WORKING PAPER

Employment Diagnostic Demand Side Analysis: Application for Tunisia

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Abstract

Tunisia faces important employment challenges. In fact, the country has a high unemployment rate. The labour market is often fragmented. Labour productivity is generally low. The high level of informal employment illustrates the vulnerability of employment creation. For all these reasons and more, it is important to assess where progress has been made and to identify key opportunities and obstacles to the creation of productive employment. The present study offers an employment diagnostic analysis of Tunisia from the demand side. It goes on to address the determinants of demand for supply and cost of labour. The study will span micro and macro aspects of job creation and proposes an inquiry into a country-wide job diagnosis. The application of the methodological framework reveals three broad categories of binding constraints. (i) Cost of finance would constitute a binding constraint on growth and productive employment. (ii) Poor governance (weak property rights and rule of law), corruption and a complex judicial system have imposed high economic costs and appear to be a major constraint. (iii) Labour market regulation and the financial cost of labour can explain the weak productivity growth, small firm size and scaling up difficulties, and the high level of informal employment.

Keywords: Employment Diagnostic Analysis, Productive Employment, Binding Constraints, Tunisia

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Executive Summary

There is a growing consensus that employment should be viewed as a central public policy objective, rather than a result of the economic process. Although strong and sustained economic growth is necessary to create more and better jobs, the relationship is not always straightforward. According to Ianchovichina and Lustrom (2009), the main instrument for sustainable and inclusive growth is assumed to be productive employment.

The main objective of this study is to understand the nature of the deficiency in productive employment and to identify the constraints, challenges and opportunities for enhancing job-rich growth. In practice, the methodology builds on the well-known 'Productive Employment Diagnostics' framework, proposed by International Labour Office (2012).

The diagnostics approach advocates the use of a structured and comprehensive framework to identify a small number of higher impact policy areas and avoids one-size-fits-all strategies. The methodology can be a useful tool for policymakers to formulate a focused development strategy in the presence of limited resources.

The application of the employment diagnostic methodology framework on the Tunisian economy highlighted three broad categories of binding constraints. First, cost of finance would constitute a binding constraint on productive employment. In spite of the reforms achieved to date in the Tunisian financial sector, major challenges remain. In order to stabilise the banking sector and support credit supply more effectively, a consolidation of the banking system would seem necessary. Disengagement by the State, which still has a presence in almost a dozen banks with shareholding interests running from 10% to 87%, could favour this tendency. Competition in the financial sector can also be enhanced by promoting the development of capital markets as alternative sources of finance to bank loans. The banks' ability to price risks and manage loans can be improved by removing the cap on lending interest rates and reforming insolvency legislation.

Second, the analyses conclude that microeconomic risks are a major constraint to private investment in Tunisia. The failure of government policies and institutions creates microeconomic risks and distortions and reduces returns on private investments. In Tunisia, poor governance (weak property rights and rule of law), corruption and a complex judicial system have imposed high economic costs and represent major challenges that need to be addressed. So, a large set of reforms is needed to address these failures, by the foundation of a sound framework of economic governance to provide a clear and transparent set of rules. Governments should signal their commitments to the private sector by the adherence and the application of laws.

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Third, labour market regulation and the financial cost of labour can explain weak productivity growth, small firm size and scaling up difficulties and the high level of informal employment. To achieve greater flexibility in the labour market, it is important to reduce the gap in protection between permanent and temporary contracts, both through an easing of employment-termination regulations on permanent contracts and through an increase in protection for workers on temporary contracts.

1. Introduction

There is a growing consensus that employment should be viewed as a central public policy objective, rather than a result of the economic process. For a long time, the standard analysis of economic development has not focused sufficiently on the challenges of making economic growth rich-jobs and assumed that employment is a growth outcome.

The World Bank (2012) suggests jobs should "move centre stage" in development policy and for many years the International Labour Office (ILO) has been advocating a stronger policy focusing on employment. Although strong and sustained economic growth is necessary to create more and better jobs, the relationship is not always straightforward. The type of growth also matters.

According to Ianchovichina and Lustrom (2009), the main instrument for sustainable and inclusive growth is assumed to be productive employment. Employment growth generates new jobs and income for the individual, from wages or from self-employment, while productivity growth has the potential to lift wages of those who are employed and returns to the self-employed. So, the support for productive employment can, consequently, include efforts that directly or indirectly help foster new jobs and firms that pay sufficiently well, or raise productivity and earnings for existing jobs and firms.

