majority of community members.

The World Commission on Environment and Sustainable Development defined it as development that meets the needs of the present without compromising the capacity of future generations [12].

Economic development is defined as advancing society by devising new and better production methods and raising production levels, by developing skills and human energies and creating better organizations. This is through which we are trying to increase the average per capita gross national product and the average per capita share of gross national product during a specific period of time by raising the average Per capita productivity and the use of available resources to increase production during that period [10].

In general, economic development is defined as the process by which the transition from a state of underdevelopment to a state of progress takes place. It requires a change in the economic structures, and therefore it proceeds to bring about an increase in the production capacity of economic resources. The economic development is considered as a process of raising the level of national income. This will result in an increase in the average per capita income. One of its implications is to raise the productivity of the existing branches of production, especially in the third world countries, such as the agricultural sector and the primary resource sector [10]. The main goal of human development is to improve and develop human well-being and to open wider and wider fields for a comfortable and happy life. Human development goals can be summarized in the following [10]. Building human beings' capability of facing life challenges that occur around them in a positive and effective manner.

Helping the individual to think positively and creatively by changing his outlook from superficial to a deeper view of life. Teaching the individual to master the skills of effective communication in order to enrich the individual's communication with society in an ethical and influential manner in which the individual expresses himself with everyone. Helping the individual to develop his performance and capabilities in order to find a suitable job. 5- Teaching people, the value and importance of time, training them in the skills and arts of management, teaching them how to use their energies and talents and setting life goals, and teaching how to deal with the problems they face in a positive and effective way. The relationship between human development and economic development stems from the fact that one of them depends on the other in an unacceptable way. Experiences in many countries have shown that the economic development that lack the proper investment plans for human capital was a failure. That the person who is prepared to manage and lead the development processes in his country, on the one hand, economic development cannot take place without a scientific, educated and qualified human resources in all the stages of economic development in all respects. Experiences of some developing countries have proven that their adoption of the imported human capital with its cost caused a loss of its resources and opportunities due to not exploiting and rehabilitating the national human resources. This relationship has been realized by the planners in developed countries and they have prepared theoretical and practical rules to carry out a well-studied development renaissance based on the factors of success and good application. In their wake, they established

solid economic base relied on human development, and from it to achieve social development. In order to ultimately achieve comprehensive economic development [10], from the beginning they applied basic foundations in establishing development, for example [10]: Wealth alone does not mean development. Rather, human energies must be mobilized for the advancement of society and people. Paying attention to educational and technical care for the population and developing their skills to be able to keep pace with development. Real economic development is manifested in the establishment of a human development reality commensurate with the country's need. Development human capacities must come before establishing factories and institutions. Therefore, it is possible to transform into a green economy to achieve sustainable development and eliminate poverty on a large scale, especially since the world today is witnessing many risks that require a radical rethinking of economic approaches and policies. Everyone should know that a green economy does not replace sustainable development at a time when decades of creating new wealth with the "brown economy" model have failed to put an end to social marginalization and resource depletion. Sustainable development remains a vital long-term goal, accompanied by greening the economy [3].

## **8. THE CONCEPT OF GREEN INVESTMENT**

The concept of green investment revolves around the ability of the financial contribution by various financial institutions, whether governmental or private, in respecting and preserving the environment. The concept of green investment consists of counting the financial requirements of any project and employing them in light of the environmental contribution such as using clean energy, raising the level of support for green products and green space in various countries of the world. This is in addition to generating millions of new jobs in large and micro projects [14].

The (UNEP) program emphasized that green investment includes several things. The most prominent of which directing returns to people living below the poverty line. Green investment also provides a great opportunity for employment through jobs for the local population near their residential areas and transforming areas that need reform into green spaces. It is necessary to reduce environmental-related harm, reorganizing agricultural subsidies for sustainable agriculture, forestry and fisheries, and reduce global warming by increasing energy's efficiency [14]

Green investment is the modern trend in the twenty-first century for decision-makers, companies and investors who are branding in a new green world to meet environmental challenges, use innovative technologies to produce environmentally friendly products, contribute to global growth and create natural capital, and invest it in environmental and social fields. The misuse by states, companies and individuals of natural resources in order to achieve economic development has led to their decline and scarcity over time, passing through the current generation, and consequently the rise in poverty rates worldwide. Statistics indicate that 50% of the world's population lives on less than \$ 2 a day [14].

## **9. CONCLUSION**

Our study yielded several important results, the most prominent of which are:

The concept of green economy has emerged in recent years and has gained great importance

among researchers in most fields. The concept of green economy revolves around improving the standard of living for the human being and achieving prosperity and achieving sustainable development in its various forms. Describing the green economy as a long-term strategy aimed at achieving economic recovery in various sectors. The green economy encourages the reduction of pollution and the use of energy in new ways that preserve human and material resources and reduce carbon emissions, and it also supports social development. The green economy has two levels. The first is partial. One of the most important objectives is to study environmental investments to reduce the dangers of pollution, and the second level is the macro one that deals with studying and reducing environmental problems. Achieving and moving to the green economy is not an easy process. Rather, it is a long and arduous process that requires wide public participation, and it will achieve higher per capita income. The concept of green investment is the ability to contribute financially by most financial institutions, whether private or governmental, while preserving the environment, exploiting green spaces, providing job opportunities and employing them in mega projects.

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# ENVIRONMENTAL TAXES AND TRADE FLOWS IN NORDIC COUNTRIES

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*Abstract: This study examines the environmental tax and trade flows in Nordic countries. We analyse the trade flow between two countries induced by environmental tax revenue and economic growth, and regional trade agreements, and determine whether or not trade flows are being impacted by the environmental tax. The results found that the effect of an environmental tax on exports is positive, which means the environmental tax of imported countries increases the trade flows among Nordic countries. This result shows that environmental tax is not a trade barrier and in contrast, it enhances not only the trade flows among countries but also the goods of cleaner production*

*Keywords: tax, environmental, countries, countries*

## 1. INTRODUCTION

Environmental degradation has been a concern by people worldwide due to its negative impact on the welfare of humans and regional and global environmental problems such as air pollution, global warming, climate change, acid rain,...(Remoundou and Koundouri, 2009). That is why, all countries in the world have been making an effort to limit pollution. Among various measures have been introduced to solve environmental issues, the most important tools that take preventive approaches are proposed environmental taxes.

Environmental tax is a market-based mechanism aimed at reducing environmental pollution by placing a price on polluted activities. By internalising the external costs associated with pollution, an environmental tax incentivizes producers and individuals to adopt cleaner and more sustainable practices. In the meanwhile, some practical evidence supports the environmental taxes will boost trade flows. The induced trade flows will offset the compliance cost triggered by the environmental taxes and increase the international quality of exporting products.

In contrast, there is existing research arguing that environmental taxes will limit international market access from origin countries and protect domestic production (De Santis, 2012); (Starck *et al.*, 2002); (Qiang *et al.*, 2022).

While domestic producers argue that environmental taxes negatively impact international competitiveness, some researchers insist that environmental taxes bring the benefit for domestic producers by enhancing them better in the international market. This contradiction indicates the vagueness of research on environmental taxes and trade flows.

Therefore, in this research, we investigate the effects of environmental taxes on trade flows of Nordic countries, to identify whether the environmental taxes cause the limitation or enhancing the trade flows among the selected countries.

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## 2. LITERATURE REVIEW

The nexus between environmental taxes and trade flow is progressively discussed. Traditionally, the more taxes imposed on the imported goods, the less goods have been accessed to the original country market (Hwang and Kim, 2017);(EEA, 2016). The reduces of trade flows in the tighter environmental regulation places would transit the compliant producers to the countries with lax environmental regulations, which is known as “pollution haven hypothesis” (Copeland and Taylor, 2015); (Mahajan and Majumdar, 2022); (Taylor, 2004). The first theory tries to prove the negative relationship between environmental taxes and trade flows.

International environmental agreements have met with the reluctance of some countries to accept joint commitments to reduce greenhouse gas emissions. While many policy-makers, and regulators have acknowledged the importance of climate change, they have also argued that anti-pollution measures have a negative impact on the welfare of their countries. The paper used a general equilibrium model based on perfect competition to examine the welfare effects of the imposition of a tax on a polluting export product between countries that have a trading relationship and have an environmental tax. Use a closed-economy model to compare results. The results show that taxing the environment has an impact on the competitiveness of a small country with no power in the global market. When measures to reduce environmental pollution increase the real price of exported goods, this leads to the view that environmental regulations reduce exports and negatively impact welfare in the open economy (Llop, 2023)

The application of an environmental tax is still a controversial topic due to the potential impact of environmental taxes on economic growth. Understanding the relationship between economic growth and environmental taxes is important for effective social policies between economic growth and environmental policies. The impact of environmental taxes on economic growth still needs empirical evidence to prove this relationship. That is why this study examines the economic growth impact of the environment in a number of Scandinavian countries in Europe during the period 2002-2021. The Scandinavian countries in this study include the following countries: Denmark, Norway, Sweden, and Finland. These countries in the EU have been at the forerunner countries of “a first wave” to move toward the use of the environmental tax, and have witnessed both successes and challenges in environmental and economic goals (European Environment Agency, 2020). The study especially focuses on Finland due to it is the first country to introduce a carbon tax on energy consumption in terms of reducing climate-related risks and at the same time making their companies more competitive, followed by Norway and Sweden that introduced CO<sub>2</sub> taxes in 1991 and Denmark in 1992 (UNFCCC, 1996). In the case of Norway, the country and its Nordic neighbours are considered world leaders in the use of a significant portion of the revenue to fund environmental initiatives and renewable energy projects, thereby promoting the transition to a low carbon economy (UNEP, 2004). Discussing these four countries’ strategies can provide insights into the potential use of environmental tax revenue to support economic growth. In this study, we want to investigate the impact between the environmental tax and economic growth. The study seeks to answer whether the introduction of environmental tax has had any adverse effects on the economic growth of Scandinavian countries. To guide this investigation of this topic, a research question has been

formulated. The research question is: Does environmental tax affect economic growth? Is this effect positive or negative with economic growth? The study will use quantitative methods to show this relationship.

**Table 1. Overview of environmental taxes in Nordic countries**

	Finland	Norway	Denmark	Iceland	Sweden
Energy (including fuel for transport)					
Energy products for transport purposes	√	√	√	√	√
Energy products for stationary purposes	√	√	√	√	√
Carbon content of fuels – CO <sub>2</sub> tax	√	√	√	√	√
Greenhouse gas emissions trading schemes	√	√	√	√	√
Transport (excluding fuel for transport)					
Motor vehicles import or sale, one off/registration tax	√	√	√	√	
Use of motor vehicles, recurrent (yearly/circulation taxes)	√	√	√	√	√
Road use: passenger car (distance based/vignette)	√	√	√		√
Road use: commercial/ heavy goods vehicles (HGV) (distance based/ vignette)		√	√		√
Congestion charges (cities)		√			√
Pollution					
Measured or estimated emissions to air		√	√		
Measured or estimated effluents to water			√		
Waste management					
Landfill	√	√	√		√
Incinerator			√		
Individual products	√	√	√	√	√
Non-point sources of water pollution					
Pesticides		√	√		√
Fertilisers			√		
Resources					
Water abstraction			√		
Extraction of certain raw materials			√		√

Source: (EEA, 2016)

The environmental tax revenue (ETR) in the Nordic countries accounts for an approximate level of the European average. However, ETR per capita is generally higher. In which, Denmark rank the highest environmentally related tax revenue per capita, while Iceland is a country with the lowest revenue per capita. The majority of ETR is from the energy and transportation sectors (UNEP, 2004)

According to Regulation No 691/2011: “A tax whose tax base is a physical unit (or a proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified in ESA as a tax”(Eurostat, 2013).

According to Pigou, negative externalities prevent a market economy from reaching social equilibrium when producers do not take into account all the costs of production. And then, he suggested that by levying taxes it would be possible to internalise all the external costs. The application of the Pigouvian tax increases the prices of goods in the market. So, the question is whether the changes in the prices would impact international trade flows. The impact of environmental taxes can either increase or decrease international trade flows. But neither side

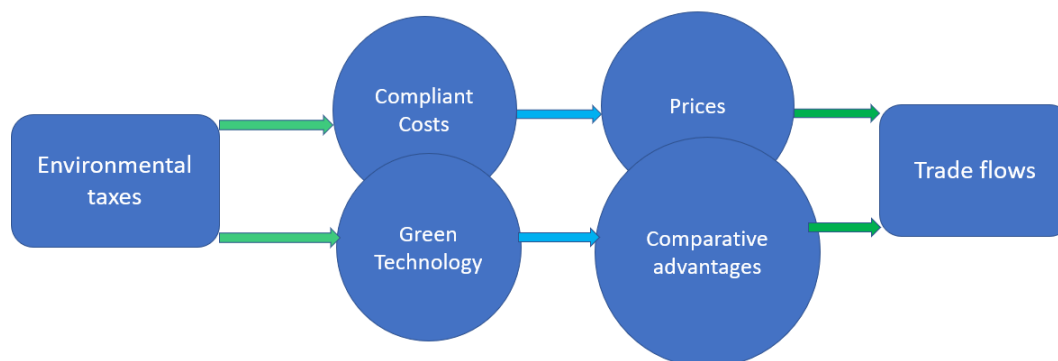
has its own positive effects. If an environmental tax increases international trade, its effect increases the world's freight capacity. Conversely, if environmental taxes reduce international trade, this will promote national self-sufficiency. However, the search for answers to the question of how environmental taxes affect the flow of international trade provides additional useful information for decision-makers, especially for policies related to the environment to promote or restrict the flow of international trade when necessary (Doğan et al., 2022).

### 3. METHODOLOGY AND PROPOSED MODEL

The framework of the relationship between environmental taxes and trade flows would be analysed by two theories. First, it is followed the Ricardo's comparative advantage trade theory. According to this theory, if the origin country exports pollution-intensive goods, reducing environmental taxes increases production costs which then add to the price of goods in the market. Second, it is followed by the neoclassical international trade theory. According to this theory, if a country has an advantage over the environmentally intensive goods, its export will increase. In addition, according to the Porter theory, higher environmental tax will create an incentive to innovate for the environment which will finally improve export competitiveness.

Based on the above reviewed literature, this study build a research framework as follow:

**Figure 1: Proposed research framework**



*Source: proposed by authors*

In our suggested framework, environmental taxes make firms pay the compliance costs which increase the production cost of those firms (Porter and Van Der Linde, 2017). An increase in the production costs internalise in the prices of products, which effect on the trade flows (Brock and Taylor, 2004).

Under the environmental taxes, the exporters respond to this regulation to obtain international competitiveness. The compliant exporters examine their costs, as well as other costs which create incentives for moving to environmentally friendly to meet the requirements. Environmental taxes not only give the exporters the incentives to change clean technology but also create international competitiveness.

The domestic producers in the origin countries encompass all efforts to reduce the negative impact of products to the environment to reduce the ETR or increase their images of consumers in imported countries. That means the environmental taxes expect to help exporters

gain comparative advantages in the market.

The model used to identify and analyse the impact of environmental taxes on trade performance is based on the gravity model. The gravity model is widely used in trade analysis. The gravity model is expressed as follows:

$$F_{ij} = \frac{M_i M_j}{D_{ij}}$$

Where:  $F_{ij}$  is the gravity attraction between country  $i$  and  $j$ .  $M_i$ ,  $M_j$  are the mass of two objects  $i$  and  $j$ .  $D_{ij}$  is the distance between two country

The gravity model was first introduced by Tinbergen and Bos 1962 and was inspired by Newton's gravity model, which states that the trade flow from country  $i$  to country  $j$  is affected by weight and distance between two countries.

$$T_{ij} = A \cdot \frac{Y_i Y_j}{D_{ij}}$$

Where,  $A$  is a constant parameter,  $T_{ij}$  is the total trade flow from origin country  $i$  to imported country  $j$ .

$Y_i$ ,  $Y_j$  are the economic size of country  $i$  and  $j$  respectively.

