Barriers to the Creation of Good-Quality Jobs in Tunisia: Economic Stagnation and Private Sector Paralysis

Antonio Nucifora, Doerte Doemeland, and Bob Rijkers

Tunisia’s good economic performance over the last few decades has resulted in increased prosperity and rapid poverty reduction. Tunisia has enjoyed a nearly 5 percent average annual gross domestic product (GDP) growth since the 1970s, placing the country among the leading performers in the Middle East and North Africa (MENA) region. In addition, growth has been fairly inclusive; poverty declined from 32 percent to 16 percent between 2000 and 2010, and income per capita of the lower 40 percent of the population improved significantly—by one-third in per capita terms—during the period. Tunisia has also performed well on most development indicators. Public investment in human development has resulted in impressive improvements in reducing infant and maternal mortality and child malnutrition at the national level, and education levels have increased dramatically. Great strides have also been made in improving the country’s infrastructure. Roads, ports and airports, and information and communication technology infrastructure have been built throughout the country.

By the late 1990s, however, the economy increasingly struggled to advance, and economic performance remained insufficient and its GDP per capita grew far below the growth rates observed in other upper-middle-income countries (UMICs) over the same period.

Further, Tunisia has been plagued by high unemployment, because the rate of job creation was insufficient, and the quality of the jobs created remained low. Unemployment has remained persistently above 13 percent since the early 2000s, increasingly affecting Tunisian youth. Most of the jobs created by the economy were in low-value-added activities and mostly in the informal sector, offering low wages and no job security, which did not meet the aspirations of the increasingly large number of university graduates. As a result, in recent years
unemployment has mostly fallen on young and educated individuals, reflecting a structural mismatch between the demand for labor, tilted toward the unskilled, and a growing supply of skilled labor (World Bank 2010). These persistently high rates of unemployment, coupled with the low quality of available jobs, in great part are responsible for the great social discontent that has been expressed by Tunisia’s youth and that set the stage for the Revolution in January 2011.

This chapter provides an overview of the main challenges the Tunisian economy is facing and that are at the root of the feeble performance in creating good-quality jobs. At the macroeconomic level, the analysis highlights an economy characterized by limited structural change and indicates that economic performance has been driven mainly by the expanding role of the public sector. It also suggests the existence of severe distortions that have contributed to a suboptimal allocation of resources, keeping economic performance below potential. This is followed by an analysis of firm-level dynamics that highlights the corresponding paralysis of private sector firms and suggests the existence of significant distortions that are at the root of the underperformance of private firms. The results show an economy where firms’ dynamics are stunted and characterized by stagnant productivity and weak job creation—attesting to the limitations of Tunisia’s current economic environment.

Stunted Macro Dynamics: Persistent Unemployment, Low Productivity, Misallocation of Resources, and Weak Structural Change

Tunisian growth performance over the last two decades was good compared to its regional peers, but was substantially weaker than other UMICs. Tunisia grew at about 3.4 percent per year in real GDP per capita between 1990 and 2010, and was the second-fastest-growing country in the MENA region since 1990. Nevertheless, other UMICs on average grew 1.5 times faster over the last decade (figure 1.1 and table 1.1). Well-performing UMICs such as Bosnia and Herzegovina and China enjoyed double-digit growth over the same period.

The underlying reason for this meek performance is that Tunisia suffers from a structurally low level of investment, especially domestic private investment. Investment hovered at around 24 percent during 2000–10, which is low compared to other UMICs and take-off countries. The level of private domestic investment is especially low at around 15 percent in Tunisia over the period.

Domestic private investment remained focused on real estate considered safer from predation by then-president Ben Ali. In terms of sectors, most of domestic private investment (54 percent) has been concentrated in the services sector, which is highly shielded from international competition. Foreign direct investment (FDI) inflows were significant at 3.7 percent of GDP on average during 2000–10, but were mainly focused in the energy sector. FDI in manufacturing remained mainly in low-value-added and assembly activities. Further, FDI in the services sector continues to remain below
10 percent, even though these sectors are critical to improving the employment of university graduates.

In parallel, the unemployment rate has remained persistently high, and increasingly so among young graduates. Unemployment hovered above 13 percent over the last two decades. The economy was able to generate enough jobs to accommodate the youth bulge and the increase in the active share of the working-age population from 47 percent to 51 percent during this period.

However, a significant shift took place in the profile of the unemployed. Driven by the ambitious postindependence education policy, the number of university graduates increased steeply over the last two decades. Between 1990 and 2010, the share of population aged 15 and over with a tertiary education nearly quadrupled from 3.7 percent to 12.3 percent (figure 1.2). Yet as the economy remained stuck in low-productivity activities, it was unable to absorb this rapid increase in university graduates. Many of these graduates were hired by the public sector at large, which by 2010 employed over 60 percent of all university graduates. Still, the unemployment rate of skilled workers increased steadily. Until the 1990s,
unemployment among university graduates was negligible but by the end of 2012, over 30 percent of university graduates were jobless (figure 1.2).

While the Tunisian economy has been able to create jobs for the growing labor force, employment growth has not been enough to absorb all new entrants, and jobs have mostly been of low quality. Despite positive employment growth, there is an average annual net employment deficit of approximately 18,000 jobs, affecting disproportionally young, high-skilled workers in urban areas. In fact, employment creation has been concentrated in low-productivity activities, and many of the jobs created for high-skilled workers are of rather precarious quality. With few exceptions (that is, telecommunications and financial services), employment creation has been concentrated in low-value-added sectors, such as construction, trade, and nonfinancial services (see chapter 3 for a discussion of these subjects). Construction, manufacturing, and services (economic activities that display high informality rates, as documented below) have been the main sectors for employment for low-skilled and semiskilled workers.