The constraints to productive employment relate to labour demand, to labour supply and to matching the two. The demand side constraints reflect low demand for labour in sectors, firms and occupations that pay relatively better and, thus, offer more productive employment. The supply side constraints limit the ability of the population to take up better paid employment or improve earnings from their existing jobs. The matching constraints reflect lack of information and introduce a gap between demand and supply.

Tunisia faces considerable employment challenges. In fact, the country has a high unemployment rate. The labour market is often fragmented (high level of skilled youth and women unemployment). Labour productivity is generally low. The high level of informal employment illustrates the fragility of employment creation. Precarious work conditions are key obstacles to reducing poverty. For all these reasons and more, it is important to assess where progress has been made and to identify key opportunities and obstacles to the creation of productive employment.

The main objective of this study is to understand the nature of the deficiency in productive employment and to identify the constraints and

challenges, and opportunities, for enhancing job-rich growth. The methodology assesses where progress has been achieved and where to target efforts to achieve full and productive employment. In practice, it builds on the well-known 'Productive Employment Diagnostics' framework.

The productive employment diagnostic methodology, proposed by ILO (2012), has had a significant impact on policymaking. Its main motivation is to assist policymakers in the identification of binding constraints, through assessing where progress has been achieved and where to target effort in order to improve productive employment. The methodology provides a sound knowledge base for effective policies, institutional reforms and other interventions aimed at promoting productive employment.

This study attempts to exclusively identify the most binding constraints on creating job opportunities and offers an employment diagnostic analysis of Tunisia from the demand side. It goes on to address the determinants of demand for supply and cost of labour. The study will span micro and macro aspects of job creation and proposes an inquiry into a country-wide job diagnosis.

The analysis was undertaken in two phases. The first phase aimed to provide an analysis of patterns and dynamics of employment and economic development in order to arrive at a prior understanding of the context of country-specific development and the employment situation. The second phase of the diagnostic analysis was structured according to a 'decision tree' in order to identify and to understand the causes behind the main constraints and challenges, as well as opportunities for increasing productive employment in an inclusive and sustainable manner.

This study is organised as follows: Section 1 provides a context of recent economic trends and the main weaknesses in Tunisia's economic performance. Sections 2 through to 6 present the results under each topic shown on the analytical tree. The last section presents more detailed conclusions and general policy recommendations on many of the major issues identified.

2. Methodology

Promoting productive employment is a complex task to fulfill. To tackle the various facets of this challenge, the International Labour Office (2012) proposed a practical and useful methodology "Employment Diagnostic Analysis". The methodology can be a useful tool for policymakers to formulate a focused development strategy in the presence of limited resources. It can also be a great help for donor agencies in order to set up priorities in their

operations, therefore maximising the impact of their assistance to the recipient countries.

The diagnostics approach advocates the use of a structured and comprehensive framework to identify a small number of higher impact policy areas and avoids one-size-fits-all strategies. This original approach breaks with current forms of development policy agenda, which usually lead to the formulation of an extensive list of policy reforms, which need to be implemented simultaneously and which have proved to be unsuccessful in many developing countries. In fact, clear prioritisation and sequencing are likely to provide more efficiency towards policies, institutional reforms and other interventions which support productive employment.

The theoretical framework combines binding constraints[1] with the use of "a decision tree" as tools for disentangling causal chains and identifying the fundamental constraints on productive employment. The objective is to identify binding constraints by estimating shadow prices, whereby a higher shadow price reflects scarcity of the resource, indicating that the resource constrains inclusive job-rich growth.

According to ILO (2012), the employment diagnostic approach has a number of attractive features: (i) the 'funnel shaped' and 'step by step' approach facilitates a combination of comprehensive and highly structured analysis and provides methodological rigour. (ii) the use of 'a decision tree' facilitates the focus on understanding causal link and identifying core factors. (iii) the approach is an effective tool to manage public policy objectives through the prioritisation and sequencing of policies reforms. (iv) the framework provides a flexible structure that is easily adapted to the context of different countries and economic challenges.

However, the approach has limits and weaknesses. The analysis is usually static and neglects the evolution of constraints over time. It focuses on constraints that are binding today, but not necessarily in the future. Another problem with the methodology is related to the issue of lack of data which may undermine the assessment of binding constraints, especially in terms of measurement of shadow prices. Another critical assumption is the independence of branches in the decision tree. So, in reality, it is probably the same forces that explain different causes. In others words, each case of development failures may have multiple causes acting simultaneously.