$D_{ij}$  is the distance between two country  $i$  and  $j$

The gravity model relates the trade flows and GDP, distance and other factors that would impact international commercers.

The distance between two countries  $i$  and  $j$  is a dummy variable.

This study employs the basic gravity model and added some specific factors impact on the bilateral follows.

The model is specified applying for the selected countries as follows

$$Trade_t^{ij} = A \cdot ET_t^{j\beta_2} GDP_t^{i\beta_3} GDP_t^{j\beta_4} RTA^{ij\beta_5} u_t$$

Where  $Trade_t^{ij}$  refers to export flows from origin country  $i$  to country  $j$ . GDP: gross domestic product; RTA: regional Trade Agreements,  $u_t$ : error term

$$\ln Trade_t^i = \beta_1 + \beta_2 \ln ET_t^j + \beta_3 \ln GDP_t^i + \beta_4 \ln GDP_t^j + \beta_5 \ln RTA^{ij} + \epsilon_t$$

Where  $Trade_t^{ij}$  is value of export from country  $i$  to country  $j$  at the time  $t$ ;  $ET_t^j$ : environmental tax of imported country at time  $t$ ; GDP of country  $i$  and  $j$  at time  $t$ ; RTA between country  $i$  and  $j$  is the dummy variable.

Environmental tax variables are vectors of environmental tax in country  $j$  where it imports goods from country  $i$ , determined at time  $t$ . The environmental tax is the representative market-based instrument. The environmental tax revenue series displays total tax revenue by category of environmental taxes: energy taxes, transport taxes and the sum of pollution and resource

taxes. In this study the environmental tax revenue is used as a proportion of GDP and total tax revenue, which is used as a proxy for the tax rate

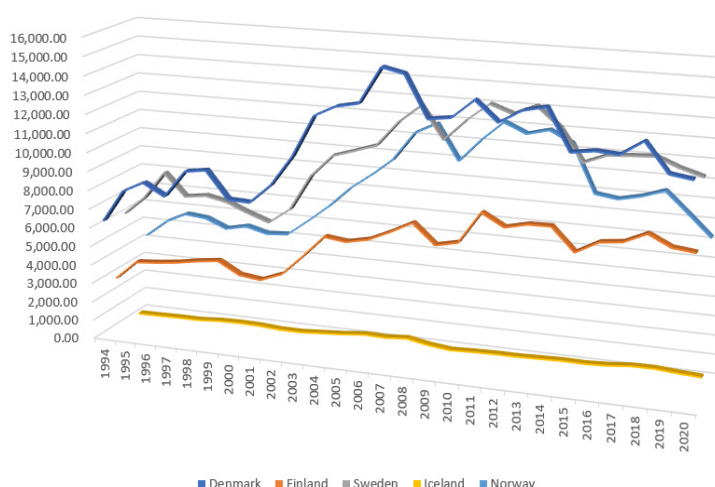
Trade policy variables. RTA is a variable representing the trade policy of country *i* or *j* at time *t*. RTA refers to a regional trade agreement in which trade partner *j* and home country *i* join at time *t*. RTAs play an important role to encourage international trade. RTA is a dummy variable where it takes 1 if two countries have signed the agreements, and 0 if they do not have such an agreement.

**4. DATA AND RESULTS**

In this paper, we analyse data from 2012 to 2021 from 5 Nordic countries: Finland, Norway, Denmark, Iceland and Sweden.

The Nordic countries have gradually eliminated tariffs to encourage free trade and at the same time strengthen environmental regulations as “hidden” trade barriers. Nordic countries are the pioneers in employing environmental taxes. Therefore, the Nordic countries are good case studies to test the role of environmental taxes on trade.

**Figure 2: Environmental Tax Revenue of Nordic Countries**



Source: OECD

The data of variables has been described in the table

**Table 3: Statistical description**

Variables	Mean	Std.Dev	Median	Max
Trade	3390950	4730322	656885	17670764
ET	7.06E+09	3.69E+09	8.12E+09	1.11E+10
GDP	2.91E+11	1.67E+11	3.07E+11	6.26E+11
RTA	1	0	1	1

The use of panel data should be analysed. The analysis proceeds with an estimation of the pool OLS, Fixed effect model, and random effect model. Before estimating, we examine the Hausman test to identify which model is appropriate to accept. From the hypothesis test, in both mode, Prob > Chibar 2 = 0.0000 < 0.05, therefore the pool OLS method is not suitable.

The next step is to estimate FEM and REM. The null hypothesis is that random effect is appropriate or alternatively is that fixed effect is an appropriate model. In both models,

the results of the correlated random effect Hausman test show the P value is  $0.000 < 0.05$ , indicating that the null hypothesis should not be accepted and thus the FEM is the appropriate one. Therefore, the FEM is preferred by the data

**Table2: The estimate result of FEM**

<b>LnTrade</b>	
LnET	-0.294*** (0.0598)
LnGDP	0.7125*** (0.0281)
LnRTA	0.818*** (0.1984)
Cons	12.654*** (0.969)
R-sqr	0.3245
Pro > F	0.000

The coefficient of determination R-squared = 0.3245 mean 32.45% of the total variable in the dependent variable is explained by the independent variables. This is a relatively medium ratio, proving the reliability of the model

## 5. DISCUSSION AND CONCLUSION

Tax in general has a broad effect on trade flow, it can increase export. The correlation between tax revenue and trade indicates a positive relationship as long as an economy can increase at a rapid pace then the tax revenue will rise at the same pace.

Implementing a carbon tax is a multifaceted endeavour that holds significant potential. However, the implementation of a carbon tax is not without its share of benefits and challenges, which must be carefully considered to ensure its effectiveness and widespread acceptance.

This study examined the use of environmental tax to promote the trade between two countries which have trade agreements. Through an analysis of the literature, theoretical frameworks, and empirical data based on the case study of Finland, Norway, Sweden, Iceland and Denmark, the empirical evidence between environmental tax and trade has emerged.

The implementation of environmental tax has been shown to have an impact on trade. The regression results indicate that both ET and Trade variables are statistically significant, suggesting that environmental tax revenue and trade play a crucial role in enhancing economic growth. The environmental tax alters the cost structure of business, driving them toward green practices, and ultimately affecting Trade.

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# **CRIMINAL LIABILITY OF COMMERCIAL LEGAL ENTITIES FOR CRIMES OF VIOLATING THE ECONOMIC MANAGEMENT ORDER IN THE FIELDS OF PRODUCTION, BUSINESS AND COMMERCE PRESCRIBED IN THE 2015 PENAL CODE**

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***Abstract:** The article presents general issues about commercial legal entities, conditions for commercial legal entities that commit crimes to bear criminal liability according to the provisions of Vietnamese criminal law; Crimes in the chapter on crimes of violating the economic management order in the fields of production, business and commerce for which commercial legal entities must bear criminal responsibility. A number of recommendations contribute to improving legal provisions on the scope of criminal liability of commercial legal entities for crimes that violate economic management order in the fields of production, business and commerce in particular and the issue of criminal liability of commercial legal entities in general in the coming time.*

***Keywords:** Commercial legal entities, Criminal liability, criminal liability issues of commercial legal entities.*

## **1. OVERVIEW OF THE ISSUE OF CRIMINAL LIABILITY OF COMMERCIAL LEGAL ENTITIES.**

In the concept of crime stated in Clause 1, Article 8 of the 2015 Penal Code (hereinafter abbreviated as Penal Code), the subject of the crime is added as a commercial legal entity. This is the first legal basis to force commercial legal entities to bear criminal responsibility (abbreviated as HS) when committing acts considered crimes, harming established social values and relationships protective law. The concept of commercial legal entity is understood according to the provisions of Article 75 and Article 76 of the 2015 Civil Code, which is a legal entity whose main goal is to seek profits and profits are divided among members. Commercial legal entities include businesses and economic organizations. Thus, for other legal entities (non-commercial legal entities, which do not have the main goal of seeking profits, or have profits but are not distributed to members) or organizations with legal status such as: State agencies, armed forces, political organizations, socio-political organizations, socio-professional organizations, etc. are not subject to criminal liability<sup>2</sup>. In addition, clause 2, Article 2 of the Penal Code affirms that only commercial legal entities that commit crimes specified in Article 76 of this Code are subject to criminal liability. This is also consistent with the reality of crime in recent years in Vietnam, which is serious law violations in the fields of environment and economics, mainly stemming from profit goals, due to commercial legal entities are increasingly sophisticated and have serious consequences.

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<sup>2</sup> See Article 75 and Article 76 of the 2015 Viet Nam Civil Code.

## **2. LIABILITY CONDITIONS OF COMMERCIAL LEGAL ENTITIES COMMITTING CRIMES ACCORDING TO THE PROVISIONS OF THE 2015 PENAL CODE<sup>1</sup>**

Firstly, the crime is committed in the name of a commercial legal entity. This means through a legal representative or authorized representative, or an individual who is a member of a commercial legal entity assigned to perform work assigned by the legal entity. All persons acting in this name are proven through their use of the seal or use of capital of the legal entity. This is also a basis for determining the criminal liability of legal entities as prescribed by some countries' criminal laws.

Secondly, the crime is committed for the benefit of the commercial legal entity. This means that this criminal law violation must have the purpose of seeking profits, economic benefits, and material benefits for the legal entity. This is also consistent with the provisions of some countries' criminal laws, for example, the Swiss Penal Code determines that businesses are only liable for crimes committed. "...in carrying on commercial activities consistent with the purposes of the enterprise..."<sup>1</sup>. Business benefits can be understood to include material benefits such as assets and property ownership... and spiritual benefits. To determine what the purpose of that enterprise is, it is necessary to pay attention to the registered business line, the signed contract of that legal entity, and other rights and benefits that the enterprise enjoys in civil transactions.

Thirdly, the crime is committed with the direction, control or approval of a commercial legal entity. Whether or not the criminal act was committed according to the policies, plans, mobilization and methods of committing the criminal act of the head of the commercial legal entity is the most important condition to determine whether the legal entity is responsible or not criminally responsible or not. Therefore, this is the issue that needs to be proven most in the process of handling crimes.

Fourthly, the criminal act has not yet expired under the statute of limitations for criminal prosecution according to Clauses 2 and 3, Article 27 of the 2015 Penal Code<sup>2</sup>. This regulation raises issues related to the statute of limitations for criminal prosecution of commercial legal entities according to the provisions of the current Penal Code. In Clause 1, Article 27, it is stipulated: The statute of limitations for criminal prosecution is the time limit prescribed by the Penal Code after which time limit expires, the offender will not be prosecuted for criminal liability, so it is clear. The lawmakers who introduced the concept of the statute of limitations for criminal prosecution did not mention commercial legal entities, but in clauses 2 and 3, they mentioned the issue of statute of limitations for prosecuting criminal liability. With commercial legal entities, it is clear that there is no uniformity and even shortcomings in the provisions of criminal law. There are shortcomings that we must recognize in order to make additional amendments in the future.

In addition to considering whether the criminal act satisfies the four conditions mentioned above, Clause 2, Article 2 of the Penal Code also stipulates that "Only any commercial legal entity that commits a crime has been prescribed in Article 76 of this Code." must be held criminally responsible". Here, the law sets out the condition that, before considering the

<sup>1</sup> See Article 75 of Vietnam's Penal Code 2015 amended and supplemented in 2017.

<sup>2</sup> See clauses 2 and 3, Article 27 of Vietnam's Penal Code 2015 amended and supplemented in 2017.

conditions under which a legal entity is subject to criminal liability, the agencies conducting the proceedings must consider whether the specific crime committed by that legal entity falls within the scope of criminal liability whether the crimes subject to criminal liability are specified in Article 76 of the Penal Code or not.

### **3. THE ISSUE OF CRIMINAL LIABILITY OF COMMERCIAL LEGAL ENTITIES FOR CRIMES OF VIOLATING ECONOMIC MANAGEMENT ORDER IN THE FIELD OF COMMERCIAL PRODUCTION AND BUSINESS.**

Crimes of violating economic management order are socially dangerous acts, specified in Chapter XVIII of the 2015 Penal Code, committed by persons with criminal liability or commercial legal entities. Intentionally, violating the State's regulations in the State's economic order management activities<sup>1</sup>. The group of crimes that violate economic management order in the fields of production, business and commerce includes 12 articles of law ranging from Article 188 of smuggling to Article 199 of violation of regulations on electricity supply, of which Laws that require commercial legal entities to be criminally responsible are 9 out of 12 laws, including crimes ranging from Article 188 of smuggling to Article 196 of speculation. There are 3 articles in the group that do not stipulate the criminal liability of commercial legal entities, including: Article 197, Crime of False Advertising; Article 198: Crime of deceiving customers; Article 199: Crime of violating regulations on electricity supply. Below are the provisions on the criminal liability of commercial legal entities for crimes in the group of crimes related to production, business and trade.

#### Crime of smuggling (Article 188)

According to the provisions of Clause 6, Article 188, commercial legal entities will be criminally prosecuted for illegally trading across borders or from non-tariff zones into the inland or vice versa, goods, Vietnamese currency, foreign currencies, or metals. Precious stones and precious stones worth from 200 million VND to under 300 million VND; Goods worth less than 200 million VND but are relics or antiques; Goods, Vietnamese currency, foreign currency, precious metals, gemstones worth from 100 million VND to under 200 million VND but have been sanctioned for administrative violations for the acts specified in this Article or in one of the following articles: 189, 190, 191, 192, 193, 194, 195, 196 and 200 of this Code or have been convicted of one of these crimes, have not had your criminal record erased but are still violating it.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. A fine with the lowest level of not less than 300 million VND, the highest can be up to 15 billion VND or a penalty of suspension of operations for a period of 06 months to 03 years or a penalty of permanent suspension of operations. In addition, commercial legal entities may also be subject to an additional penalty of a fine from 50 million VND to 300 hundred VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

<sup>1</sup> See the People's Police Academy Criminal Law Syllabus 2019 section on crimes, volume 1, page 262.