Although the levels of investment and employment remain insufficient, their increase accounts for most of the growth over the last two decades, suggesting the existence of shortcomings in the economy. Between 1990 and 2010, accumulation of capital and labor contributed on average 36 percent and 35 percent to growth, respectively, and the remaining 28 percent of growth can be attributed to improvements in total factor productivity (TFP). This corresponds to an average annual TFP growth rate of approximately 1.3 percent, which is low when compared to fast-growing countries. Further, controlling for human capital, the growth contribution of capital, labor, and human capital in Tunisia becomes 36 percent, 35 percent, and 22 percent, respectively, such that

Figure 1.2 Evolution of Unemployment by Level of Education

Note: GDP = gross domestic product; A change in the definition of unemployment was introduced in 2008 to align Tunisia to the International Labour Organization definition and resulted in a reduction of approximately 1.5 percentage points in the level of unemployment.
contribution of improvement in TFP shrinks to an average 5 percent over the last two decades. In other words, once we account for the improvement in the quality of the labor force, we find that productivity improvements have been very limited over the last two decades.

The low growth in TFP suggests the existence of barriers that prevent a reallocation of resources toward more productive activities. TFP growth aims to measure efficiency improvement in the use of these factor inputs; under the law of diminishing returns, such efficiency improvements are critical for sustaining long-term growth. Increase in TFP is usually attributed to efficiency improvements in the use of factor inputs, which can take place within a given production activity or sector, or can be the result of a reallocation of resources across sectors.

While Tunisia displays fairly large differences in marginal productivity across sectors, surprisingly it has only a small productivity gap between manufacturing and agriculture, which underscores the low productivity of Tunisian manufacturing. This agriculture-manufacturing gap is very low in Tunisia compared to other countries. In 2005, labor productivity in manufacturing in Tunisia was only 1.7 times higher than in agriculture, even lower than the 2.3 gap in Sub-Saharan Africa and far below the 2.8 gap in Latin America and the 3.9 gap in Asia (McMillan and Rodrik 2011). In most developing countries, agriculture is the sector with the lowest productivity. In fact, the productivity of the agricultural sector in Tunisia is in line with that of other countries (figure 1.3). What is noteworthy is the low productivity of the manufacturing sector in Tunisia. This reflects the fact that, with some notable exceptions, manufacturing in Tunisia

Figure 1.3 Tunisia’s Agricultural Productivity in International Comparison, 2009

Note: The orange diamond represents Tunisia. The measure of output per worker includes the impact of improvements in capital stock and in human capital.
tends to focus on simple assembly and other low-value-added activities. Further, the agriculture sector is more productive than the textiles sector in Tunisia. In a sense, these findings capture the essence of the problem with the Tunisian economy.

In fact, Tunisia’s labor productivity remains low, and Tunisia has been losing ground with respect to benchmark countries over the last decade. The growth in output per worker (which we use as a proxy for labor productivity throughout this report) was around 2.5 percent on average over the last decade, below most benchmark countries in MENA and take-off countries in the European Union (EU) and Asia (figure 1.4). The low productivity reflects the productive structure of the Tunisian economy. In addition, increasingly Tunisia is moving toward the bottom of the group, reflecting the structural stagnation of the economy in low-productivity sectors.

In fact, as much as 77 percent of Tunisia’s workforce is employed in low-productivity sectors. Low-productivity sectors here refer to sectors with below-average productivity, which in 2009 included agriculture, textiles, diverse manufacturing, commerce, the public sector, and construction and public infrastructure (figure 1.5). High-productivity service sectors, such as banking, transport, and telecommunications, absorbed only 7.7 percent of total employment. The share of workers in low-productivity sectors is high compared to other developing countries. Further, controlling for human capital reveals an even more profound misallocation of human capital (figure 1.5). In 2009, as much as 75 percent of Tunisia’s human-capital-augmented labor was employed in sectors with below-average productivity, of which 24 percent was in public administration.

**Figure 1.4 Output-per-Worker Average Annual Growth Rate, 2000–10**

<table>
<thead>
<tr>
<th>Percent</th>
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<tbody>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Figure 1.5  Sectoral Labor Productivity and Employment in 2009

(a) Output per Worker

- Value added (left axis)
- Employment (right axis)

(b) Output per Unit of Human Capital

- Value added, human capital adjusted (left axis)
- Units of human capital (right axis)

Note: Public works program refers to construction and public infrastructure.
Further, at the sectoral level our measure of productivity is inflated by the monopolistic profits in the transport, telecommunications, and commerce sectors. Productivity growth was also lower when we consider that at the sector level it appears to have increased the most in transport and telecommunications and commerce (figure 1.6), largely reflecting the rents that exist in these sectors as a result of the barriers to entry. Only a few companies have been licensed to operate in these sectors, which in fact were primary targets of ex-President Ben Ali’s clan (World Bank 2014a).14

In line with the discussion above, the overall contribution of manufacturing to growth has been weak, lacking productivity and employment growth. Average productivity growth in the manufacturing sector was only 0.9 percent between 2000 and 2010. “Within” sector productivity growth of the manufacturing sector contributed only 5 percent to Tunisia’s GDP per capita growth during 2000–10, and its “structural” contribution (i.e., due to reallocation of resources across sectors) was 4.3 percent. Its employment contribution was negative, largely driven by the shedding of jobs in the textiles sector, which struggled to remain competitive after the phasing out of the multi-fiber agreement in 2005 (figure 1.7).15

**Figure 1.6  Sectoral Contribution to GDP Growth in Tunisia, 2000–10**

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The manufacturing sector that had the highest productivity growth was the electronics and mechanical industry sector, where productivity increased by 30 percent during the period. Productivity of the chemical sector shrank by 33 percent during the period.16

Overall, sectors dominated by offshore firms had weak “within” productivity growth, while sectors dominated by onshore firms have been characterized by rents extraction. In order to explore the differences in performance between onshore and offshore sectors,17 we carried out a growth decomposition distinguishing between sectors where more than 60 percent of firms are totally exporting (which we consider as prevalently “offshore sectors,” and to a large extent are confined to the manufacturing sectors) and other sectors (which we consider as prevalently “onshore sectors”).