The employment diagnostic methodology, presented in the study, has been influenced by the growth diagnostic approach developed by Hausman et

[1] A binding constraint is defined as the constraint that, if relaxed, will boost productive employment in a given situation.

al. (2005) by incorporating important qualitative dimensions. The low level of productive employment is seen as the key problem of the 'decision tree'. Poor productive employment must either be the result of constrained supply or of limited demand. The analysis, therefore, looks at ways to strengthen the productive resources and capacity of the individual on the labour supply side, as well as ways to open up new opportunities for productive employment on the labour demand side.

At the top of the 'decision tree' is the problem that Tunisia did not experience inclusive growth periods, because of the lack of productive employment. This is the critical policy problem that will be addressed. Moving down the 'decision tree', productive employment may be constrained by the incapacity of the economy to generate a sufficient number of good jobs (labour demand side) and/or the unequal access to employment opportunities and individual employability (labour supply side). The first stage of the diagnostic analysis aims to uncover which of these two factors poses the greatest barrier.

The next level of analysis focusses on the specific distortions that lie behind the most severe of these constraints. The lack of productive employment opportunities can be caused by low level of private investment. The objective is then to understand which factors are inhibiting productive employment. There are two main hypotheses: (i) high cost of finance and/or low returns to economic activity. The high cost of finance may be caused by (i) lack of access to international finance, (ii) low domestic savings, or (iii) poor intermediation in domestic financial markets. In the case of low returns to investments, this may be due to either low social returns or low private 'appropriability'. Low social returns are usually caused by missing complementary inputs relating to insufficient human capital. Low appropriability is due to macroeconomic risks (financial, monetary and fiscal instability), microeconomic risks (business environment), or labour market institutions

However, if the country has experienced a high level of private investment, the lack of productive employment may have its roots in unequal access to productive employment opportunities. The objective is to then investigate why some groups of society are not able to participate fully in the economic process. Exclusion depends on: (i) Human capabilities. (ii) Ability to acquire skills. (iii) Ability to access the labour market

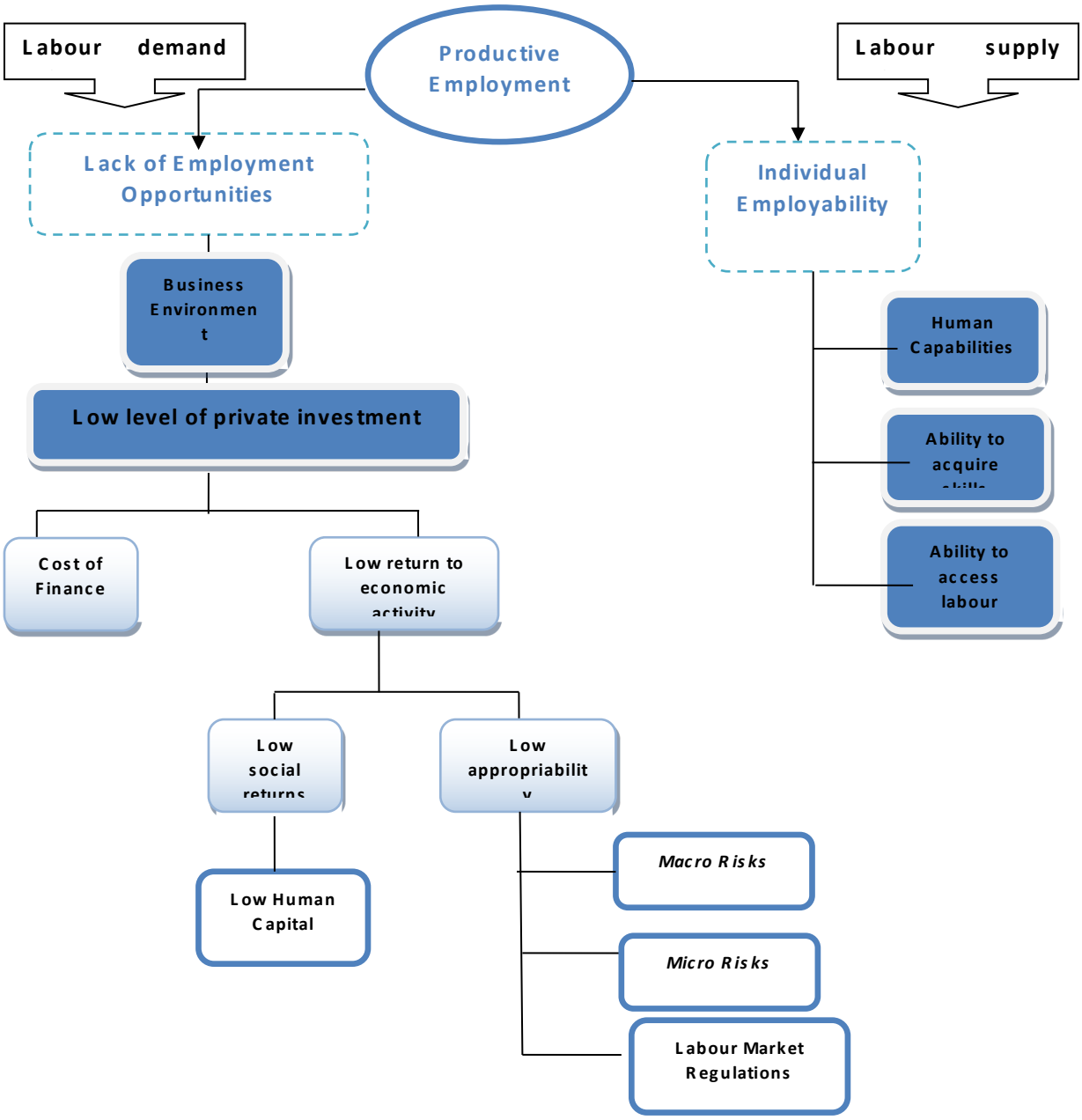
Hausmann, Klinger, and Bailey (2008) suggest four tests to determine the existence of a potential obstacle:

- Type 1 Test: Ascertain whether the shadow price of the constraining factor is high;

- Type 2 Test: Ascertain whether changes in the availability of a constraining factor are correlated to changes in investment or growth;
- Type 3 Test: Determine whether economic agents are incurring costs or risks to bypass the constraint;
- Type 4 Test: Determine the number of firms that do not rely heavily on the constraining factor. This is known as the "camels and hippos" test, by analogy to the expectation that hippos will rarely be observed in an environment lacking water; rather one would expect to see firms that have adapted to existing conditions, like camels in the desert (water being the constraining factor in this case).

To assess whether a factor of production or environmental condition is relatively scarce or inadequate often requires comparing the economy with those of other countries. To be informative, the countries being compared should be somewhat similar in geography and income levels. In the case of Tunisia, the countries of Jordan, Romania, Malaysia and Morocco were chosen for this purpose. In some cases, aggregate data from Upper Middle Income Countries (U-MICs) and Lower Middle Income Countries (L-MICs) were also sometimes used.

This study attempts to exclusively identify the most binding constraints on creating job opportunities. The analysis was undertaken in two phases. The first phase aimed to provide an analysis of patterns and dynamics of employment and economic development, in order to arrive at a prior understanding of the context of country-specific development and the employment situation. The second phase of the diagnostic analysis was structured according to an 'employment diagnostic tree' to determine where the main constraints and challenges to enhancing productive employment are likely to be found.



Source: Ianchovichina and Lustrom (2009)

I. Overview of the Tunisian Economy

1. *The history of economic policies*

Since independence, Tunisia has implemented various public policies to promote economic growth. The first phase, launched in 1961, was characterised by the domination of the public sector, in the absence of a viable

and efficient private sector. This strategy was based on the nationalisation of many industries, setting wage and price controls and the adoption of protectionist policies. In 1969, this approach was replaced by a strategy of export growth promotion through fiscal incentives. The government continued to dominate many sectors but it encouraged private investments in other sectors, notably textiles.

As a consequence of this strategy, Tunisia achieved rapid growth in GDP and exports, but with a high and sustainable fiscal cost. Large fiscal deficits and Tunisia's external debt reached the unsustainable level of 65.9 percent of GDP in 1986. As a result, Tunisia could no longer service its foreign debt or finance essential imports.