### Crime of illegally transporting goods and currency across borders (Article 189)

According to the provisions of Clause 5, Article 189, a commercial legal entity will be criminally prosecuted for illegally transporting goods, Vietnamese currency, foreign currency, or metals across the border or from the non-tariff zone to the inland or vice versa. Precious stones and precious stones worth from 200 million VND to under 300 million VND; Goods worth less than 200 million VND but are relics or antiques; Goods, Vietnamese currency, foreign currency, precious metals, gemstones worth from 100 million VND to under 200 million VND but have been sanctioned for administrative violations for the acts specified in this Article or in one of the following articles: 188, 190, 191, 192, 193, 194, 195, 196 and 200 of this Code or have been convicted of one of these crimes, have not had your criminal record erased but are still violating it.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 200 million VND, the highest can be up to 05 billion VND or suspension of operations for a period of 06 months to 03 years or permanent suspension of operations.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 50 million VND to 200 hundred VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

### Crime of producing and trading prohibited goods (Article 190)

According to the provisions of Clause 5, Article 190, a commercial legal entity will be criminally prosecuted when it commits one of the following acts, if it does not fall into the cases specified in Articles 232, 234, 244, 246, 248, 251, 253, 254, 304, 305, 306, 309 and 311 of the Penal Code: (1) production and sale of plant protection drugs that the State prohibits from trading, circulating or using from 50 kilograms to less than 100 kilograms or from 50 liters to under 100 liters; (2) trading in smuggled cigarettes from 1,500 packs to less than 3,000 packs; (3) production and sale of firecrackers from 6 kilograms to under 40 kilograms; (4) producing or trading other goods that the State prohibits from trading, circulating, or using, worth from 100 million VND to under 300 million VND, or making illegal profits from 50 million VND to under 200 million VND; (5) producing and trading goods that have not been allowed to be circulated or used in Vietnam, worth from 200 million VND to under 500 million VND, or making illegal profits from 100 million VND to under 300 million VND; (6) produce and trade goods below the level specified in Points a, b, c, d and dd of this Clause but have been administratively sanctioned for one of the acts specified in this Article or at one of Articles 188, 189, 191, 192, 193, 194, 195, 196 and 200 of this Code or has been convicted of one of these crimes, has not had his criminal record erased but is still violating it.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 5, Article 190 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) pesticides that the State prohibits from trading, circulating, or using from 100 kilograms to under 300 kilograms or from 100 liters to under 300 liters; (4)



smuggled cigarettes from 3,000 packs to less than 4,500 packs; (5) firecrackers weighing from 40 kilograms to under 120 kilograms; (6) other goods that the State prohibits from trading, circulation, or use worth from 300 million VND to under 500 million VND or illegal profits from 200 million VND to under 500 million VND; (7) goods that have not been allowed to circulate or are not allowed to be used in Vietnam are worth from 500 million VND to under 1 billion VND or illegal profits from 300 million VND to under 700 million VND. In addition, if a legal entity conducts cross-border trading, except for goods that are smuggled cigarettes; Dangerous recidivism is also subject to the circumstances in Clause 2 of this Article.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 5, Article 190 if they fall into one of the following cases: (1) plant protection drugs that the State prohibits from trading, circulating, or using 300 kilogram or more or 300 liters or more; (2) smuggled cigarettes containing 4,500 packs or more; (3) firecrackers weighing 120 kilograms or more; (4) other goods that the State prohibits from trading, circulation, or use worth 500 million VND or more or illegal profits of 500 million VND or more; (5) goods that have not been allowed to circulate, have not been allowed to be used in Vietnam worth 01 billion VND or more or illegal profits of 700 million VND or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 1 billion VND, the highest can be up to 09 billion VND or suspension of operations for a period of 06 months to 03 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 50 million VND to 200 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

#### Crime of storing and transporting prohibited goods (Article 191)

According to the provisions of Clause 5, Article 191, a commercial legal entity will be criminally prosecuted when it commits one of the acts of storing or transporting prohibited goods in one of the following cases, if not in the cases specified in Articles 232, 234, 239, 244, 246, 249, 250, 253, 254, 304, 305, 306, 309 and 311 of the Penal Code: (1) plant protection drugs that the State prohibits from trading or circulation, prohibited from using from 50 kilograms to under 100 kilograms or from 50 liters to under 100 liters; (2) smuggled cigarettes from 1,500 packs to less than 3,000 packs; (3) firecrackers weighing from 6 kilograms to under 40 kilograms; (4) other goods that the State prohibits from trading, circulation, or use worth from 100 hundred million VND to under 300 hundred million VND or illegal profits from 50 million VND to under 200 hundred million VND; (5) goods that have not been allowed to be circulated or used in Vietnam are worth from 200 hundred million VND to under 500 hundred million VND or illegal profits from 100 hundred million VND to under 300 hundred million VND; (6) goods below the level



specified in Points a, b, c, d and dd of this Clause but have been administratively sanctioned for one of the acts specified in this Article or in one of Article 188 , 189, 190, 192, 193, 194, 195, 196 and 200 of this Code or have been convicted of one of these crimes, have not had your criminal record erased but are still violating it.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 5, Article 191 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) pesticides that the State prohibits from trading, circulating, or using from 100 kilograms to under 300 kilograms or from 100 liters to under 300 liters; (4) smuggled cigarettes from 3,000 packs to less than 4,500 packs; (5) firecrackers weighing from 40 kilograms to under 120 kilograms; (6) other goods that the State prohibits from trading, circulation, or use worth from 300 million VND to under 500 million VND or illegal profits from 200 hundred million VND to under 500 million VND; (7) goods that have not been allowed to circulate or are not allowed to be used in Vietnam are worth from 500 hundred million VND to under 01 billion VND or illegal profits from 300 million VND to under 700 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 5, Article 191 if they fall into one of the following cases: (1) plant protection drugs that the State prohibits from trading, circulating, or using 300 kilogram or more or 300 liters or more; (2) smuggled cigarettes containing 4,500 packs or more; (3) firecrackers weighing 120 kilograms or more; (4) other goods that the State prohibits from trading, circulation, or use worth 500 hundred million VND or more or illegal profits of 500 hundred million VND or more; (5) goods that have not been allowed to circulate, have not been allowed to be used in Vietnam worth 01 billion VND or more or illegal profits of 700 million VND or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 300 million VND, the highest can be up to 05 billion VND; Suspension of operations for a period of 6 months to 3 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 50 million VND to 200 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

#### Crime of producing and trading counterfeit goods (Article 192)

According to the provisions of Clause 5, Article 192, a commercial legal entity will be criminally prosecuted when it commits one of the acts of producing or trading counterfeit goods in one of the following cases, if not in the case specified in Clause 1 of this Article. Articles 193, 194 and 195 of this Code (1) counterfeit goods equivalent to the quantity of genuine goods or goods with the same technical features and uses worth from 30 million VND to under 150 million VND or under 30 million VND million VND but has been administratively

sanctioned for one of the acts specified in this Article or in one of Articles 188, 189, 190, 191, 193, 194, 195, 196 and 200 of this Code or has been convicted of one of these crimes, has not had his criminal record erased but is still violating it; (2) Causing injury or harm to the health of others with a bodily injury rate of between 31% and 60%; (3) Illegal profits from 50 million VND to less than 100 million VND; (4) Causing property damage from 01 billion VND to less than 500 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 5, Article 192 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) counterfeit goods equivalent to the quantity of genuine goods or goods with the same technical features and uses worth from 150 million VND to under 500 million VND; (4) illegal profits from 100 million VND to less than 500 million VND; (5) causing death; (6) causing injury or harm to the health of others with a bodily injury rate of 61% or more; (7) causing injury or harm to the health of 02 or more people with the total bodily injury rate of these people ranging from 61% to 121%; (8) causing property damage from 500 million VND to less than 1.5 billion VND. In addition, if the legal entity performs cross-border transportation; Dangerous recidivism is also subject to the circumstances in Clause 2 of this Article.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 5, Article 192 if they fall into one of the following cases: (1) counterfeit goods are equivalent to the quantity of genuine goods or goods have the same technical features, Uses worth VND 500 million or more; (2) illegal profits of 500 million VND or more; (3) causing death of 2 or more people; (4) causing injury or harm to the health of 02 or more people with a total bodily injury rate of 122% or more; (5) causing property damage of 1.5 billion VND or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 01 billion VND, the highest can be up to 09 billion VND or suspension of operations for a period of 06 months to 03 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 50 million VND to 200 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

Crime of producing and trading counterfeit food, foodstuffs, and food additives (Article 193)

According to the provisions of Clause 6, Article 193, a commercial legal entity will be criminally prosecuted when it commits one of the acts of producing or trading counterfeit goods, such as food, foodstuffs, or food additives, without any basis, value, quantity or specific damage of the counterfeit goods. Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 6, Article 193 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) dangerous recidivism; (4) cross-border trade; (5) counterfeit goods equivalent to the quantity of genuine goods or goods

with the same technical features and uses worth from 150 million VND to under 500 million VND; (6) illegal profits from 100 million VND to less than 500 million VND; (7) causing injury or harm to the health of others with a bodily injury rate of between 31% and 60%; (8) causing property damage from 100 million VND to less than 500 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 6, Article 193 if they fall into one of the following cases: (1) counterfeit goods are equivalent to the quantity of genuine goods or goods have the same technical features, Uses worth VND 500 million or more; (2) illegal profits from 500 million VND to less than 1.5 billion VND; (3) causing property damage from 500 million VND to less than 1.5 billion VND; (4) causing death; (5) causing injury or harm to the health of others with a bodily injury rate of 61% or more; (6) causing injury or harm to the health of 02 or more people with the total bodily injury rate of these people ranging from 61% to 121%.

A legal entity may be subject to the aggravating criminal liability framework at Point d, Clause 6, Article 193 if it falls into one of the following cases: (1) illegally profits 1.5 billion VND or more; (2) causing property damage of VND 1.5 billion or more; (3) causing death of 2 or more people; (4) causing injury or harm to the health of 02 or more people with a total bodily injury rate of 122% or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 1 billion VND, the highest can be up to 18 billion VND or suspension of operations for a period of 06 months to 03 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 100 million VND to 300 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

Crime of producing and trading counterfeit medicinal and preventive medicines (Article 194)

According to the provisions of Clause 6, Article 194, commercial legal entities will be criminally prosecuted when they produce or trade in counterfeit medicines or preventive medicines without basing on the value, quantity or quality of goods. Specific damages of counterfeit goods.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 6, Article 194 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) dangerous recidivism; (4) Cross-border trade; (5) counterfeit goods equivalent to the quantity of genuine goods or goods with the same technical features and uses worth from 150 million VND to under 500 million VND; (6) illegal profits from 100 million VND to less than 500 million VND; (7) causing injury or harm to the health of others with a bodily injury rate of between 31% and 60%; (8) causing property damage from 100 million VND to less than 500 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 6, Article 194 if they fall into one of the following cases: (1) counterfeit goods are equivalent to the quantity of genuine goods or goods have the same technical features, Uses worth VND 500 million or more; (2) illegal profits from 500 million VND to less than 02 billion VND; (3) causing death; (4) causing injury or harm to the health of others with a bodily injury rate of 61% or more; (5) causing injury or harm to the health of 02 or more people with the total bodily injury rate of these people ranging from 61% to 121%; (6) causing property damage from 500 million VND to less than 1.5 billion VND.

A legal entity may be subject to the aggravating criminal liability framework at Point d, Clause 6, Article 194 if it falls into one of the following cases: (1) illegally profits 02 billion VND or more; (2) causing death of 2 or more people; (3) causing injury or damage to the health of 2 or more people with a total bodily injury rate of 122% or more; (4) causing property damage of 1.5 billion VND or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 1 billion VND, the highest can be up to 20 billion VND or suspension of operations for a period of 01 year to 03 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine from 100 million VND to 300 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

Crime of producing and trading counterfeit goods such as animal feed, fertilizer, veterinary drugs, plant protection drugs, plant varieties, and animal breeds (Article 195)

According to the provisions of Clause 6, Article 195, commercial legal entities will be criminally prosecuted for producing and trading counterfeit goods such as animal feed, fertilizers, veterinary drugs, and plant protection drugs. , plant varieties, animal breeds fall into one of the following cases (1) counterfeit goods equivalent to the quantity of real goods or goods with the same technical features and uses worth from 30 million VND to less than 150 million VND or less than 30 million VND but has been administratively sanctioned for one of the acts specified in this Article or in one of Articles 188, 189, 190, 191, 192, 193, 194, 196 and 200 of the Ministry this law or have been convicted of one of these crimes, have not had your criminal record erased but are still violating it; (2) causing property damage from 100 million VND to less than 500 million VND; (3) illegal profits from 50 million VND to less than 100 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 6, Article 195 if they fall into one of the following cases: (1) commit an organized crime; (2) is professional in nature; (3) dangerous recidivism; (4) cross-border trade; (5) counterfeit goods equivalent to the quantity of genuine goods or goods with the same technical features and uses worth from 150 million VND to under 500 million VND; (6) causing property damage



from 500 million VND to less than 1.5 billion VND; (7) illegal profits from 100 million VND to less than 500 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 6, Article 195 if they fall into one of the following cases: (1) counterfeit goods are equivalent to the quantity of genuine goods or goods have the same technical features, Uses worth VND 500 million or more; (2) causing property damage from 1.5 billion VND to less than 3 billion VND; (3) illegal profits from 500 million VND to less than 02 billion VND.

Legal entities may be subject to the aggravating criminal liability framework at Point d, Clause 4, Article 195 if they fall into one of the following cases: (1) causing property damage of 03 billion VND or more; (2) illegal profits of 02 billion VND or more.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fine with the lowest level not less than 1 billion VND, the highest can be up to 15 billion VND or suspension of operations for a period of 06 months to 03 years. For commercial legal entities that commit crimes in the cases specified in Clause 2, Article 79 of the Penal Code, their operations will be permanently suspended.

In addition, commercial legal entities may also be subject to an additional penalty of a fine ranging from 100 million VND to 300 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

#### Crime of speculation (Article 196)

According to the provisions of Clause 5, Article 196, commercial legal entities will be criminally prosecuted when they take advantage of scarcity situations or create artificial scarcity in situations of natural disasters, epidemics, war or emergency situations. In the case of economic difficulties, buying goods on the list of price-stabilized goods or on the list of goods whose prices are determined by the State to resell for illegal profit falls into one of the following cases: (1) high-value goods, from 500 million VND to under 1.5 billion VND; (2) illegal profits from 100 million VND to less than 500 million VND.

Legal entities may be subject to the aggravating criminal liability framework at Point b, Clause 5, Article 196 if they fall into one of the following cases: (1) commit an organized crime; (2) goods worth from 1.5 billion VND to under 3 billion VND; (3) illegal profits from 500 million VND to less than 1 billion VND; (4) causing adverse effects on security, order and social safety. Legal entities may be subject to the aggravating criminal liability framework at Point c, Clause 5, Article 196 if they fall into one of the following cases: (1) goods worth VND 3 billion or more; (2) illegal profits of 01 billion VND or more; (3) dangerous recidivism.

Regarding penalties: based on the nature and level of danger of the crime and taking into account the financial situation of the commercial legal entity committing the crime, the main penalty for the legal entity in this crime can be applied as penalty. Fines with the lowest level not less than 300 million VND, the highest can be up to 09 billion VND. In addition, commercial legal entities may also be subject to an additional penalty of a fine from 100

million VND to 300 million VND (if the main penalty is not a fine); Prohibited from doing business, banned from operating in certain fields or banned from raising capital from 01 year to 03 years.

#### **4. SOME SUGGESTED ISSUES REGARDING THE CRIMINAL LIABILITY OF LEGAL ENTITIES IN VIETNAM IN THE COMING TIME:**

The National Assembly's first regulation of criminal liability for commercial legal entities in the current Penal Code is completely consistent with the world's general trend in the fight against crimes committed and committed by organizations. Practiced in Vietnam, the regulation of criminal liability of commercial legal entities has contributed to creating a fair playing field and bringing business organizations to operate within the framework of the law, contributing to ensuring fairness. Practiced in Vietnam, the regulation of criminal liability of commercial legal entities has contributed to creating a fair playing field and bringing business organizations to operate within the framework of the law, contributing to ensuring fairness. The fight against crime contributes to the economic, political and social stability of the country. However, due to the initial introduction of regulations on commercial legal entities in the Penal Code, practical experience in fighting crimes committed by commercial legal entities is not yet available, so the provisions of criminal law still exist certain limitations. Therefore, the author proposes some suggestions to improve the provisions of the current criminal law on commercial legal entities committing crimes in the future as follows.

Firstly, it is necessary to redefine the connotation of the issue of criminal liability for commercial legal entities committing crimes, it is necessary to clearly determine whether the commercial legal entity is the subject of crime or the subject of criminal liability. If the subject is a criminal like an individual, it is necessary to clarify whether all the conditions of the criminal subject are like an individual. According to the author, determining in this direction will be very difficult, because the law itself A commercial individual is an organization so it will have different characteristics from an individual. Therefore, in the author's opinion, commercial legal entities should only be considered as the subject of criminal liability, so that the issue of criminal liability of commercial legal entities can be resolved more clearly and conditions will soon be fulfilled regulations related to the criminal liability of commercial legal entities committing crimes<sup>1</sup>.