As expected, prevalently offshore sectors had on average weak “within” productivity growth over the last decade, reflecting the fact that offshore firms have

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![Figure 1.7 Sectors and Structural Change in Tunisia, 2000–10](image-url)

*Figure 1.7 Sectors and Structural Change in Tunisia, 2000–10*

largely remained focused on low-value-added and assembly activities. Overall, the offshore economy reduced employment without increasing productivity. The positive structural change in this sector is therefore unlikely to be the result of labor shedding toward more productive sectors but rather to reflect a possible loss of competitiveness. In contrast, the prevalently onshore sectors show a large “within” contribution to growth. As discussed above, this reflects the rents extracted in key onshore sectors as a result of restricted access to a few privileged firms. Structural change was negative in the onshore economy as high productivity service sectors, such as financial intermediation services, shed labor, and low productivity sectors, such as enterprises services, absorbed them.

In sum, the Tunisian economy appears stuck in a low-productivity conundrum. The analysis of structural change highlights an economy that is performing weakly not just because it has relatively low productivity growth and employment, but also because of the sources of that growth. On the export-oriented (offshore) side, the low productivity is the result of a sector mainly focused on low-value-added and assembly activities for the EU. On the domestic-oriented (“onshore”) side, there has been rents extraction by privileged cronies. To make matters worse, there is a lack of structural change, highlighting an economy that lacks dynamics toward a more productive model.

To assess how the process of structural transformation has contributed to Tunisia’s growth in the past, we carried out a different decomposition of GDP per capita growth. In order to explore the sources of productivity growth in Tunisia, we decompose GDP growth in the contribution of changes in the demographics, the level of employment, and the level of productivity growth. The latter can then be further divided into two additional components: changes in sector-level productivity (the “within” component) and changes arising from a reallocation of labor between sectors (the “across” component), which measures the speed of “structural change” in the economy.

The results highlight that the Tunisian economy has been characterized by low productivity and limited structural change over the last decade; that is, the economy has remained stuck in low-productivity activities. Decomposing output per worker in its “within” and “across” components reveals that between 2000 and 2009, the contribution of structural change to economic growth has been positive but weak. As mentioned, labor productivity increased at a rate of 2.5 percent per year, contributing roughly 68 percent to GDP growth between 2000 and 2010. Most of this productivity growth took place “within” sectors, accounting for 60 percent of real GDP growth per capita (or 2.2 percent per year; figure 1.8).

Structural change, that is, the reallocation of labor from low-productivity to high-productivity sectors, contributed only 8 percent to the change in real GDP per capita between 2000 and 2010 (or 0.4 percent per year; figure 1.8). This finding confirms that the Tunisian economy is unable to efficiently reallocate resources from low-return to high-return activities, and this is reflected in the relatively low rate of GDP growth and job creation. Performance was even weaker when we consider that our measure of productivity is inflated by the expansion of the public sector. A large share of our measure of productivity therefore
simply reflects the increase in the size of the public administration, that is, it is not a real increase in productivity, just an increase in public expenditures.22

The low productivity is reflected in the fact that while more than half of Tunisia’s exports are final goods, many of them are only assembled in Tunisia. Overall, the share of equipment and final consumption goods has remained constant over time. There has been a slight increase in intermediate goods, however, to some extent reflecting the increase in mechanical and electrical components. If transport, real estate services, and the telecommunications sector create an important part of value added, their net exports are low (World Bank 2014a). Chemical products; textiles, garments, and leather; and the mechanical and electrical industry contribute the most value added in exports but, as discussed above, these are all low productivity sectors in Tunisia.

In fact, the value added of export sectors with a high share of high-technology (high-tech) goods tends to be low in Tunisia, confirming that the sophistication of exports remains limited. Food processing followed by the textiles sector has the largest domestic value added, but they produce no high-tech products and do not employ high-skilled workers (World Bank 2014a).

On the contrary, the mechanical and electrical industry is the manufacturing sector that contributes the smallest share to value added, despite the fact that this sector seems to produce a relatively large percentage of high-tech products.23 This observation is consistent with the anecdotal evidence that Tunisia has mainly attracted assembly tasks in the value chain of sophisticated goods. The chemical sector exports the largest share of high-tech products, but domestic value added
accounts for only 22 percent of production. In sum, while Tunisia’s exports appear to have started to diversify into more sophisticated products, in fact, largely only the assembly of these products is carried out in Tunisia, and hence there is no real improvement in the sophistication of the production structure. Tunisia’s exports are concentrated on only a few countries, reflecting the fact that a large share of these exports consists of goods assembled for France and Italy. Geographic diversification of exports has been limited, with the EU absorbing nearly 80 percent of Tunisia’s exports, and within the EU, France, and Italy absorbing nearly 50 percent (table 1.2).24 This structure of exports is consistent with the reality of the Tunisian economy. In a sense, Tunisia does not “produce” its manufacturing exports—it assembles them for France and Italy to be exported to those countries. Companies in these countries have outsourced the assembly tasks and other low-value-added tasks to Tunisia, taking advantage of the very favorable offshore tax regime and the availability of cheap low-skilled human resources. This is not a problem in itself; however, the challenge is that the Tunisian economy has been unable to move beyond the assembly and low-value-added processes. This is largely the result of the duality between the onshore and offshore sectors (World Bank 2014a). The difference in tax regimes, combined with the heavy bureaucratic burden, discourages offshore companies from interacting with onshore companies and results in a segmentation of the economy and a lack of linkages and spillovers between these two parts of the economy.

**Private Sector Paralysis: Firm Dynamics in Tunisia**

The limited dynamics of the economy at the macro level suggest that the performance of Tunisian private sector firms in terms of job creation, productivity, and exports growth is weak.25 This section examines the performance of Tunisian private firms in terms of job creation, productivity, and exports growth in order to identify policy levers to promote employment creation and growth. We first focus on what is arguably the most salient policy issue, job creation, by examining which firms create the most jobs. Subsequently, we examine the drivers of productivity growth, which is arguably the most important determinant of income in the long run. The analysis allows us to assess whether the process of “creative destruction” is working and driving productivity growth among private firms in Tunisia.26

The bulk of net job creation is driven by the entry of one-person firms (that is, self-employment), which accounts for 74 percent of all net new job creation.

<table>
<thead>
<tr>
<th>Table 1.2 Tunisian Exports and Imports Shares by Destination in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU (%)</strong></td>
</tr>
<tr>
<td>Share of Tunisia’s exports in region’s imports</td>
</tr>
<tr>
<td>Share of region’s import in Tunisia’s exports</td>
</tr>
</tbody>
</table>

*Note: 2007 was chosen because it is prior to the global financial crisis. EU = European Union, MENA = Middle East and North Africa.*

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Annual average job creation patterns by firm size and age during 1997–2010 show that the contribution of start-up self-employment clearly dominates the contribution of all other groups of firms, and is in fact larger than the sum of all other groups combined (figure 1.9; see also box 1.1). Furthermore, subsequent to entry, one-person firms exhibit far less growth, so the net contribution to job creation of one-person firms is much more modest. Nonetheless, half of all net new jobs created between 1996 and 2010 were in self-employment. Across size classes, net job creation is typically concentrated among the youngest firms; after approximately four years, firms generally start to shed labor.

Despite the important role of entrants, entry rates are low compared to those observed in other countries. The entry density of limited liability companies suggests that Tunisia enjoys lower entry rates than advanced countries and many other developing countries (figure 1.10). However, these entry rates (of limited liability companies) may not be good proxies for overall entry rates in the economy.27

Job creation is hampered not only by limited entry, but also by a lack of (upward) mobility; few firms grow both in the short term and in the long term. Aggregate net job creation rates show that postentry job creation is low (figure 1.10). In principle, this need not be inconsistent with high dynamism; low average job creation could mask a combination of both rapid expansion of a group of successful firms and high exit rates of less successful firms. Alternatively, low job creation could reflect stagnation across the board.

To unveil which mechanism accounts for the disappointing net job creation numbers, we examine the transitions of firms between broad size classes (table 1.3).
Box 1.1 Which Firms Create the Most Jobs in Tunisia?

Small firms contribute the least to employment creation in Tunisia (once we account for firm age). Many small and medium enterprise promotion programs are predicated on the notion that small firms create more jobs than larger firms. The results of non-parametric regressions in which we regress firm growth, measured as the change in employment between period $t$ and $t+1$, on firm size and age dummies are presented in the figures B1.1.1 and B1.1.2. As shown, when we control for firm age, the relationship between firm size and growth shows that small firms contribute the least to employment creation. In other words, small firms grow because they are young, not because they are small. In fact, young firms consistently record the highest rates of net job creation. Promoting more entry would thus not only result in more job opportunities in the short term, but would also likely generate more jobs in the medium term, since young firms grow faster than older firms.

Figure B1.1.1 Net Job Creation by Firm Size and Age, All Firms, 1997–2010

Source: Rijkers et al. 2013.

Note: The dependent variable is the Davis-Haltiwanger-Schuh growth rate, which allows for an integrated treatment of the contributions of entering, continuing, and exiting firms. The regressions are weighted and control for industry and year effects. The resulting coefficients are thus interpretable as conditional average net job flows. To minimize the impact of measurement error, we base our size dummies on average size categories. Since we have more than 7 million observations, all size category variables are significant at the 0.01 percent significance level.
Panel A presents evidence on annual size transitions and panel B presents transitions between 1996 and 2010, the longest period available in our database. The matrixes show the proportion of firms in a particular size class moving into another size class per year and 14 years later.

The table reveals that most firms do not grow, even in the long term. Few firms change size class, even during a 14-year period; one-person firms (the registered self-employed) are least likely to expand into a larger size class, and few micro and small firms ever grow large. For example, only 2 percent of all firms employing between 10 and 50 people in 1996 employed more than 100 workers by 2010. The transition matrixes also show that overall exit rates seem quite low, perhaps in part due to complex bankruptcy procedures and lack of competition. While low exit rates help preserve job opportunities, they are also indicative of limited competitive pressure and a lack of dynamism.
Figure 1.10  Limited Liability Company Entry Rates, Selected Countries, 2004–09

Source: Klapper and Love 2010.
Note: Entry density measures the number of newly registered limited liability firms per 1,000 working-age people (ages 15–64).