Secondly, determining the crimes for which commercial legal entities are subject to criminal liability in the Penal Code demonstrates the prudence of lawmakers in our country, based on the assessment of the nature, level of danger and prevalence of such acts. Violations occur in practice in order to handle criminal acts appropriately. These are crimes that the practice of crime prevention in recent times has become very complicated with the nature and level of danger of the crime and the damage to society and the people caused by legal entities. out is huge. At the same time, in accordance with international treaties to which Vietnam is a member such as: United Nations Convention against Transnational Organized Crime (TOC), Anti-Corruption Convention (UNCAC), Decree letter on preventing and combating human trafficking, and international treaties on anti-terrorism and anti-terrorist financing... However,

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<sup>1</sup> Refer to more documents: Basic issues in criminal law science Prof. Dr. Le Cam 2019 Hanoi National University Publishing House.



practice shows that crimes occur in the fields of corruption, money laundering, and trafficking. Human trafficking, terrorism, terrorist financing, etc. are currently regulated as crimes, but the Penal Code only regulates the issue of criminal liability for individuals, even in the group of crimes that violate the economic management order in the country. In the fields of production, business, and commerce, crimes such as false advertising; For the crime of deceiving customers or violating regulations on electricity supply, organizations and businesses can completely commit illegal acts, but the current criminal law has not yet stipulated responsibility criminal charges against legal entities in these crimes. Meanwhile, legal entities or organizations also carry out these acts, even with a larger scale and severity, but are not criminally sanctioned, causing criminals to escape. Therefore, regarding the issue of criminal liability for legal entities, the author believes that it is necessary to improve the provisions of the Penal Code on the following specific issues:

- It is necessary to expand the scope of organizations that can be criminally responsible for public legal entities and non-commercial legal entities as well as other organizations, instead of only regulating criminal liability for commercial legal entities as currently.

- It is necessary to expand the scope of crimes for which organizations can be criminally responsible, because if the criminal acts of organizations or legal entities, although dangerous to different degrees, are not considered crimes, fully committed and not handled with the most severe penalties, the state will have difficulty controlling crimes committed by organizations, which are serious in nature and more difficult to detect than crimes committed by organizations performed by individuals.

- There should be additional provisions in the regulations on accomplices for criminal acts involving accomplice elements of legal entities in general and commercial legal entities in particular, to thoroughly handle criminal acts of legal entities and avoid let criminals go.

Thirdly, Vietnam's Criminal Law only requires legal entities associated with commercial activities, whose main goal is to seek profit, to be the subject of crime. This is not consistent with the practice of commercial legal entities committing crimes in Vietnam and the need to fight crime. The author believes that not only commercial legal entities but also other legal entities and organizations can be subjects of crime. Because, organizations under Vietnamese law are currently very broad, including: State agencies, people's armed units, public service units, political organizations, socio-political organizations, political, socio-professional organizations, social organizations; Economic organizations include: all types of businesses (companies and private enterprises), cooperatives, households, cooperative groups, social funds, and charity funds. Besides, other organizations such as private enterprises (without legal status) can still commit crimes such as tax evasion and not paying insurance for employees. In addition, in reality the scope of responsibility of legal entities is also wider than the provisions of the Penal Code. Because legal entities include commercial legal entities and public legal entities. In particular, public legal entities can also commit criminal acts, because they not only exercise state power but also participate in other fields, so they can still be subject to criminal liability.

Fourthly, clause 2, Article 75 of the Penal Code stipulates. The fact that a commercial legal entity is criminally responsible does not exclude the criminal liability of an individual. This

regulation shows that in addition to members of legal entities, organizations and businesses must bear general criminal liability due to the criminal acts of that commercial legal entity, with the main penalties that can be applied as follows: : fine, temporary suspension of operations, permanent suspension of operations or a system of additional penalties applied such as fines, ban on business, ban on operations in certain fields, ban on raising capital. In addition, members of commercial legal entities and enterprises may also be subject to personal criminal liability, so individual penalties can be applied to members of this commercial legal entity. However, currently there are no specific regulations on how much personal penalty is applied, what penalties are applied, what penalty levels are, and who will be subject to personal penalties when the legal entity commercial activities involving criminal acts... These issues need to continue to be researched and guidance documents are needed in the process of applying the current Penal Code in practice or recommendations for amendments and supplements are needed. The Penal Code is appropriate in its practical application.

In conclusion, all above are some suggested issues and suggestions of the author to contribute to perfecting the provisions of Vietnam's Criminal Law related to the first regulation of the issue of criminal prosecution for criminal liability. Commercial criminals commit crimes in the next amendment and supplement to the Penal Code.

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# APPLYING PUBLIC ACCOUNTING STANDARDS IN ACCOUNTING FOR PUBLIC - PRIVATE PARTNERSHIP ACTIVITIES IN PUBLIC HOSPITALS IN VIETNAM

Dr. Hy Thi Hai Yen, Dr. Ngo Thi Thuy Quyen<sup>1</sup>

**Abstract:** Vietnam's health sector has the orientation of developing and expanding PPP, but the implementation of PPP projects in the health sector is currently exploratory in nature, project by project, without clear goals or strategies. clear; In the process of cooperation, public assets (land, resources, etc.) appear, making it difficult to determine the contribution of the public sector; The PPP appraisal process is long, many projects are raised, put down, and are ineffective. Many projects are called PPP but are essentially socialized and vice versa such as joint ventures, commercial capital mobilization, service outsourcing, etc. Along with that, PPP projects have been implemented. Currently, accounting information provided for PPP activities at hospitals is not complete, timely, transparent, and especially does not reflect the true nature of PPP in healthcare. This stems from the fact that in Vietnam currently, Circular 107/2017/TT-BTC only provides accounting guidance for joint venture and association activities, but does not have specific accounting guidance for joint venture activities. Public-private cooperation in public service units. Therefore, the accounting work for this activity in many hospitals is really difficult. Understanding and evaluating the limitations in reality, the article aims to provide some recommendations for applying public accounting standards to improve the accounting of public-private partnership activities in public hospitals in Vietnam.

**Keywords:** PPP, healthcare, public hospitals, public accounting standards, accounting for public-private partnership activities

## 1. CURRENT STATUS OF PUBLIC-PRIVATE PARTNERSHIP ACTIVITIES IN PUBLIC HOSPITALS IN VIETNAM

The implementation of public-private partnerships has changed the perception of many units, not relying on the state budget but proactively mobilizing non-budget sources to invest in facilities and equipment. equipment to develop techniques, improve the quality of diagnosis and treatment, gradually meet the increasingly diverse medical examination and treatment needs of people of all walks of life, especially those who can afford to pay. prevent sick people from going abroad.

However, PPP projects in Vietnam still encounter many limitations and problems. Currently, the biggest limitation in the process of implementing PPP projects in healthcare is the lack of clear goals and strategies. clear for infrastructure development and health services through PPP.

### 1.1. List of PPP projects

Many projects do not define screening criteria for medical PPP projects. Many projects are called PPP but are essentially socialized and vice versa. Furthermore, most projects focus more on infrastructure than services.

### 1.2. Prepare, appraise and approve PPP projects

*Firstly*, there are no resources (human, financial) from the public sector to prepare pre-feasibility and feasibility study reports, leading to most of the submitted projects being proposed by investors themselves.

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*Second*, it is difficult to determine the contribution of the public sector (land, brand, human resources). Lack of effective coordination between state agencies in the appraisal process of healthcare PPP projects leads to long project delays.

*Third*, only a few projects have prepared pre-feasibility or feasibility study reports.

*Fourth*, Many health care PPP projects are proposed and approved in the BT form.

**1.3. Investor selection:** Competitive bidding is not common or if there is bidding, there are very few investors participating

**1.4. Deployment:** Many problems related to medical staff, service prices and health insurance, drugs, etc.

## **2. CURRENT STATUS OF ACCOUNTING FOR PUBLIC-PRIVATE PARTNERSHIP ACTIVITIES AT PUBLIC HOSPITALS IN VIETNAM**

In Vietnam, there are currently no specific regulations on accounting for public-private partnership activities at public hospitals. Therefore, public-private partnership accounting at these hospitals still must do accounting according to Circular 107/2017/TT-BTC guiding the administrative and public accounting regime dated October 10, 2017. However, this circular does not have an account to accurately account for the revenues, expenditures and cooperative revenues of the two hospitals, so it must be accounted for as if it were a joint venture or partnership. In essence, these two activities are different but accounted for the same, leading to confusion and discrepancies. Therefore, in this analysis, the authors provide analysis of the accounting content of this activity according to Circular 107/2017/TT-BTC. Accordingly, the author finds some of the following limitations:

Accounting for public-private cooperation activities at hospitals is currently recording the “tip of the iceberg”, meaning that only relatively clear information has been recorded. However, there is still a lot of information that has not been recorded and monitored, leading to not receiving benefits commensurate with the costs that the hospitals themselves have to spend, as well as many risks arising. potential opportunities during the implementation of the PPP project. Specifically:

For most public hospitals when implementing PPP projects, the responsibilities of these hospitals are mainly related to human resources and branding. In addition, there are some specific PPP projects implemented on hospital land, the responsibilities of hospitals have additional content related to site layout for PPP projects.

When focusing on in-depth research on branding and human resources factors, the authors found that this is the fundamental factor that determines the development and operational efficiency of the hospital. The explanation for this is why public hospitals still lack facilities and machinery that is not as modern as private hospitals that have invested heavily in medical equipment, but all of them suffer from overuse. load? The main reason is unique to the medical field, which is that public hospitals always focus and gather a team of doctors and nurses with high capacity and professional qualifications. And this is what makes the “brand” of a public hospital.

When participating in public-private cooperation with the private sector, for example in the case of public hospital A, the hospital’s responsibility is: transferring patients and medical

staff to private hospital B - the cooperative party. Public-private partnerships with hospitals to conduct treatment. At this time, the hospital fee price is according to the agreement and agreement between the two hospitals. The hospital is entitled to a percentage of cooperation revenue, in which the revenue included in cooperation revenue only includes surgical fees, procedure fees, and medical examination fees (performed and examined by doctors of Hospital A). The remaining medical examination and treatment costs related to medicine, blood, chemicals, supplies, beds, technical services, etc. are collected by private hospital B according to that hospital's fee and stay. in addition to this cooperative revenue. This shows that, if the total cost of medical examination and treatment for the patient is 10,000,000 VND, of which surgery and medical examination is only 3,000,000 VND, assuming the percentage of revenue earned is 30% - 70%, public hospital A will only receive 2,100,000 VND out of the total 10,000,000 VND the patient must pay.

Through analysis of economic transactions related to the PPP project recorded by public hospital A, it can be seen that accountants also ignore the following contents:

*Firstly*, the figure of 30% spent on capacity, reputation, patient resources and human resources of the hospital in 70% of shared hospital cooperation revenue has not been reflected in detailed information. By:

- Accountants have not yet determined the brand value of the unit when participating in public-private cooperation to reliably determine the project's revenue sharing ratio.
- Public hospital A will transfer requested patients to private hospital B after a diagnosis and treatment indication have not been recorded. If this content is not recorded and tracked, there will be a loss of cooperative revenue. In addition, only paying the doctors and nurses directly sent for treatment at private hospital B, without taking into account the departments in charge of "diagnosing and prescribing treatment at public hospital A". It will also create a disproportionate distribution.

*Second*, in the shared cooperative revenue, including 40% of surgical fees, procedures, and medical examinations. Meanwhile, public hospital A is responsible for investing in highly qualified human resources to coordinate with private hospital B in examining and treating oncological diseases. Therefore, the salary paid to doctors and nurses assigned to private hospital B calculated on the basis of the current salary scale and additional travel allowances is not adequate. However, one problem is that if the hospital pays a higher rate than the payment for surgery and procedures at public hospital A, there will be a phenomenon where every doctor wants to go to the hospital. private B to work. Therefore, accountants need to participate in the consulting process to harmonize the general interests of the hospital, the interests of individual medical staff and doctors with a reflection of the costs that the hospital actually spends in this project.

*Third*, currently, the hospital only records direct costs related to the salaries and travel allowances of medical staff, and has not recorded management costs.

*Fourth*, the risks and responsibilities of both parties have not been determined if a medical accident arises in the case of a patient being treated at private hospital B and the recognition of this damage in the accounting of legal operations. public-private work.

### 3. SOME PROPOSALS AND RECOMMENDATIONS FOR APPLYING PUBLIC ACCOUNTING STANDARDS ON SERVICE FRANCHISING IN ACCOUNTING FOR PUBLIC-PRIVATE PARTNERSHIP ACTIVITIES

With the orientations to develop and expand public-private cooperation activities in the health sector in Vietnam, it can be seen that there will be more and more PPP models in health care with diversity in scale, form and quality. Cooperation method between public hospitals and private investors. Along with that, under the pressure of international accounting integration, public sector accounting in general and accounting for administrative and public service units in Vietnam in the coming time will need to be improved and supplemented gradually. international access.

\* Regarding recording franchise assets when the conditions are met:

(a) The State/Public Entity has the right to control or regulate what services the private sector must provide with assets, which they must provide and at what price;

(b) The State/Public Entity controls ownership through ownership, beneficial interest or otherwise any substantial remaining interest in the asset at the end of the term of the agreement.

\* Regarding recording liabilities:

In exchange for service concession assets, the state/public entity can compensate the private sector for service concession assets with:

(a) Make payments to the private sector (online fiscal responsibility model);

(b) Compensate operators by other means (private sector model authorization).

\* Record costs:

- The state/public entity will allocate payments to the private sector and account as a reduction in liability recorded as a financial charge and expenses for services provided by the sector. provided by the private sector.

- Financial costs and costs for services provided by the private sector in a service concession agreement are identified as costs.

\* Regarding revenue recognition: The state/public entity will account for revenues from service concessions, in addition to those specified, according to public accounting standards on Revenue from Exchange Transactions.

### 4. PROPOSING WAYS TO ACCOUNT FOR PUBLIC-PRIVATE PARTNERSHIP ACTIVITIES IN SOME PPP MODELS AT PUBLIC HOSPITALS IN VIETNAM

#### 4.1. PPP accounting in the machine leasing and machine borrowing model

Responsibilities of public hospitals	Economic content needs to be reflected	Accounting method
The hospital is responsible for operations, consumables and RO water	<ul style="list-style-type: none"> <li>- Management costs during operation</li> <li>- Cost of consumables and RO water</li> <li>- Labor costs involved in the dialysis process</li> </ul>	<ul style="list-style-type: none"> <li>- Debit Indirect Expenses Account/ Credit related account</li> <li>- Debit Direct Expenses Account/Credit Consumable Materials Warehouse Account</li> <li>- Debit Direct Expenses Account/ Credit Account payable to employees</li> </ul>



For assets handed over to the hospital. Periodically, the hospital will pay investors for each dialysis case (115,500 VND/case) and at the end of the project, the supplier will transfer the assets. After 3,500 cases for the hospital, this is essentially considered a financial asset lease contract.	- At the time of project initiation: Record financial leased fixed assets	- Debit Financial lease assets account/ Credit principal debt account payable on financial lease
	- Periodically make payments to investors for each dialysis case	- Debt to financial expense account Principal debt must be paid for financial lease Have a money account
	- When calculating depreciation costs of fixed assets	Debit Fixed assets inventory account/ Credit fixed assets depreciation account
	- When receiving transfer of fixed assets after 3,500 shifts	Debit Tangible fixed assets account Credit Finance lease assets account
Revenue from dialysis activities	Total revenue from providing dialysis services	Debt money account Have PPP revenue account

#### 4.2. PPP accounting in the Specialized Services model

Responsibility of public hospital	Economic content needs to be reflected	Accounting method
The hospital is responsible for sharing land and human resources  In this case, the hospital transferred the land area and franchise to the investor	- Record receivables corresponding to the brand value	Debt Account Receivable of investors There is an account of unrealized franchise revenue
	- Record receivables corresponding to the value of land use rights at the time of project implementation	Debt Account Receivable of Investors There is an unearned revenue account
	- Record the investor's receivable debt corresponding to the salary costs that the hospital must pay for employees working for PPP	Debt Account Receivable of investors Have accounts payable to employees
At the end of the PPP project	The investor transfers back all invested assets	- Debit fixed assets account/Credit receivable account of investors  - Debit Unrealized Franchise Revenue Account/ Credit Franchise Revenue Account

#### 4.3. PPP accounting in the High-Quality Zone model in public hospitals

Responsibility of public hospital	Economic content needs to be reflected	Accounting method
Public hospitals are responsible for sharing the brand, land, patients and staff.  Similar to the case of specialized services, but the hospital has additional revenue from transferring patients to high-quality wards.  At the end of the PPP project	- Record receivables corresponding to the brand value	Debt Account Receivable of investors There is an account of unrealized franchise revenue
	- Record receivables corresponding to the value of land use rights at the time of project implementation	Debt Account Receivable of Investors There is an unearned revenue account
	- Record the investor's receivable debt corresponding to the salary costs that the hospital must pay for employees working for PPP	Debt Account Receivable of investors Have accounts payable to employees

	- Record the investor's receivable debt corresponding to the periodic revenue calculated based on the number of patients transferred to high-quality wards for treatment.	Debt accounts receivable of investors Have a revenue account for production and business activities
	The investor transfers back all invested assets	- Debit fixed assets account/Credit receivable account of investors  - Debit Unrealized Franchise Revenue Account/ Credit Franchise Revenue Account

## CONCLUDE

Public-private cooperation in the health sector has been and will be developed and replicated in Vietnam in the near future. This is a solution to improve the quality of medical services as well as reduce overload in current public hospitals. With the diversity in scale, form and implementation method of PPP projects, accounting information reflecting the content of these activities plays an extremely important role for administrators and related entities. Through research and analysis of the current status of implementation of PPP projects in the health sector and accounting for these activities in Vietnam today, the article offers some accounting proposals in public-private partnership activities in some areas. A number of models have been and will be implemented in Vietnam based on the completion of the legal framework on PPP as well as changes in the units themselves.