Table 1.3  Employment Transitions

\[a. \text{Short run: annual transitions (1996–2010)}\]

<table>
<thead>
<tr>
<th>Size in year t + 1</th>
<th>Exit</th>
<th>1</th>
<th>2–5</th>
<th>5–9</th>
<th>10–49</th>
<th>49–99</th>
<th>100–999</th>
<th>≥ 1,000</th>
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<tbody>
<tr>
<td>1</td>
<td>6.51</td>
<td>91.98</td>
<td>1.34</td>
<td>0.10</td>
<td>0.06</td>
<td>0.01</td>
<td>0.01</td>
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<tr>
<td>2–4</td>
<td>8.16</td>
<td>7.82</td>
<td>79.61</td>
<td>3.93</td>
<td>0.44</td>
<td>0.02</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>5–9</td>
<td>6.91</td>
<td>1.30</td>
<td>14.18</td>
<td>68.75</td>
<td>8.71</td>
<td>0.10</td>
<td>0.04</td>
<td>0.00</td>
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<td>10–49</td>
<td>3.79</td>
<td>0.90</td>
<td>1.80</td>
<td>8.76</td>
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<td>3.73</td>
<td>0.49</td>
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<td>50–99</td>
<td>2.72</td>
<td>0.61</td>
<td>0.43</td>
<td>0.50</td>
<td>16.04</td>
<td>67.84</td>
<td>11.84</td>
<td>0.01</td>
</tr>
<tr>
<td>100–999</td>
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<td>0.21</td>
<td>0.26</td>
<td>1.91</td>
<td>8.31</td>
<td>86.56</td>
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<td>≥ 1,000</td>
<td>1.59</td>
<td>0.00</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
<td>11.56</td>
<td>86.27</td>
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\[b. \text{Long run: 1996–2010}\]

<table>
<thead>
<tr>
<th>Size in 1996</th>
<th>Exit</th>
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<th>2–5</th>
<th>5–9</th>
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<tr>
<td>1</td>
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<td>2–4</td>
<td>53.36</td>
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<td>25.44</td>
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<td>0.05</td>
<td>0.07</td>
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<td>5–9</td>
<td>53.69</td>
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<td>10–49</td>
<td>46.54</td>
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<td>2.65</td>
<td>1.87</td>
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<td>19.16</td>
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<td>100–999</td>
<td>38.11</td>
<td>1.17</td>
<td>1.93</td>
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<td>≥ 1,000</td>
<td>18.75</td>
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<td>3.13</td>
<td>0.00</td>
<td>37.50</td>
<td>40.63</td>
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In sum, the lack of net job creation that underpins Tunisia’s disappointing aggregate unemployment numbers does not appear to be due to excessive job destruction, but rather reflects a lack of upward mobility (that is, limited growth of firms), and limited entry, especially of large firms. These patterns of firm mobility, entry, and exit are at odds with the up-or-out dynamic often observed in developed countries, in which entrants tend either to survive and grow or to exit. These findings are indicative of the existence of severe restrictions to market access, which obstruct firm entry, and barriers to competition, which protect rent extraction by cronies and incumbent firms and hinder the growth of new and existing productive firms.

The stunted firm dynamics reflect both a lack of competition and widespread barriers to entry in the economy. The results are also consistent with the fact that the offshore sector has mainly attracted footloose investments and low-value added-activities, notably assembly (World Bank 2014a). The lack of mobility may also be driven in part by restrictive labor regulations that make firing both costly and difficult (see chapter 3). Removing market barriers and better promoting firm entry would thus not only result in more job opportunities in the short term, but also likely help generate more jobs in the medium term, since young firms grow faster than older firms.

In addition, firm growth appears to be only weakly correlated with profitability and productivity, pointing toward severe barriers to competition and weaknesses in the reallocative process. Given the limited upward mobility, it is important to examine which firms are able to expand employment and what might be the impediments to firms’ growth.

The results of regressions indicate that productive firms and more profitable firms expand employment significantly faster, but the relationship among productivity, profitability, and employment creation is weak. Although our proxies for productivity and profitability may suffer from substantial measurement error, taken at face value our estimate suggests that, all else being equal, doubling output per worker is associated with only 1–5 percent higher employment growth. Similarly, moving up a decile in the profitability distribution (by sector and year) is associated with an acceleration of employment growth of only about 1–2 percent, all else being equal (Rijkers et al. 2013).

Firms’ performance is also impaired by the onshore-offshore duality. As discussed in the World Bank’s “The Unfinished Revolution: Bringing Opportunity, Good Jobs, and Greater Wealth to All Tunisians” (2014a), the analysis of firms’ dynamics also provides evidence for significant duality between the onshore and offshore sectors, manifested in, among other things, differences in firm-size distribution, average productivity, and export performance. The offshore sector has performed better than the onshore sector as an engine of job creation and export growth, stemming to a large extent from its ability to attract FDI. However, offshore firms rely heavily on imported inputs, since they mainly focus on low-value-added assembly activities, with limited links to the domestic economy.
Further, the results also highlight that importing firms are among the best performing in terms of profitability, likely reflecting the rents extracted as a result of exclusive import licenses. It was common under President Ben Ali for exclusive import licenses (for import and distribution of specific products) to be awarded to cronies and family members. More generally, there is strong evidence that the dual economy system, entailing restrictions to market access and regulatory control especially in the onshore sector, has been systematically abused by cronies who receive special privileges and extract rents, thereby stifling competition and investment.

**Slow Productivity Growth and Persistent Allocative Inefficiency: Evidence from the Manufacturing Sector**

An in-depth analysis of the productivity of manufacturing firms reveals that productivity increases with firm size, foreign ownership, and being in the offshore sector. Average TFP increases with firm size, with the very largest firms being the most productive and the smallest firms being the least productive (Marouani and Mouelhi 2013). Firms that employ more than 200 workers are generally roughly twice as productive as firms that employ between six and nine people. Despite the fact that larger firms are more productive, however, the data also suggest that allocative efficiency is rather low; high-productivity dispersion within size categories is indicative of frictions and distortions. Productivity is also higher in offshore and foreign firms. The findings that offshore firms are both larger and more productive, even when we control for their size, attests to the existence of duality, that is, the segmentation of the economy between the onshore and offshore sectors.

Productivity growth has been stagnant. The evolution of TFP and output per worker (as a proxy for labor productivity) in six manufacturing subsectors in Tunisia (namely, agrofood, chemical products, ceramics, electronics, textiles, footwear, and leather, and a residual category comprising other manufacturing activities) highlights that most sectors record average annual growth rates of less than 1 percent (figure 1.11), which is very low. The high correlation between labor productivity and TFP growth reflects the fact that firms did not on average increase the amount of capital per worker; in fact, if they had done so, one would see increases in labor productivity over time.

Thus, investment in physical capital has been limited. Investments in innovation have been lagging, too; according to the Tunisian Institute of Competitiveness and Quantitative Studies (Institut Tunisien de la Compétitivité et des Etudes Quantitatives, ITCEQ), research and development (R&D) expenditure accounted for 1.2 percent of GDP in 2009, whereas Organisation for Economic Co-operation and Development countries on average spend 2.3 percent of their GDP on R&D (ITCEQ 2010; OECD 2012). The lack of investment is consistent with the lack of firm growth documented above.

Allocative inefficiency persists, since there has been no significant reallocation of resources toward more productive firms. Sectoral productivity is essentially...
a weighted average of the productivity of all firms in a sector, with weights corresponding to the market share of each firm. If the most productive firms have the largest market shares, the weighted average productivity will be much higher than a simple unweighted average. The difference between weighted average productivity and (unweighted) average productivity is thus a proxy for allocative efficiency; the larger the difference, the better the market is at allocating resources to firms that use them most productively (see Olley and Pakes 1996). Tracing the evolution of the difference between unweighted and weighted productivity thus enables us to assess to what extent productivity growth has been driven by the increase in average firm productivity—the “within” effect—and the reallocation of resources from less to more productive firms—the “between” effect.

The evolution of these measures during 1997–2007 for various manufacturing subsectors shows that the gap between weighted and unweighted productivity is low and has not increased substantially over time (figure 1.12); “within” firm productivity growth has been the dominant driver of the limited productivity growth observed in Tunisia over the last decade. By contrast, reallocation
of resources from the least productive to the most productive firms has been limited, accounting for roughly 9 percent of overall growth. This is yet another piece of evidence pointing toward lack of “creative destruction” and structural stagnation.

These results reinforce the evidence of persistent allocative inefficiency in the economy, which resonates with the absence of a strong correlation at a firm’s level between employment growth and productivity presented above, and also with macro-level evidence showing a lack of structural change (see previous section). It is also consistent with the presence of relatively few large firms. On the positive side, it suggests there is scope for significant growth if distortions that obstruct efficiency-allocative reallocation can be removed.

In sum, our results attest to structural stagnation: entry and exit are very low, and mobility is limited and only weakly correlated with productivity. Firm growth is only weakly correlated with profitability and productivity—pointing to the existence of barriers to competition and severe weaknesses in the reallocative process. Offshore firms are the best performers. That said, importing-only firms appear to be performing extremely well, possibly reflecting the

Figure 1.12 Productivity Growth Decomposition over Time

Graphs by sector

Source: Marouani and Mouelhi 2013.

Note: IAA = agribusiness; ICH = chemical industries; ID = diverse industries; IMCCV = construction material, ceramics, and glass; IME = mechanical and electrical; ITHC = textiles, garments, and shoes; TFP = total factor productivity.
rents associated with licenses for the import and distribution-retail of goods in the domestic markets (which was largely a privilege granted to cronies of ex-President Ben Ali).

**Conclusions: Structural Stagnation and Lack of “Creative Destruction”**

While the Tunisian economy has registered some notable achievements, it has increasingly demonstrated that it is stuck in low performance. Since the 1970s, Tunisia has experienced reasonably good levels of economic growth—one of the fastest in the MENA region—which was accompanied by rapid poverty reduction. Further, significant public investments in infrastructure and education have endowed the country with a significant stock of capital and human resources. Nevertheless, significant shortcomings have undermined Tunisia’s economic performance. Notably, the economy has been unable to accelerate growth and job creation, and has remained stuck in low-productivity activities. As a result the high level of unemployment has been increasingly concentrated on the growing number of university graduates.

By documenting the symptoms of stagnation that characterize the Tunisian economy, this chapter underscores the importance of increasing competition in the business environment to enable entry of new firms and to promote the growth of the most productive firms. The stunted pace of “structural change” suggests the presence of widespread barriers to the efficient operation of markets, which prevents the reallocation of resources to the most productive sectors. At the firm level, the evidence suggests the existence of severe distortions that attenuate the process of creative destruction.

To facilitate a more dynamic economic environment and unleash private sector growth, the focus needs to be on how to remove restrictions to market access and barriers to competition, which undermine productivity growth and ultimately job creation; to promote entry of new firms, especially large firms; and to remove constraints to the growth of firms to enable small firms to grow larger. In addition, a pervasive lack of competition and restrictions to market access (introduced by the Competition Law, the Commerce Code, the Investment Incentives Code, and other sectoral legislation), and the prevalence of statutory monopolies have closed the domestic economy to competition and have created an onshore environment that stagnates in terms of productivity, because good firms are unable to grow.