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# THE DIGITAL TRANSFORMATION AT VIETNAM COMMERCIAL BANKS – THE NECESSARY ROAD TO DEVELOP AND SUSTAINABLE BUSINESS

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*Abstract: Commercial banks gradually form modern technology platforms and aim to perfect digital banking by 2030, which is one of the important strategies of the State Bank of Vietnam [1]. Banks have achieved many successes in the process of digital transformation towards digital banking. However, there are still many obstacles and difficulties to overcome on the way to get there. The article analyzes and evaluates the opportunities that digital transformation brings to Vietnamese commercial banks, and points out some challenges when applying digital technology in banking activities, thereby giving some solutions to help perfect digital banking in the future.*

*Keywords: Digital banking, Digital transformation*

## 1. INTRODUCTION

Digital banking is a banking model that operates based on technology processes to provide all services to customers through digital devices connected to the Internet, mobile telecommunications networks, or self-service branches [6]. In the past time, there have been views, identifying the nature of digital banking with e-banking services. However, these are two different concepts. E-banking (including internet banking, SMS Banking, and mobile banking services) is a channel for providing services to customers based on the bank's existing business processes. Besides, a digital bank is a bank that operates on the basis of the digitization of banking activities: From digitizing traditional distribution channels and developing modern distribution channels to automating business processes, application of big data analysis for decision-making processes, and creation of digital products, application of innovative products. Thus, digital banking is more comprehensive, and modern than electronic banking.

In recent years, the world has witnessed the rapid expansion and development of digital banking. But it was not until the Covid-19 pandemic broke out in early 2020, the demand and need for digital technology solutions for banks were clearly portrayed. "The pandemic has proven that digital banking is essential for consumers of all ages to confidently manage their finances," said Allison Beer, chief technology officer at JPMorgan Chase [4]. Digital transformation for commercial banks is no longer an option, but a mandatory requirement, an inevitable path, and a strategic direction.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES:

Some research projects about The digital transformation at Vietnam Commercial Banks:

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### **3. METHODOLOGY AND PROPOSED MODEL**

Researcher used qualitative analysis method to achieve the research purpose. In particular, some specific methods are mentioned as follow:

- Methods of Explaining and Synthesizing theory
- Methods of Analysis, synthesis and comparison

### **4. RESEARCH RESULTS**

#### **4.1. Current status of Digital transformation at Vietnamese Commercial banks**

##### ***4.1.1 Digital transformation brings many opportunities for commercial banks and facilitates the completion of digital banking***

In the context that Vietnam is integrating deeply into the world economy, the outstanding technological achievements of the digital transformation process bring opportunities for commercial banks.

(i) Digital transformation makes new business models and the banking and financial services fields appear, helping to save costs.

The development of information technology and technical infrastructure, technology - the internet and the spread of digital products and services around the world are the official factors driving the rapid change in many fields. New technology eliminates financial intermediaries, helps financial transactions be done faster, lower costs, and increases accessibility to customers through financial services that can be performed 24/7.

Technological advances will promote the formation of new financial service products in the banking industry such as M-POS, e-wallet, chip card technology, Mobile Banking, and Internet Banking... The introduction of these new financial services products will facilitate the use of modern banking services and contribute to saving transaction costs for people.

(ii), Digital transformation opens up opportunities for commercial banks to approach and serve a large number of customers, especially customers in remote areas.

When the Covid-19 pandemic occurs, the application of information technology and digital transformation is a significant solution to limit direct contact between bank employees and customers, while preventing the epidemic and developing. Socioeconomic. Vietnam currently has about 30 million people using the payment system via banks. The growth rate of transactions on mobile banking in Vietnam is 20 percent.

According to statistics of the State Bank of Vietnam, by 2021, the whole country reached 105.6 million individual accounts, up 35.5% over the same period in 2020; total circulation of cards reached 111 million cards; ATM/POS network covers the whole country with 19,639 ATMs and 276,273 POS, the number and value of payment via internet channel reached 279.4

million transactions with 21.4 million billion VND, via mobile phone, the channel reached 696, 3 million transactions with nearly 7.8 million billion VND, payment via POS reached more than 232 million items with 395.86 trillion VND and via ATM reached 660 million items with 1,818.58 trillion VND [3].

(iii) Digital transformation enhances efficiency and security

Blockchain technology records transactions transparently and securely, allowing people around the world to instantly send money anywhere at a low cost, these transactions are cryptographically protected which reduces the significant risk of being attacked. In the past time, to transform into a digital platform business model, Vietnamese commercial banks have applied many advanced technologies in banking and finance activities, such as artificial intelligence (AI), biometric authentication (fingerprint, face), virtual assistant (Chatbot), etc successfully cooperated with a Fintech company to apply new and modern technology to payment activities on mobile devices. Digital transformation in commercial banks has achieved remarkable results in payments, thanks to increased security when applying technology 4.0.

**4.1.2. Challenges from digital transformation to commercial banks**

It can be seen that digital transformation is an opportunity for countries to break through and rise strongly, but it can also be a risk for countries to fall behind if they do not join the game. Therefore, along with new opportunities, digital transformation also brings significant challenges for commercial banks.

(i) Pressure on human resources to participate in digital transformation

For digital transformation, commercial banks need qualified human resources to operate and develop digital products and services on modern technology platforms. Vietnamese commercial banks are currently facing the problem of a shortage of human resources in building and developing digital banks. This is a problem for training institutions and commercial banks in Vietnam when they have not kept up with the speed of technology development.

According to the bank's leaders, up to now, the number of employees with sufficient knowledge, vision, and skills to realize the digital transformation of the banking industry in Vietnam is limited.

ii. Increased security risks and Cybercrime

In the context of digital transformation with the explosion of technology, such as Big Data, Cloud Services, artificial intelligence, and connection of things through the internet... banks are facing many risks and dangers threat of information insecurity. The increasingly sophisticated development of digital technology has led to an increase in security holes, creating conditions for high-tech criminals and hackers to operate. Therefore, in addition to many benefits for customers, digital banking development is facing the security of personal information, when the banking industry is always the number one target of technology criminals. When the majority of bank users install applications (apps) to transact on their phones, it is also the time when commercial banks continuously issue warnings about scams.

Entities participating in digital banking (banks, customers, and associated partners of the bank) can become a gateway for cybercriminals to attack. The problem lies in the fact that

banks have focused on safety. When it comes to network security, the other party does not attach great importance to this issue, and in many cases, it lacks the capacity and infrastructure for information security. Many customers use the service improperly, being tricked into fake banking pages. This poses not only to the bank but also to the customers themselves, who must equip themselves with digital technology knowledge to avoid risks.

(iii). Challenge of costs when implementing, towards digital banking

Digital transformation has brought technology and many advantages; however, the cost of digital technology investment is high which requires commercial banks to have financial potential. The reason is because technology always appears new factors that require participating commercial banks to invest and update regularly. Statistics from market research company Market Research Future show that in 2018, the investment for global digital transformation reached 205.65 billion USD. It is estimated that by 2025, this number will reach about USD 817.05 billion with an average annual growth rate of investment reaching 18.87% [5].

To apply digital banking, the issue of investment costs is an obstacle for Vietnamese commercial banks, the costs to invest in research and development of artificial intelligence (AI) are quite high, and the cost of Switching banks or investing in new technology systems is very expensive, with a long payback period. Besides, the technology applied in digital banking often has a fast development speed and is easily replaced by new technology. Therefore, the cost of technology does not stop at the initial level but also has to regularly improve, maintain, upgrade the system, and replace technology to meet competition, which puts pressure on banks' commerce.

#### **4.2. Solutions to help commercial banks perfect digital banking**

Firstly, the solution of human resources and existing human resources to have the plan to recruit and train human resources for digital transformation. Digital transformation is a long-term process, requiring banks to have qualified human resources, knowledge of information technology, network security, digital skills, business acumen, and society skills.

To meet the job requirements in digital transformation, Vietnamese commercial banks need to rely on the ability to meet the work of human resources. For positions that require personnel with deep expertise in information technology that the bank cannot meet in a short time, the bank must recruit from outside. The positions need to supplement existing personnel and organize training to improve their skills.

Secondly, the solution of data security

Currently, there are many types of data in the system, complex business logic, unsatisfactory human resources, and legal framework to support big data mining, ensuring safety and security data for customers. Therefore, commercial banks need solutions to secure information and protect customers. First, commercial banks need to strengthen the construction, administration, and establishment of a specialized data warehouse system (cloud computing). Organizing the apparatus, selecting and rationally arranging experts in information technology, data analysis, and management; promulgating policies, and processes for management and data mining.

Third, information technology solutions



With the requirements of managing the operation of the modern banking system according to regional standards, Vietnamese commercial banks still have to invest a lot and still have to do a lot of work in the field of technology:

- Focus on research and application of Industry 4.0 technology to gradually modernize, effectively support the transformation of organizational structure, improve management and administration capacity; increase the proportion of non-credit services, and improve competitiveness.

- Upgrade the new generation core banking system according to the design of a digital bank, with digitized processes, intelligent management, automation of handling, and risk control based on artificial intelligence technologies. generate, and analyze big data and automated robots.

- Strengthen cooperation with domestic and foreign corporations and information technology companies to share experiences, exchange information, transfer technology, and update information technology development trends suitable for the banking industry.

## **5. CONCLUSION**

Digital transformation and digital banking are strongly underway in the banking industry in particular and all branches of the national economy in general. The faster commercial banks move arguments, the more they expand and improve business efficiency. That is the premise for sustainable development and business in Vietnam's commercial banking system.

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# IMPACT OF FOREIGN DIRECT INVESTMENT INFLOWS ON RENEWABLE ENERGY CONSUMPTION – THE CASE OF VIETNAM

MA. Huynh Thi Thanh Truc<sup>1</sup>

**Abstract:** *The objective of the study is to assess the impact of FDI on renewable energy use in Vietnam. Research results confirm that FDI projects with low technology and high energy consumption do not have a good impact on the economy in general and the use of renewable energy in particular. The study also confirms that economic growth and the development of financial markets have a very positive impact on renewable energy consumption. Finally, the study also suggests some policy implications for Vietnam in the case of increasing renewable energy use and sustainable development in the future.*

*Keywords: energy, renewable, FDI, finance*

## 1. INTRODUCTION

The world environment is being greatly affected by climate change due to the influence of sea level rise and rising earth temperature. Climate change negatively affects the human activities, especially the consumption of energy resources. As the economy develops, it requires more and more energy to consume, so the amount of toxic gas emissions into the environment is increasing and thus the negative impacts on the living environment and the quality of human life increase.

Generally, there are two main sources of energy capable for human and economic needs. It is a renewable energy source formed from wind, solar energy, thermal energy, hydroelectric energy, and biological energy. The second source of energy is fossil energy, which is an energy source from coal, oil, wood and wood and these energy sources have the ability to emit large amounts of carbon into the environment and often have many negative impacts to the environment. On the contrary, renewable energy sources have less carbon emissions to the environment, so they can help to make the living environment cleaner and reduce the costs to society.

Research on attracting foreign direct investment to renewable energy consumption all show that FDI inflows have a positive impact on the ability to develop the renewable energy industry and therefore have a positive impact on using this energy. When FDI flows into a manufacturing industry with its high in technology and innovation, it is important to confirm that this manufacturing activity has little impact on the environment, so there is a positive impact of FDI on the environment. However, when FDI flows into the high-pollution, energy-intensive manufacturing industry, it has more externalities on the environment, and therefore it is unlikely to have a positive impact of FDI on the environment. In addition, the financial market also plays an important role in guiding the development of renewable energy through the mechanism of investment capital for businesses investing in renewable energy, clean energy and businesses. using high levels of science and technology.

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Vietnam is a country with a high level of economic development. However, Vietnam is still heavily dependent on fossil fuels, especially coal and oil for power generation activities. In contrast, the use of renewable energy in the country's total energy demand is continuously decreasing, which requires Vietnam to implement policies to develop this energy source in order to develop its sustainable economy.

## 2. PREVIOUS STUDIES

Attracting international capital flows is considered as the important goal that most countries pursue to create more resources for socio-economic development. FDI inflows often have many advantages in science and technology, innovation and high productivity, so they have the ability to spread productivity to domestic enterprises. In addition, FDI enterprises have the ability to spread management skills and improve human resources in the host country. If capital flows are invested in technology businesses, there are certain environmental benefits.

Research by Doytch & Narayan (2016) examining the relationship between FDI and energy demand suggests that FDI is a source of finance that allows businesses to develop and countries need this important resource. FDI can be a resource for process innovation in energy efficiency. Studying 74 countries in the period 1985 - 2012 and using the Blundell - Bond dynamic panel data estimator to control for endogeneity and ignore the variances in the panel, the research results widely indicate on the impact of reducing energy consumption on non-renewable energy sources and increasing energy consumption on renewable energy. The study also suggests that the effects of FDI differ in the level and importance of FDI by sector, meaning that different industries receive different FDI benefits.

Another possibility, Mahbub et al. (2022) studied on the determinants of FDI investment in renewable energy sector in Bangladesh through semi-structured interviews with 13 experts and related companies from UK, Singapore, Denmark, Thailand Lan, USA, China and Korea. The research results show that the institutional environment has the greatest influence compared to the natural and macroeconomic conditions to attract FDI in solar and wind energy projects in Bangladesh. More specifically, economic growth and access to local finance are important in attracting FDI, in contrast, land bank has the highest importance in attracting FDI in terms of natural resources. Further, Tan & Uprasen (2022) studied in BRICS countries from 1990 to 2015 and suggested that FDI reduces renewable energy consumption when the level of regulation is lower than the threshold. In addition, it will promote renewable energy consumption once the level of rigor is above the threshold. Therefore, it can be seen that a country implements stricter environmental regulations, it can significantly promote the consumption of renewable energy derived from FDI.

Given that renewable energy is a possible solution to the problems of environmental degradation and the energy crisis. Research by Tariq et al. (2023) argued that the cooperation between countries in the BRI belt and road in globalization, economic growth and renewable electricity use. Specifically, there is a positive long-term relationship between FDI and renewable power consumption, but a negative relationship in the short-term. Furthermore, economic growth is positively correlated with renewable electricity consumption in the long run and negatively correlated in the short term. From there, the author believes that the governments of BRI countries should encourage the use of technology and consumption of renewable electricity in all fields.

Research by Chandra Voumik & Ridwan (2023) studies the effects of FDI, population growth, industrialization and education on the environment in Argentina between 1972 and

2021. The study examines cointegration Johansen aimed to evaluate the long-term effects between variables, and the ARDL regression method and argued that population growth and industrialization harm the environment in the long run. Furthermore, a significant inverse relationship was obtained between CO2 emissions and the cost of education in the short run.