Further, the current environment rewards rent seeking and cronyism to the point that the heavy state regulation has become a smokescreen for crony practices, severely hampering the performance of the private sector and the entire economy, to the exclusion of those who do not have good connections to politicians or the administration.

In turn, the inefficiency and rents extraction by cronies in the onshore economy also undermine the competitiveness of the offshore sector, which as a result has remained largely limited to low-value-added and assembly-type tasks.
The economic costs of this economic model are enormous. Within this environment, the Tunisian labor market is itself characterized by deep dysfunctions that have contributed to keeping the economy in low-productivity activities, which generate mainly low-quality, insecure jobs. The high rates of underemployment and unemployment in Tunisia reflect the structural mismatch between the increasingly skilled labor force and an economy that has remained stuck in low-productivity jobs. As will be discussed in the rest of this report, the lack of a dynamic economic environment that enables productive firms to grow is in part also a result of the policies that regulate the labor market and the distortions introduced by the labor code, the social insurance system, and the wage negotiation mechanisms. The resulting large rates of unemployment and informality, and the growing graduate unemployment over the last decade, are at the root of the great social discontent that has been expressed by Tunisia’s youth.

The rest of this report is organized as follows.

Chapter 2 presents an overview of the Tunisian labor market, with a particular focus on labor force participation, unemployment, and employment creation. Chapter 3 discusses the main challenges of the Tunisian labor market, including skills mismatches, limited labor mobility, social protection, labor regulation, and how the public sector introduces distortions. Chapter 4 concludes with a set of policy recommendations on active labor market programs, social insurance, and labor regulations.

Notes

This chapter is drawn from World Bank (2014a), which presents an in-depth analysis of the main challenges that hinder the Tunisian economy.

1. Unemployment rose to 18.6 percent in 2011 following the revolution and declined to 15.3 percent as of December 2013.

2. In fact, jobs have increasingly been informal or under fixed-term contracts, which provide no job security, resulting in a high level of turnover.

3. While the statistical series suggests a decrease in unemployment from 16 percent in 1989 to approximately 13 percent in 2010, in fact the reduction in unemployment has been smaller, since approximately 1.5 percentage points of the reduction in the unemployment rate can be attributed to the change in the definition of unemployment introduced in 2008 to align Tunisia to the International Labour Organization definition.

4. This is much higher than in comparable middle-income countries in Latin America and the Caribbean and in Eastern Europe and Central Asia (at 36 percent and 44 percent, respectively).

5. In fact, as will be discussed in chapter 3, the Tunisian economy is creating jobs for low-skilled individuals at faster rates than their entry into the labor force, contributing to a general decrease in unemployment among low-skilled individuals.

6. The large contribution of capital accumulation to GDP growth was largely driven by FDI in the offshore sector which, as mentioned above, largely consisted of investments in energy and in low-productivity activities with limited spillovers (such as the textiles sector).
7. TFP is a commonly used measure of productivity. The growth accounting methodology used in this report is described in World Bank (2014a). Briefly, TFP is calculated as the residual growth that cannot be attributed to increased use of labor and capital. Being the residual, everything not captured by changes in labor or capital is picked up by TFP growth. This includes measurement errors and changes in utilization rates of factor inputs. However, estimating capital stock is beset with problems. We use the perpetual inventory method to estimate the capital stock using investment data since 1960. Available data did not allow for a separation of private and public investments. Nevertheless, TFP can be shown to be a component of labor productivity (discussed below), but the two do not coincide because the latter is also influenced by the amount of capital per worker.

8. Many developed countries experienced TFP growth of more than 50 percent between 1950 and 1970 (Christensen, Caves, and Swanson 1980), that is, TFP growth rates higher than 2 percent per year. The Republic of Korea’s annual TFP growth rate was a record average 4 percent during the 1980s and 2.6 percent during the 1990s and 1.9 percent during 2001–06. Over the same periods, Malaysia’s TFP growth rate was 1.5 and 1.7 percent, respectively (World Bank 2010).

9. Unfortunately, no country comparisons can be made in the level of TFP with human-capital-adjusted labor, because estimates are not yet available for most countries.

10. This analysis is based on average productivity. Under perfect competition, marginal labor productivity should be equalized. Assuming a constant returns production function, since labor’s share is not necessarily negatively correlated with average productivity, large gaps in average productivity may reflect large gaps in marginal labor productivity. There are some caveats. For example, high average labor productivity in capital-intensive sectors, such as mining, may simply reflect the fact that the labor share is low.

11. One possibility is that we overestimate productivity in the agricultural sector because employment in the agricultural sector may not be well captured in the Enquête Nationale des Entreprises (ENE) or the Répertoire Nationale des Entreprises (RNE). However, both the ENE and RNE include information on microenterprises and the self-employed.

12. In fact, Tunisia has performed worse than other MENA countries. Over the last decade labor productivity growth was around 3–3.5 percent a year in Morocco and Jordan, respectively.

13. The average share of workers in low-productivity sectors of seven Latin American countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, and República Bolivariana de Venezuela) was 66 percent in 2005, ranging from 53 percent in Mexico to 81 percent in República Bolivariana de Venezuela. In Asia, the share of workers in low-productivity sectors was high in India, at 84 percent, but significantly lower in countries with a strong manufacturing base such as the Republic of Korea (66 percent), Malaysia (64 percent), Taiwan (56 percent), and Thailand (70 percent).