Thus, it can be seen that FDI has both an impact on the use of renewable energy because FDI can be a resource for innovation in energy efficiency (Doytch & Narayan, 2016). It is possible that economic growth and access to local finance are important in attracting FDI in solar and wind energy projects in Bangladesh (Mahbub et al., 2022). This is also confirmed by Tariq et al. (2023) suggesting that there is a positive relationship in the long run between FDI and renewable power consumption, but a negative relationship in the short term. However, studying this relationship in the context of Vietnam has not been considered by previous studies, which is the reason for us to carry out this study.

### 3. DATA AND REGRESSION EQUATION

In this study, we use data collection in Vietnam over the past time. The data is collected from the General Statistics Office, including information on: FDI attraction, renewable energy consumption, financial development, fossil energy consumption and other variables.

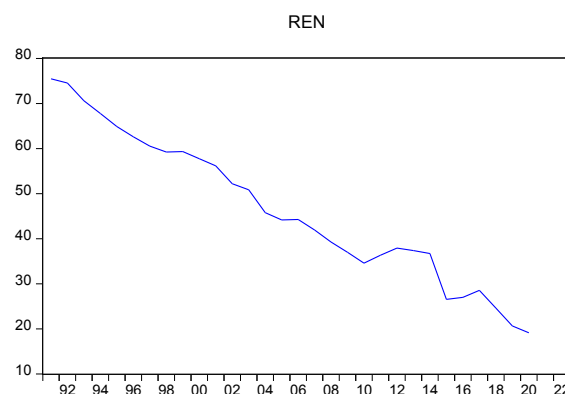
Based on the original research of Doytch & Narayan (2016), in this study we expand with the addition of other variables, then the regression equation is as follows: is to consume renewable energy (% total energy consumption); is the per capita income (USD/person/year); is net FDI attraction, calculated as % GDP; is financial development, in % GDP, is broad money (including M1 and M2 in the money supply); is fossil energy consumption, in % total energy consumption; is the amount of carbon emissions (metric tons per capita);

This study uses least squares regression method (OLS) to clarify the impact of variables. In addition, the study also uses robust OLS regression to have a match and increase the reliability of the analysis. This study uses analysis through Eviews software.

## 4. RESEARCH RESULTS

### 4.1. Samples information

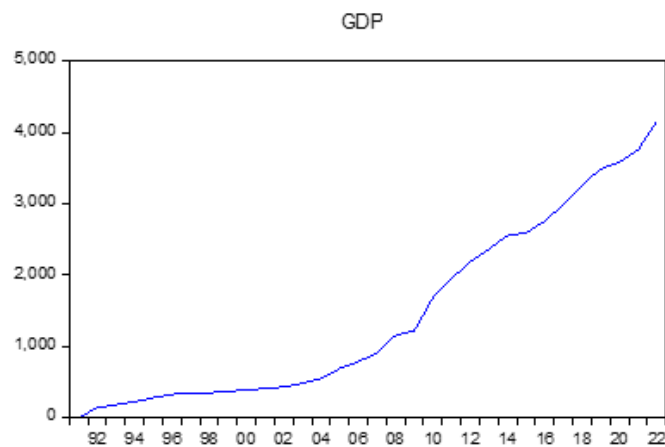
**Figure 1. Use of renewable energy**



*Source: Authors' calculation from the software*

Figure 1 shows that Vietnam's renewable energy use has continuously decreased in recent years. In the early period, Vietnam had advantages from renewable energy sources, especially from hydropower plants. However, the country's energy demand continues to increase, but the ability to supply more from renewable energy sources has not improved, instead Vietnam relies heavily on low-cost fossil energy sources and has low technology content, but this energy source also affects the environment. In the future, if Vietnam does not increase renewable energy sources, it is likely to still rely heavily on fossil energy sources to meet the rapidly increasing annual energy demand.

**Figure 2. Per capita income**



*Source: Authors' calculation from the Eviews software*

**Table 1. Descriptive statistics**

Variable	Mean	Std. Dev.	Min	Max
REN	46.44667	16.32091	19.11	75.46
GDP	1458.257	1301.925	5.960844	4163.514
FDI	5.573087	2.199619	3.390404	11.93948
FINANCE	79.33066	40.72248	19.56649	146.2925
FOSSIL	51.14522	14.2311	26.8256	70.32818
CARBON	1.356518	.9554537	.2895983	3.67644

*Source: Authors' calculation from the Eviews software*

Meanwhile, Vietnam's per capita income has continuously improved in recent years. From a very low-income country, per capita income has changed greatly since 1990, and by 2022, per capita income has exceeded 4163.5 USD/person/year, bringing Vietnam has become a middle-income country and is likely to become a middle-income country soon by 2035. To meet its development, Vietnam needs energy sources for the input of operations. Specifically, fossil energy consumption is increasing, and at the same time carbon emissions are also increasing every year.

## 4.2. Results

Table 2. Regression results according to OLS

Dependent Variable: REN				
Method: Least Squares				
Included observations: 21 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.003951	0.000930	4.249603	0.0007
FDI	-0.234385	0.049840	-4.702778	0.0003
FINANCE	0.023989	0.012459	1.925433	0.0733
FOSSIL	-0.767560	0.047796	-16.05897	0.0000
CARBON	-10.29162	2.482805	-4.145157	0.0009
C	98.45100	1.223638	80.45764	0.0000
R-squared	0.998908	Mean dependent var		50.81429
Adjusted R-squared	0.998544	S.D. dependent var		12.13483
S.E. of regression	0.463046	Akaike info criterion		1.532977
Sum squared resid	3.216177	Schwarz criterion		1.831412
Log likelihood	-10.09625	Hannan-Quinn criter.		1.597745
F-statistic	2744.126	Durbin-Watson stat		2.303480
Prob(F-statistic)	0.000000			

Source: Authors' calculation from the Eviews software

Table 3. Regression results according to Robust OLS

Dependent Variable: REN				
Method: Robust Least Squares				
Included observations: 21 after adjustments				
Method: M-estimation				
M settings: weight=Bisquare, tuning=4.685, scale=MAD (median centered)				
Huber Type I Standard Errors & Covariance				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
GDP	0.005125	0.000568	9.026582	0.0000
FDI	-0.207534	0.030435	-6.818921	0.0000
FINANCE	0.017529	0.007608	2.303984	0.0212
FOSSIL	-0.671167	0.029187	-22.99517	0.0000
CARBON	-13.38745	1.516148	-8.829907	0.0000
C	95.63110	0.747226	127.9815	0.0000
	Robust Statistics			
R-squared	0.823517	Adjusted R-squared		0.764689



Rw-squared	0.999656	Adjust Rw-squared	0.999656
Akaike info criterion	32.42580	Schwarz criterion	44.09162
Deviance	1.831349	Scale	0.266299
Rn-squared statistic	35484.73	Prob(Rn-squared stat.)	0.000000
	Non-robust Statistics		

*Source: Authors' calculation from the Eviews software*

Regression results by two methods: OLS regression and Robust OLS regression both give quite similar results, showing that the regression results are relatively reliable and have practical value. The results of the regression are as follows:

First, per capita income has a positive impact on renewable energy use. That is, when the quality of life increases, people are more aware of using clean energy to help society have a healthy living environment. According to the trade-off theory, when income is low, the country usually has high pollution production activities, and when income reaches a certain threshold, environmental quality is improved. Through the estimation results, this trend can be seen in Vietnam's condition and is the basis to help the country develop sustainably in the long term.

Second, the study shows that FDI has not had a positive impact on renewable energy use. It can be explained in the case of Vietnam that many FDI companies coming to Vietnam often bring low technology and consume a lot of energy due to low energy prices in Vietnam. Therefore, there is no incentive to help FDI enterprises increase the use of renewable energy. The same results suggest that increased use of fossil fuels is an impediment to the development of renewable energy. Indeed, fossil energy is low cost and easy to use, easy to invest, if the country is too dependent on this energy source, it will hinder the development of using renewable energy. The results of this study have been mentioned similarly to the study of Chandra Voumik & Ridwan (2023) in the case of Argentina when the authors thought that in the short term, FDI investments may have adverse effects on the environment. However, when the government implements the right reforms, it can have a more positive impact on the environment in the long run. This poses a challenge to economic development, attracting investment flows with long-term improvements to renewable energy sources, and this requires the persistence of governments.

Third, the study also confirms the positive impact of financial development on renewable energy use. Investing in renewable energy requires a lot of financial resources, so when the financial market is able to direct the flow of investment in clean energy, it can be a useful solution for using renewable energy. This result once again affirms the important role of the Vietnamese banking system in the ability to provide financial resources for businesses to invest in using clean technology and consuming renewable energy. important requirements to help the country develop sustainably and quickly on the road to prosperity. Furthermore, the research results also confirm the negative impact of fossil energy consumption on renewable energy development, so if the economy depends on fossil energy use, it will be difficult to create favorable conditions for increasing renewable energy consumption. However, the study results also suggest that carbon reduction has the potential to promote renewable energy consumption, which would be better for sustainable economic development.

## 5. CONCLUSION

The world is entering the era of digital transformation and sustainable development to combat traditional production activities with low productivity, high emission levels that affect the environment and economic development in the country. Researching the influence of factors affecting renewable energy consumption in Vietnam in recent times, the research results show that improving per capita income has a positive impact on the ability to use renewable energy in Vietnam. recycled energy. As per capita income increases, people tend to use cleaner energy sources and thus bring higher economic benefits to the country in the long run. The study also confirms the role of the banking system in providing credit for the economy in general and for investment in renewable energy and thereby promoting the development of the renewable energy industry. for people's lives. The study also suggests that when FDI flows have low technology quality and energy consumption, increasing use of fossil energy sources will be a barrier to the development and consumption of renewable energy.

Through the research, we have some recommendations for the Vietnamese government in developing renewable energy in the near future. Firstly, Vietnam continues to improve investment policies, reform capital markets and financial markets to promote domestic and foreign enterprises to invest in renewable energy. Second, Vietnam needs to take measures to reduce its dependence on fossil energy through measures such as taxation on pollution sources, adjusting the economy to shift production from high pollution to low pollution and technology content has increased.

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# LEGAL PROVISIONS ON EXTENDED PRODUCER RESPONSIBILITY IN THE CIRCULAR ECONOMY PATHWAY IN VIETNAM

LLM. Ho Thuy Tien<sup>1</sup>, MPA. Tu Minh Thuan<sup>2</sup>

*Abstract: Extended Producer Responsibility is considered a policy tool which is widely applied in the world, bringing many benefits in terms of environment, socio-economy, promoting circular economy development. It is an approach of environmental policy whereby a manufacturer's responsibility for a product is extended to the disposal stage of the product's life cycle. However, the current legal framework governing extended producer responsibility seems to be ineffective and needs to be improved. In this study, the authors analyze and evaluate the legal regulations on extended liability of manufacturers in promoting circular economy and propose recommendations to improve the legal regulations in this field in Vietnam.*

*Keywords: extended producer responsibility, circular economy, environmental protection.*

## 1. INTRODUCTION

The circular economy model is a new approach, with many advantages compared to the traditional “exploitation - production - consumption – disposal” production model such as reducing input sources, prolonging use time. By recycling, reusing and utilizing products and by-products, thereby contributing to more efficient use of resources and limiting emissions of harmful substances into the environment (Chowdhury et al., 2022; Dey et al., 2022; Kirchherr et al., 2017; Singh et al., 2018) critics claim that it means many different things to different people. This paper provides further evidence for these critics. The aim of this paper is to create transparency regarding the current understandings of the circular economy concept. For this purpose, we have gathered 114 circular economy definitions which were coded on 17 dimensions. Our findings indicate that the circular economy is most frequently depicted as a combination of reduce, reuse and recycle activities, whereas it is oftentimes not highlighted that CE necessitates a systemic shift. We further find that the definitions show few explicit linkages of the circular economy concept to sustainable development. The main aim of the circular economy is considered to be economic prosperity, followed by environmental quality; its impact on social equity and future generations is barely mentioned. Furthermore, neither business models nor consumers are frequently outlined as enablers of the circular economy. We critically discuss the various circular economy conceptualizations throughout this paper. Overall, we hope to contribute via this study towards the coherence of the circular economy concept; we presume that significantly varying circular economy definitions may eventually result in the collapse of the concept.”,”author”: Circular Economy (CE. Circular economy, from the perspective of environmental economics, views the output of every production model

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as the input of another, thereby focusing on the reuse of wastes and by-products. Another approach from the industrial ecology point of view focuses on efficient resource management, through the re-engineering of production systems in a cyclical way, thereby making more efficient use of input resources. Input, producing less waste and thereby generating higher profits (Kirchherr et al., 2017) critics claim that it means many different things to different people. This paper provides further evidence for these critics. The aim of this paper is to create transparency regarding the current understandings of the circular economy concept. For this purpose, we have gathered 114 circular economy definitions which were coded on 17 dimensions. Our findings indicate that the circular economy is most frequently depicted as a combination of reduce, reuse and recycle activities, whereas it is oftentimes not highlighted that CE necessitates a systemic shift. We further find that the definitions show few explicit linkages of the circular economy concept to sustainable development. The main aim of the circular economy is considered to be economic prosperity, followed by environmental quality; its impact on social equity and future generations is barely mentioned. Furthermore, neither business models nor consumers are frequently outlined as enablers of the circular economy. We critically discuss the various circular economy conceptualizations throughout this paper. Overall, we hope to contribute via this study towards the coherence of the circular economy concept; we presume that significantly varying circular economy definitions may eventually result in the collapse of the concept.”,”author”:. According to recent definitions, circular economy is also seen as a business model in which businesses apply solutions to reduce, reuse or alternate, recycle and recover raw materials. materials throughout the process of production, distribution, and consumption of products towards a cyclical - closed production and consumption (Schroeder et al., 2019) potentially, can contribute directly to achieving a significant number of SDG targets. The strongest relationships exist between CE practices and the targets of SDG 6 (Clean Water and Sanitation. The transition to a circular economy is a strong trend in many countries around the world and in Vietnam. Based on the shift from linear economy to circular economy, it is estimated that the circular economy will bring in \$4.5 trillion to the world by 2030 (Nguyen Danh Son, 2023). In Thailand, the Ministry of Higher Education, Science, Research and Innovation has announced a proposal for the BCG - Bio - Circular - Green model in 2019, focusing on several main industries: agriculture and food; bioenergy, biomaterials and biochemistry; medical and health; tourism and the creative economy. These industries currently have an economic value of 3.4 trillion Thai Baht (21% of GDP). The application of the BCG model has the potential to increase economic value to THB 4.4 trillion (24% of GDP) in the next five years (Niyommaneerat et al., 2023).

Extended Producer Responsibility (EPR) is an environmental policy approach in which the responsibility of the producer of a product extends to the disposal stage of the product's life cycle (Maitre-Ekern, 2021) this involves extending product lifetime (through maintenance and repair. EPR is designed based on the polluter pays principle (PPP) which argues that manufacturer is responsible for managing products after they become waste, including collection; pretreatment (transportation, sorting, dismantling, cleaning...); reuse; recovery (including recycling and energy recovery) and destruction. The producer fulfills its responsibilities by providing the necessary financial resources and/or directly participating in

the operation of solid waste management, which can be done individually or in groups. First deployed in Europe in the 1990s, after 3 decades, EPR is now being applied in more than 40 countries around the world. EPR is considered an important tool in solid waste management and is considered as a driving force in promoting the circular economy (Horta Arduin et al., 2019) mostly. In terms of the percentage of mass sent to re-use, recycling, and/or energy recovery facilities. While legislation gives a standard definition for recycling and recovery rates, stakeholders sometimes redefine them to better fit their own scopes and objectives. Therefore, to accurately interpret the results of an efficiency indicator, during a decision-making process, it's necessary to fully understand the scope definition used to calculate it. This work discusses the influence of scope definition when establishing performance rates. It does this by introducing further alternative scope definitions and comparing them to those defined by legislation and stakeholders. As a case study, the proposed complementary scopes are applied to the recycling chain of flat panel displays in France.”,”author”:(Horta Arduin et al., 2019. EPR promotes cyclical materials management, where waste products and packaging are recovered, recycled, and reused to create new products instead of going to landfills. The diversion of waste flows on the one hand helps to reduce environmental pressure, on the other hand brings economic efficiency, helps change perceptions in society, stimulates innovation.