14. The expansion in the telecommunications sector was also the result of growth in the mobile market over the period. In 2002, Tunisia allowed the private provider Tunisiana, a joint venture of the Arab Republic of Egypt’s Orascom and Kuwait’s Wataniyya, to enter the mobile phone sector, leading to a steep decline in prices and an increase in coverage rates. A 35 percent stake of Tunisie Telecom was privatized in 2006, and a new mobile and 3G license was issued in 2008 to a consortium led by France’s Orange. The family of ex-President Ben Ali held stakes in both Tunisiana.
and Orange. Nevertheless, prices of telecommunications in Tunisia remain among the highest in the world, reflecting the market power of these operators, who are able to extract enormous rents from consumers (see World Bank 2014a, 2014b).

15. As mentioned, not every structural change is good. In the case of Tunisia, the decline of employment in the low-productivity textiles sector significantly contributed to Tunisia’s positive structural change. To pass judgment on whether this change was welfare improving and growth promoting, however, would require a more in-depth analysis by looking at marginal productivity of the sector and whether the labor resources were reemployed in other economic activities.


17. Starting in 1972, Tunisia granted 10 years of corporate tax holiday and tax-free imports of intermediate inputs for firms producing for export—the so-called “offshore sector.” These firms are also largely spared the suffocating layers of red tape and bureaucracy that afflict (mainly) firms producing for the domestic market—the so-called “onshore sector.” The onshore sector is also characterized by severe barriers to entry and competition.

18. See World Bank (2014a) for a discussion of methodology and data sources used in this analysis. An alternative methodology for decomposing labor productivity has been proposed by Pagés (2010) and McMillan and Rodrik (2011).

19. At the sectoral level, the “within” component should also be considered as a measure of the profitability of the sector in that it measures the return to resources invested in that sector per unit of labor. While we use this as a measure of higher productivity, it can also reflect the ability of firms to extract rents from consumers. Similarly, it is important to underline that not all structural change is good. For example, productivity may be higher in sectors with monopoly power. A reallocation to these sectors would contribute positively to structural change but would not necessarily promote growth or enhance welfare (for a more detailed discussion, see Lederman and Maloney 2012).

20. In fact, this contribution includes both the impact of increased capital stock and human capital.

21. Still, its contribution has been positive in Tunisia. On the contrary, in many Latin American and Sub-Saharan African countries “structural change” between 1990 and 2005 has been negative, depressing economic growth (McMillan and Rodrik 2011).

22. Measuring the productivity of the public sector is notoriously difficult since it produces non-market outputs whose value cannot be directly observed. As a result, public sector output is generally calculated by equating it to its inputs (that is, the amount spent on producing this output, which to a large extent consists of wages). The economic rationale behind equating output and input is that “rational” governments would spend up to the point where the marginal benefit from spending was equal to its marginal cost. This implies that increases in public spending translate automatically into one-to-one increases in output, rendering meaningless an analysis of public sector productivity based on national accounts data. In other words, in our analysis, the increase in value added of the public sector reflects simply an increase in the budget expenditures on wages.

23. A large part of the domestic value added of exports tends to be created in the services sectors, especially transport, real estate services, and telecommunications.
Disentangling the domestic value chain into its sectoral components would therefore be important to understand the direct and indirect employment impacts of trade.

24. Nevertheless, as discussed in World Bank (2014a), the EU remains the market with the greatest potential for absorption of Tunisian exports.

25. The analysis in this section uses data from the Repertoire National des Enterprises (RNE), an administrative database containing information on all registered private sector enterprises, including one-person firms, maintained by the Institut National de la Statistique. Note that one-person firms are synonymous with self-employment; these are firms that do not hire any paid laborers and in which the owner provides all labor input.

26. The term “creative destruction” was coined by the Austrian economist Joseph Schumpeter (1883–1950). It refers to the fact that economic growth is the result of technological change and the innovations of new goods and services that emerge from the ashes of obsolete industries, that is, that economic progress is the result of fundamental changes in the structure of the economy and that economic growth is the result of a dynamic, evolving system.

27. Reliable cross-country data on entry rates are scarce. Figure 1.11 shows the entry density of limited liability companies, defined as the number of newly registered limited liability companies per 1,000 people of working age, across selected countries. In interpreting the figure, it is important to bear in mind that limited liability companies comprise only a subset of all firms, and the numbers may thus not be representative of the private sector at large.

28. Footloose investments are those not tied to any particular location or country, and that can relocate across national borders in response to changing economic conditions.

29. See Rijkers et al. (2013) for a discussion of the results.

30. This section draws on Marouani and Mouelhi (2013). The analysis uses data from the ENE, which contains information on manufacturing firms with more than five employees.

31. Marouani and Mouelhi (2013) estimate that offshore firms are roughly 18 percent more productive than onshore firms, even after accounting for the fact that offshore firms tend to be larger. Official tax data, however, do not yield the same monotonic relationship between productivity, proxied by output per worker, and firm size, most likely reflecting the impact of measurement error and differences in sectoral composition (see Rijkers et al. 2013).

32. Analyzing the drivers of TFP growth and allocative efficiency requires firm-level data on capital, labor, and value added, which are only available for manufacturing firms, which account for roughly one-fifth of aggregate employment and output. This section uses data from the National Annual Survey Report on Firms, an annual firm survey that covers approximately one-third of all manufacturing firms. The main findings are briefly presented here (see Marouani and Mouelhi 2013).

33. These growth rates are low compared to those recorded in other countries. For example, according to the U.S. Bureau of Labor Statistics, output per worker hour in manufacturing increased 3.1 percent per year in France between 2000 and 2007 and a spectacular 9.7 percent in the Czech Republic (Bureau of Labor Statistics 2012).

34. This matches the results of the growth decomposition presented in section “Stunted Macro Dynamics: Persistent Unemployment, Low Productivity, Misallocation of
Resources, and Weak Structural Change,” where we saw that the contributions of the increase in capital and labor to GDP growth were roughly similar.

References