EPR seeks to shift the burden of waste management from the Government to the responsibility of waste generating entities. This will lead to internalizing waste management costs into product production costs, reducing waste to the environment and increasing the ability to recycle and reuse. EPR pays special attention to reducing environmental impacts at the post-consumption stage. The two main features of the EPR policy are: responsibility for products at the post-consumer stage is transferred to an upper stage in the production-consumer chain, mean up to the producer, and EPR encourages consumers. Production considers environmental issues right from the product design stage (Subramanian et al., 2009)we examine the influence of EPR policy parameters on product design and coordination incentives in a durable product supply chain. We model a manufacturer supplying a remanufacturable product to a customer over multiple periods. The manufacturer invests in two design attributes of the product that impact costs incurred by the supply chain?performance, which affects the environmental impact of the product during use, and remanufacturability, which affects the environmental impact post-use. Consistent with the goals of EPR policies, the manufacturer and the customer are required to share the environmental costs incurred over the product's life cycle. The customer has a continuing need for the services of the product and optimizes between the costs of product replacement and the costs incurred during use. We demonstrate how charges during use and post-use can be used as levers to encourage environmentally favorable product design. We analyze the impact of supply chain coordination on design choices and profit and discuss contracts that can be used to achieve coordination, both under symmetric and asymmetric information about customer attributes.”,”author”:(Subramanian et al., 2009. Transforming to a circular economy is an inevitable trend and an opportunity for the Vietnamese economy, bringing many benefits in terms of improving production efficiency and value chains, improving product quality, creating create new product channels and jobs, as well as reduce environmental pollution. In addition, the application of the circular economy will contribute

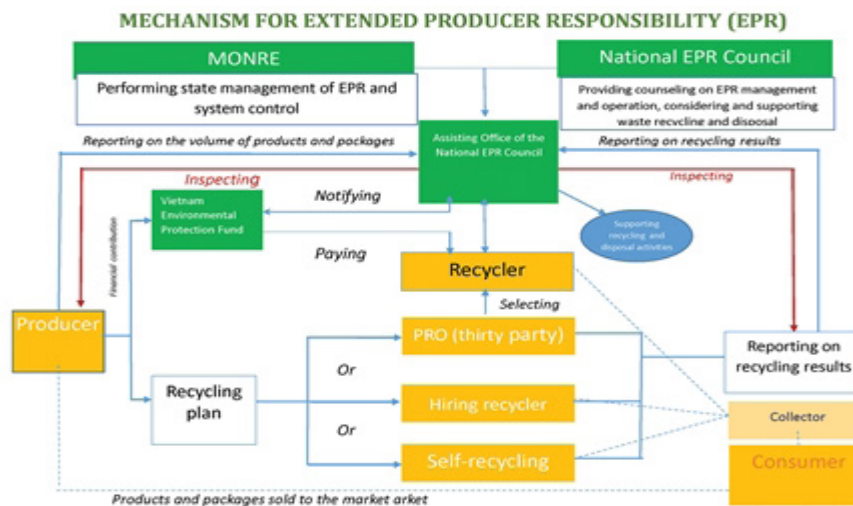


to promoting sustainable business, gradually reducing polluting industries and ensuring the recovery of the green economy in the future (Campbell-Johnston et al., 2019).

## 2. PROVISIONS ON EXPANDING RESPONSIBILITIES OF PRODUCTS IN VIETNAM

Extended Producer Responsibility is a widely adopted policy tool around the world, bringing many environmental, economic, and social benefits, promoting circular economy development. In Vietnam, EPR was regulated for the first time in the Law on Environmental Protection 2005 with regulations on recall and treatment of discarded products and concretized in Decision No. 50/2013/QĐ-TTg on recall and disposal of waste products. In 2020, the Law on Environmental Protection No. 72/2020/QH14 was approved by the National Assembly on November 17, 2020 (effective from January 1, 2022), which has more detailed regulations, and agreed to synchronize the system to promote EPR in Vietnam in Articles 54 (stipulations on recycling responsibilities of producing and importing organizations and individuals) and Article 55 (Responsibility for waste collection and treatment of organizations, individual production, import). Extended manufacturer responsibility is an approach to environmental policy whereby the responsibility of the manufacturer of a product extends to the disposal stage of that product's life cycle.

Thereby, it is possible to analyze the mechanism of action of EPR according to the following model:



**Figure about Mechanism for Extended Producer Responsibility (EPR)**

Source: <https://vietnamlawmagazine.vn>.

The Environmental Protection Law 2020 has changed the approach to EPR, whereby manufacturers and importers have two types of responsibilities: (1) recycling responsibility for products, packaging applied to products, packaging with recyclable value and (2) waste treatment responsibility applies to products and packaging containing hazardous substances, which are difficult to recycle or cause difficulties for collection and treatment. According to Clause 1, Article 77 of Decree No. 08/2022/ND-CP, manufacturers and importers are responsible for recycling products and packages they produce or import according to the mandatory



recycling rates and specifications. . Products and packages that must be recycled are products and packages with recycling value, including batteries and batteries; power electronics; tubes and tires; lubricating oil; mean of transportation; packaging. The objective of this regulation is to promote and support recycling activities, increase the recycling rate; step by step establish a recycling industry and develop a circular economy in Vietnam. At the same time, according to Clause 4, Article 77 of Decree No. 08/2022/ND-CP, manufacturers and importers carry out the responsibility to recycle products and packages they produce or import according to the following schedule: i) Packaging and battery products; lubricating oil; tires: from January 1, 2024; ii) Electrical and electronic products: from January 1, 2025; iii) Means of transport: from January 1, 2027.

For manufacturers and importers responsible for recycling, they can choose one of two forms: organize their own recycling or make financial contributions to the Vietnam Environmental Protection Fund to support the recycling of products and packaging. If the manufacturer or importer chooses to organize the recycling by themselves, they can either do the recycling themselves or hire a recycling unit to carry out the recycling or authorize an intermediary organization to organize the recycling or combination of the above formulas. If manufacturers and importers do not organize the recycling by themselves but choose to make financial contributions to the Vietnam Environmental Protection Fund to support recycling, the manufacturers and importers will pay according to the norm of recycling costs. Reasonable mechanism (Fs) issued by the Prime Minister. At the same time, once every three years, the Ministry of Natural Resources and Environment will submit to the Prime Minister to issue the Fs for each product, packaging and adjust the Fs. However, not all manufacturers and importers are responsible for recycling. Exceptions are manufacturers, importers of products and packages for export or temporary import for re-export or production or import for research, study and testing purposes as prescribed in Clause 1 of this Article. 1 Article 54 of the Law on Environmental Protection 2020; packaging manufacturers specified in Clause 1 of this Article whose revenue from sales and service provision of the previous year is less than VND 30 billion; the importer of packaging specified in Clause 1 of this Article whose total import value (calculated according to customs value) of the previous year is less than VND 20 billion.

Responsibilities for waste treatment of manufacturers and importers are specified in Article 55 of the Law on Environmental Protection. After that, this regulation was detailed in the Decree No. 08/2022/ND-CP (Section 2, Chapter VI, Article 83 and Appendix XXIII) and Circular No. 02/2022/TT-BTNMT dated January 10, 2022 of the Ministry of Natural Resources and Environment (Clause 4, Article 78 and Clause 2, Clause 4, Article 79 and Form No. 4 of Appendix IX). This regulation has come into force since January 1, 2022. The objective is to change the behavior of production and consumption towards environmentally friendly; at the same time share a part of the financial burden for domestic waste management from the state to manufacturers and importers. Accordingly, organizations and individuals that manufacture or import products and packages (commercial packaging - direct packaging of products) contain toxic substances that are difficult to recycle or cause difficulties for collection. responsible for making financial contributions to the Vietnam Environmental Protection Fund to support waste treatment activities, except for products and packaging for export or temporary import, re-

export or production, imported for research, study and testing purposes; manufacturers whose revenue from sales and service provision of the previous year is less than 30 billion dong; importer whose total import value (calculated by customs value) of the previous year is less than VND 20 billion. The level of contribution shall comply with the provisions in Appendix XXIII issued together with Decree No. 08/2022/ND-CP.

However, the promulgation of the list of products and packaging with the contribution level and the time to perform the responsibility to support waste treatment in Decree 08/2022/ND-CP is not reasonable and not really clear. In this article, we only focus on comparing the unreasonable contribution between the tobacco industry and the manufacturing industry of products with synthetic resin ingredients. In Appendix XXIII issued together with Decree No. 08/2022/ND-CP on the list of products and packages, together with the level of contribution and the time of performing the responsibility of supporting waste treatment, it is stipulated:

- The contribution of the tobacco industry is 60 VND/20 cigarettes.

- The contribution of the product industry with synthetic resin components is 1,500 VND / 1 kg of plastic used.

The Decree stipulates the contribution level for each sector, but it does not show any calculation method or criteria to ensure fairness between sectors in terms of contribution level. Because each industry has a different amount of waste discharged into the environment as well as the level of impact on the environment. The World Health Organization (WHO) says the tobacco industry is a much bigger threat than we know. It is one of the largest polluters in the world. The WHO believes that the tobacco industry has contributed to widespread forest degradation, diverting land and water resources away from food production - especially in poor countries, emitting toxic chemicals, plastic waste, chemicals and millions of tons of polluting carbon dioxide.

Implementation of innovation policy, Vietnam has grown and achieved a fairly high level of economic development, averaging 6-8% for many years. Plastic industry is one of the industries with the highest growth in Vietnam with an annual increase of 16 - 18%/year. In 2018, production output of the plastic industry increased by 7%, reaching 8.3 million tons, of which packaging plastic production accounted for the largest proportion, reaching 36%. Currently, Vietnam has about 2,000 plastic enterprises, of which 450 enterprises produce packaging and non-degradable plastic bags. The demand for plastic products in Vietnam is also very large. Per capita plastic consumption increased rapidly at 10.6% per year from 1990 to 2017, increasing from 3.8 kg/person/year to 63 kg/person/year in 2017, to 81 kg /person/in 2018. According to the Food and Agriculture Organization of the United Nations (FAO), in 2018, Vietnam generated more than 1.8 million tons of untreated plastic waste, accounting for nearly 6% of the amount of waste plastic in the world. The Mekong River flowing through Vietnam to the sea has been ranked in the top 10 polluted rivers due to plastic waste. Considering the amount of plastic waste in the sea alone, Vietnam ranked 4th in the world in 2018, at about 0.50 million tons.

EPR implementation is now mandatory in Vietnam, but there is a lack of mandatory recycling targets for manufacturers. Manufacturers transfer their financial and material responsibility to their customers by maintaining few collection points and the customer must pay for the transportation of the waste product to the specified collection point. In addition,

information to the public about EPR and how the EPR system works is very limited, known only to those in the industry or business involved, while consumers are not. In addition, there is a lack of motivation for collective actions to fulfill producer responsibilities under the EPR. The implementation of recycling is not synchronized between industries and businesses, and recycling treatment technology is poor. This will make the implementation of the recycling target not meaningful to contribute to the development of the recycling industry in Vietnam. Limited understanding of EPR thoroughly when introducing EPR as well as preparing for EPR implementation in Vietnam can lead to a decline in confidence in EPR as a viable policy tool in management solid waste. That complicates the stakeholders involved in solid waste management and makes the introduction and implementation of EPR challenging.

Article 81 of Decree 08/2022/ND-CP stipulating the financial contribution to the Vietnam Environmental Protection Fund of each type of product and packaging (F) is determined by the formula:  $F = R \times V \times Fs$ . It can be seen that the calculation and determination of the mandatory recycling rate (R) is not easy, so the calculation of the amount of financial contribution to the Vietnam Environmental Protection Fund of each type of product, packaging (F) will also be very difficult. Moreover, the determination of the cost of product and packaging recycling (Fs) depends a lot on the recycling technology for each type of product and packaging and on the market price of raw materials, electricity and water consumption for the recycling process. Therefore, the regulation of the calculation formula according to Appendix XXII issued with Decree 08/2022/ND-CP will cause difficulties and controversy in the implementation process.

### **3. RECOMMENDATIONS AND PROPOSAL**

In the current context, Vietnam has enacted Environmental Protection Law 2020, the Decree detailing and guiding the implementation of the Law on Environmental Protection 2020 on responsibilities for recycling, handling products and discarded packaging of organizations and individuals that produce and import applied across most of the various products put on the market and other relevant documents. However, in order to apply this model in Vietnam, there are several points to note and challenges that the EPR system needs to be addressed. Therefore, in order for EPR to be effectively implemented in practice, the following issues need to be taken into account:

*Firstly*, when implementing EPR for enterprises, agencies need to be synchronous, specific and have a mechanism to create favorable conditions for enterprises; extensive propaganda for people and consumers to understand EPR, linking the State - businesses - consumers together to effectively implement EPR. The State should have guidelines and policies to support the implementation of EPR through activities such as law dissemination; campaigning and propagating to raise public awareness. In addition, businesses and consumers also need to know how to consume smartly and responsibly with the products they produce or use. Manufacturers and importers must be aware of their social and environmental responsibilities for the products they create; focus on investing in environmentally friendly technologies and waste treatment in the production process.

*Secondly*, calculating the level of contribution to represent the responsibility for waste treatment, the Ministry of Natural Resources and Environment needs to analyze the composition

of the waste, how to treat waste types appropriately. In which, the process of treating waste has harmful effects on the environment, thereby giving an appropriate fee. On the other hand, when calculating the waste treatment contribution fee, it is necessary to refer to the same unit for industries for easy comparison and evaluation. For recycling rates, consider using a percentage instead of a recycling formula. In the first stage, it is possible to apply a low rate and adjust this ratio based on the actual situation.

*Thirdly*, the promotion of the transition to a circular economy should be open, in order to create a favorable environment and motivation for businesses to transition to a circular economy. Developing the science and technology market for the transfer of circular economic models and training human resources plays an important role. Transforming to a circular economy model requires businesses that have operated before to redesign their production and business activities, as well as to redesign investments to innovate technology and production processes. This process requires a change in the quality and orientation of human resource training. Specifically, in the textile and garment sector, to meet the consumer trend that is gradually turning to circular fashion, sustainable fashion instead of the fast fashion trend as before, which requires human resources for the weaving stages, dyeing and fashion design is very large in order to ensure the technical standards set by the importing countries (eg durability, degradability and recycling of products after use...).

*Fourthly*, integrate circular economy solutions into national target programs and socio-economic development plans of ministries, sectors and localities. Currently, funding sources for the circular economy come through two forms, including spending exclusively on environmental causes and through national target programs. Integrating the circular economy into these targeted programs and local socio-economic development plans will take advantage of funds for the implementation of activities related to the circular economy. In addition, the integration of specific circular economy tasks and solutions into these decisions and plans will help the implementation of the circular economy be more favorable, as surveyed businesses are highly appreciated. emphasize the importance of integrating circular economy goals and solutions in specific sectoral or local plans (IEM, 2022).

*Fifthly*, EPR can also affect the producers themselves and their respective competitive positions differently. Certain products may also be favored over others through different EPR regulations and tariffs, which can disproportionately affect production costs and lead some manufacturers to at a disadvantage. This puts manufacturers currently contributing to EPR programs at a competitive disadvantage. Ensure that the application of EPR does not create barriers for businesses in increasing production costs and reducing competition. Many businesses are concerned that the fee will increase product costs, reduce the competitiveness of enterprises and the proposed fee is not appropriate. Ensuring the determination of an appropriate fee will help businesses fully implement their obligations in the coming time.

*Finally*, it is necessary to soon develop and issue a legislative document with high legal effect, focusing on and comprehensively regulating the issues of economic development circular economy. The document of the 13th Party Congress, the Law on Environmental Protection in 2020 has general provisions on the development of a circular economy model, but to really develop this model, a specific guideline and policy is needed, directly stipulating



the contents, roadmap, objectives and tasks of implementation. If China enacted the Circular Economy Promotion Law in 2008, Indonesia enacted the Solid Waste Management Law in 2018, the Philippines enacted the national solid waste management legislation in 1999, Law on Waste Recycling (2007) and Law on Waste Control (2008) in Korea; The Circular Economy Act was passed in Germany in 2012. In 2016, Finland issued a Roadmap to a Circular Economy period 2016-2025. Most recently, France also passed a Zero Emissions Law (Anti-waste Law) in 2020, aiming for a successful transition to a circular economy model.

If countries promulgate a separate law or a national strategy and action plan on circular economy, in our country, we can issue a thematic resolution of the National Assembly on circular economy, or a resolution on circular economy. The Government's decision on this issue is the optimal solution at the present time. But in order for the circular economy to be clearly demonstrated and applied more widely, it is necessary to promulgate the Law on the circular economy. Moreover, the circular economy is not only related to a certain area of society, but it affects many different sectors and fields, so to ensure the uniformity in the legal system, it is necessary to currently reviewing relevant legal documents to amend and supplement accordingly. At the same time, the State needs to build a national database system on EPR. The purpose is to create an overview data on EPR of all localities across the country and from there make decisions on EPR in implementing the circular economy in a comprehensive and appropriate manner.

#### **4. CONCLUSION**

In conclusion, the implementation of Extended Producer Responsibility is a new and urgent issue that needs to be widely communicated to businesses, people to know and grasp to join hands in implementation. In addition, it is necessary to clearly specify the method, calculation criteria, contribution level that each sector must make; when implementing, state agencies must synchronize to create favorable conditions for enterprises, in which enterprises are encouraged to recycle themselves. At the same time, continuing to develop and perfect the law on the circular economy is necessary to create a specific, complete and effective legal framework for the promotion of the circular economy. Each country will have different views and development goals on the circular economy, but the circular economy aims to be a way of seeing and an attitude towards the environment for sustainable development. Therefore, when approaching the circular economy, it is necessary to have a scientific, multi-dimensional, multi-sectoral view suitable to the economy of each country./.

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## QUALITY ASSURANCE AND ACCREDITATION OF HIGHER EDUCATION IN PILOT UNIVERSITY AUTONOMY

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**Abstract:** *Belash et al (2015) believe that learners will be satisfied when the quality of training is guaranteed, this point of view also coincides with that of Patras and Hidayat (2020). Studies also show that ensuring training quality helps to increase the school's image, thereby increasing the effectiveness of student enrollment policies (Giao and Trinh, 2021), indirectly creating favorable conditions for taking care of lecturers's needs, impact on lecturers's engagement (Xiao and Wilkins, 2015). Survey results from more than 200 lecturers at universities participating in the pilot autonomy for the period 2014-2017 show that when being autonomous, the quality of university training must be paid more attention. The accreditation of university training according to standards contributes to the sustainable development of the university.*

**Key words:** *University autonomy; Quality assurance and accreditation, change readiness, lecturer's satisfaction*

### 1. INTRODUCTION

The university autonomy that participated in the 2014-2017 pilot autonomy have drawn many lessons from many evaluation workshops, thereby bringing a new face to our country's higher education. Along with the effect of the 2018 Education Law, many schools have officially entered the stage of university autonomy, competition for enrollment between schools has increased, public school tuition is no longer an advantage in enrollment, but the quality of training is not the same. creation, the rate of graduates having jobs, ... with becoming information that is of interest to learners. Quality assurance (QA) is not only an important content that needs to be considered by universities, but also a feedback channel of learners and businesses on the quality of teaching at the university, affecting the quality of teaching on accountability and autonomy (Wang, 2014) of higher education institutions. Wang (2014) also said that lecturers and students are important in ensuring quality at educational institutions, contributing to improving the quality of higher education. In the same view, Westerheijden et al., (2007) also argue that quality assurance has an influence on curricula and lecturers, and the experience of lecturers on quality assurance. About a decade has passed, researchers in the field of education continue to confirm this view and assume that learners will be satisfied when the quality of training is guaranteed (Belash et al., 2015; Patras et al., 2015; Hidayat, 2020) thereby increasing the effectiveness of the enrollment policy (Giao and Trinh, 2021), indirectly creating favorable conditions to take care of the needs of teachers, affecting teacher engagement (Xiao and Wilkins, 2015). Thus, it can be seen that quality assurance and accreditation have never been an old topic, still valid to this day and have an even more important position with

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higher education autonomy. However, the question is when a higher education institution is autonomous, will the lecturers be satisfied, willing to accept the change brought about by autonomy or not or are they required to follow because this is the regulation of the university government. Previous studies have only mentioned this content in corporate organizations (Hameed et al., 2019; Katsaros et al., 2020) or only mentioned faculty satisfaction (Gkolia et al., 2014; Shakirova and Nurakhmetova, 2014) without seeing any studies examining the relationship between quality assurance and accreditation and faculty satisfaction and faculty willingness to change. For that reason, the authors conducted a survey on lecturers who had undergone the pilot phase of autonomy and are still working at higher education institutions that have undergone the pilot to examine the role of teachers of assurance and quality control to teacher satisfaction, thereby considering whether this satisfaction really makes teachers willing to accept changes brought about by autonomy. The results of the study are an important part of the development of further studies in the same field.

## **2. THEORETICAL BASIS**

### **2.1. Lecturers satisfaction**

Lecturers satisfaction is said by Sharma and Jyoti (2009) to be influenced by internal, external and demographic factors such as age, gender, occupation, and education level. Williams (2009) argues that satisfaction will promote work, development and engagement with research and teaching. Dingeta (2013) said that lecturers satisfaction is affected by ensuring the factors of work, working environment, autonomy and recognition, thereby making lecturers motivated to work. Herzberg et al., (1959), striving for the school's goals, contributing to improving the reputation of educational institutions, especially in the period of university autonomy. Thus, the assurance of job factors or in other words, the quality assurance and accreditation have an impact on the satisfaction of lecturers.

### **2.2. Quality assurance and accreditation**

Quality assurance is said to be a popular phrase in job satisfaction (Williams, 2016) that is specifically in higher education the achievement of stated standards. Harman (1998) argues that in essence, quality assurance refers to the systematic evaluation and management procedures applied to ensure that specific or improved quality is achieved, allowing stakeholders to trust in quality management as well as in the results achieved. In other words, quality assurance along with the accreditation process has an impact on the process of making teachers believe in the results achieved in the context of higher education regulations, thereby making the lecturers satisfied or not.

### **2.3. Change readiness**

Armenakis et al. (2000) argue that the change readiness is associated with the belief that change is necessary, accepting differences and believing that this change is effective. Employees' change readiness is an important factor related to support for organizational policies and changes (Hussain et al., 2018). In higher education, teachers also have periods when they need to change to fit the school's policy. For example, if the lecturers are willing to change with the intensive teaching of English in research and teaching mentioned by Jensen

and Thøgersen (2011), young lecturers will be more positive and easily satisfied. This is also true of the study of Yeap et al (2020) when it is found that willingness to change helps to strengthen the relationship between leadership and lecturers' commitment to teaching, but lecturers will only be willing to change when organizational change brings them satisfaction. In other words, change readiness can be inferred as a result of faculty satisfaction with changes in the higher education institution's policies.

### 3. Hypotheses and Research Model

Inheriting previous studies, the authors examine the relationship between quality assurance and accreditation affecting lecturer satisfaction as lecturers are willing to change in the context of university governance shifting to autonomy. Accordingly, the following hypotheses are proposed.

Lecturers satisfaction as mentioned above is influenced by the assurance of job factors (Dingeta, 2013). Accordingly, it can be inferred that higher education quality assurance and accreditation is one of the factors that affect whether lecturers and lecturers trust regulations on quality assurance when autonomously taking place and give good results or not. Therefore, the hypothesis is proposed to examine whether the change in regulations on quality assurance and accreditation in the context of autonomy has an impact on lecturers satisfaction. Therefore, research hypothesis H1 is proposed as follows:

*H1: Quality assurance and accreditation have a positive impact on lecturers satisfaction*

As mentioned above, when lecturers are satisfied with the change, they actively implement the change, ready to accept the change (Jensen and Thøgersen, 2011) so they will stick with the educational unit, higher education (Yeap et al., 2020), thereby making it easier for an organization to achieve the effect of policy change. Therefore, the hypothesis is proposed to consider whether the satisfaction of the lecturers really has a positive effect on the change readiness of the lecturers or not? Or even if lecturers are not satisfied, they are still willing to change, research hypothesis H2 is proposed as follows:

*H2: Lecturers satisfaction has a positive impact on lecturers change readiness*

From the above hypotheses, the simple research model proposed in Figure 1 is as follows

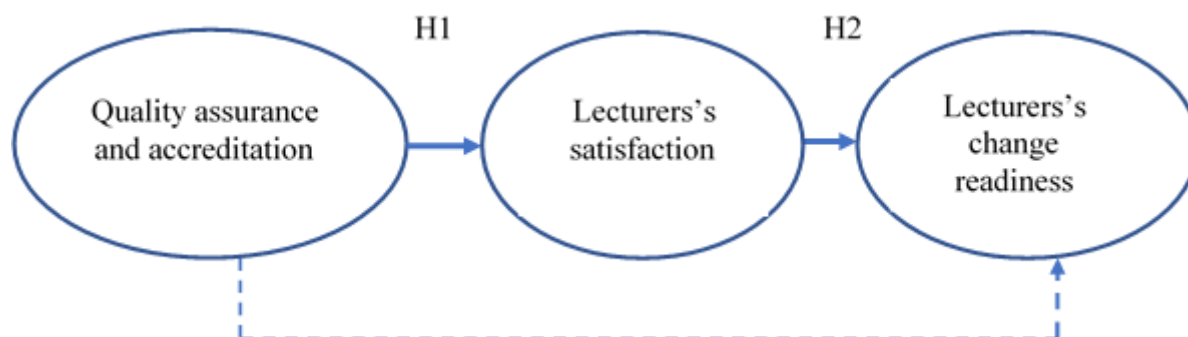


Figure 1: Proposed research model

### 4. RESEARCH RESULTS

Surveying with more than 200 lecturers of the higher education blocks participating in the pilot university autonomy in the period 2014-2017, the authors obtained the following research

results: With 237 lecturers at the pilot universities autonomous participating interviewed, in which there are 25 lecturers who are Professors, Associate Professors and 50 lecturers who are both lecturers, managers and leaders of the school and all have worked at the school for 8 years or more. , the results obtained 15/15 observed variables used to measure 03 concepts all have the satisfactory Cronbach Alpha reliability coefficient and reach from 0.8 or higher. Specifically:

**Table 1: Table of Cronbach Alpha coefficients of variables in the model**

	Reliability statistical results	
	Cronbach Alpha Coefficient	Number of Items
Quality assurance and accreditation	.878	6
Lecturers's satisfaction	.829	4
Lecturers's change readiness	.841	5

*(Source: Results from the author's survey)*

The authors continued to do exploratory factor analysis (EFA) and found that there was 1 observed variable that was not suitable and was excluded from the model. According to Hair et al (2010), the factor loading coefficient (Factor Loading), also known as the factor weight, represents the correlation relationship between the observed variable and the factor and requires a minimum coefficient of 0.3 to transform the variable. observations are retained. But the observed variable KD4 uploads in both factors 1 and 2 with the load factor of 0.551 and 0.497 respectively, the difference in load factor is  $0.551 - 0.497 = 0.054$ , much smaller than 0.3, so it is necessary this type of bad variable before running EFA a second time.

**Table 2: Rotation Component Matrix (1st)**

	Component	
	1	2
HL3	.865	.252
HL1	.833	.325
HL4	.814	.258
HL2	.803	.394
KD4	.551	.497
KD2		.872
KD3	.343	.809
KD1	.251	.788
KD5	.491	.712
KD6	.418	.643

*(Source: Results from the author's survey)*

Continuing to conduct reliability testing and exploratory factor analysis through running EFA for the second time, the author obtained statistical results of reliability of 0.911 and the results of the rotation matrix as follows:

**Table 3: Rotation Component Matrix (2nd)**

	Component	
	1	2
KD2	.877	
KD3	.816	
KD1	.792	
KD5	.715	
KD6	.641	
HL3		.865
HL1		.840
HL4		.811
HL2		.810

*(Source: Results from the author's survey)*

Thus, from the survey and running of the data, it was found that there are 05 observed variables explaining the concept of quality assurance and accreditation (KD) that are reliable and consistent with the model, the results are eliminated: The higher university has regulations on teaching according to the blended learning method when implementing university autonomy. The observable variable is excluded because the process of applying digital technology to university teaching is not the same and uneven, there may be some schools that have not yet implemented this mixed teaching method. This in the future can be improved when digital transformation and online teaching technology are the global trend. For lecturer satisfaction (HL), all observed variables explaining the concept of lecturer satisfaction are reliable and are consistent with the proposed model.

The author continue to analyze the linear regression model in three steps. First, performing a simple regression between assurance and quality accreditation (KD) on faculty satisfaction (HL), the author get t-test results with a sig value of 0.000, which means the independent variable establish meaningful KD in the model. The coefficient B has a positive value, which means that KD has a positive effect on HL, and a B value of 0.846 indicates that KD has a strong effect on HL; in other words, hypothesis H1 is accepted, quality assurance and accreditation has a positive impact on lecturers satisfaction.

Coefficients <sup>a</sup>						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	.717	.227		3.155	.002
	KD	.846	.058	.691	14.647	.000

(Source: Results from the author's survey)

Next, the group that performed multiple regression between KD and HL to the lecturers's change readiness (TD) also received the t-test results of both KD and HL with sig values of 0.000. This means that KD and HL are significant in the model. The coefficient B of both variables is positive,  $c' = 0.271$  and  $0.449$ , respectively, which means that KD and HL both have an impact on TD. In other words, satisfaction has an intermediary role in the relationship between quality assurance and accreditation and the change readiness of lecturers, hypothesis H2 is accepted, and lecturer satisfaction has a positive impact to the lecturers's change readiness.

Coefficients <sup>a</sup>						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	1.234	.157		7.882	.000
	KD	.271	.054	.280	5.033	.000
	HL	.449	.044	.568	10.192	.000

(Source: Results from the author's survey)

Finally, the group performed a simple regression between KD and TD and also received a t-test with a sig value of 0.000 which means that KD is significant in the model when KD directly affects TD. The coefficient B of KD in this case still has a positive sign and has a value of  $c = 0.651$  which means that KD has a direct positive effect on TD.

Coefficients <sup>a</sup>						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	1.556	.184		8.461	.000
	KD	.651	.047	.672	13.927	.000

(Source: Results from the author's survey)

The authors found that the difference  $c - c' = 0.651 - 0.271 = 0.38$  shows us there is a difference. Performing the t-test to evaluate the difference through the difference  $c - c'$  using the



Sobel Test technique found that there are additional intermediate effects both direct and indirect, which are statistically significant and have the same direction. Thus, lecturer satisfaction (HL) is an intermediate variable affecting the relationship from KD to TD.

In addition, the value of  $R^2 = 0.621$  is in the range of  $50\% < R^2 < 70\%$  (Le Van Huy, 2012) showing that the close relationship of KD and HL explains about 62.1% of lecturers' change readiness when ensuring and accrediting faculty satisfaction in the context of university autonomy.

## 5. MANAGEMENT IMPLICATIONS

Research results show that accreditation and quality assurance actually have a direct impact on both faculty satisfaction and change readiness of lecturers in the context of university governance shifting to autonomy. This gives education managers the first administrative implication that is to actively improve the quality of education, standardize processes, and accredit higher education according to international standards in order to ensuring the quality of education in the context of university autonomy. Besides, the satisfaction of lecturers really has an impact on the willingness to change of the lecturers, which means that if the lecturers are satisfied, they will be change readiness, not if the lecturers are not satisfied, they are still willing to change. Therefore, educational administrators need to strengthen measures to satisfy lecturers, thereby contributing to the successful implementation of their university autonomy process, helping the higher education to develop sustainably and affirm its position in the international education market.

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Phan Ngọc Chính

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