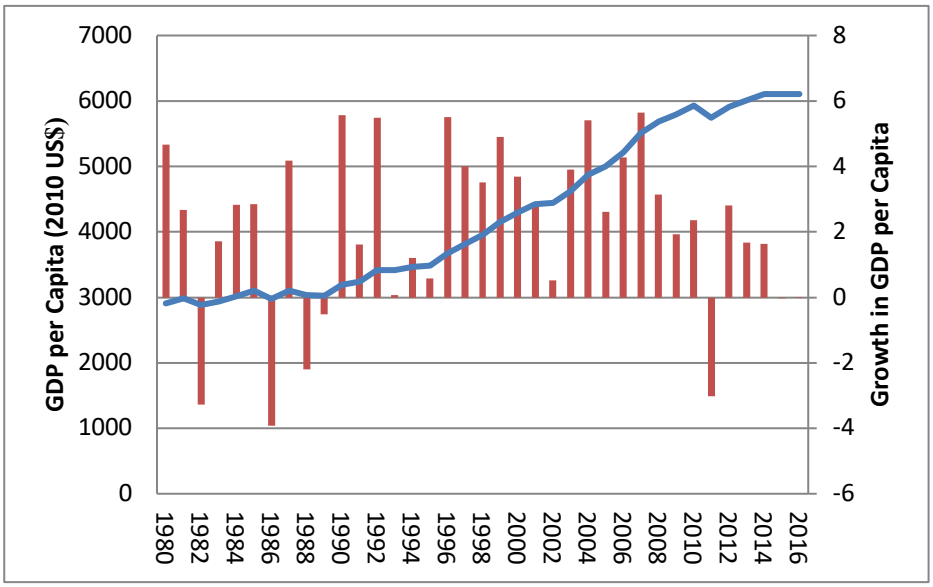
Since 1986, Tunisia has implemented a large reform programme to reconcile economic liberalisation, poverty reduction and human capital development. These reforms were undertaken as part of a Structural Adjustment Programme, in order to restore macroeconomic stability. The programme included a reduction in tariffs and in non-tariffs barriers, the adoption of a value added tax, devaluation of the currency and the privatisation of some state-owned enterprises. These reforms accelerated average productivity growth.

In 1997, Tunisia launched an ambitious programme of reform based on integrating the economy into the global market, strengthening the private sector by improving competitiveness, developing infrastructure, strengthening social cohesion and reducing regional disparities. The period following this programme coincided with an acceleration in economic growth and employment, development of exports and the consolidation of macroeconomic stability.

2. *Economic Growth in a Comparative Perspective*

Tunisia enjoyed a 4.4 percent average annual growth in GDP from 1980-2010, placing the country among the best performers in the MENA region. However, the growth has been erratic, and the economy has remained vulnerable to exogenous shocks that prompted periods of high growth. Despite reforms that helped reduce the volatility of growth since the late 1990s, these high growth periods were short-lived.

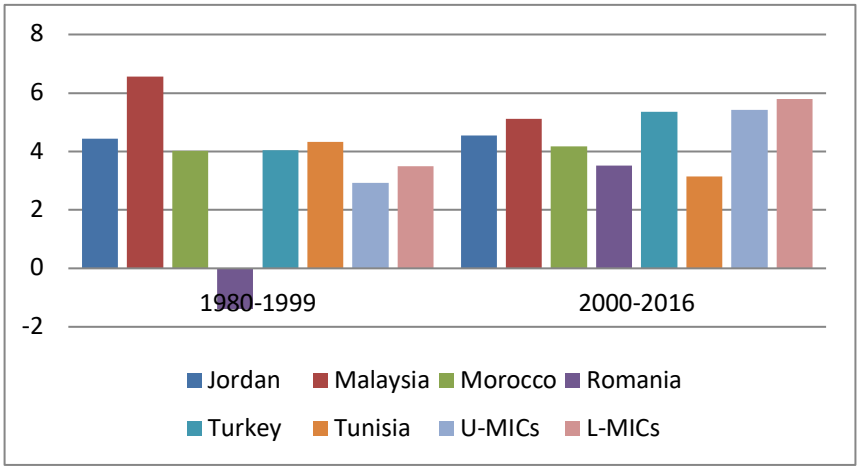
Figure 1. GDP per Capita 1980-2016 and Annual Growth Rates



Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

From 1980-1999, Tunisia outperformed the most comparator countries, except for Malaysia in term of economic growth. However, its growth performance was mitigated over the period 2000-2016, with 3.2 percent average annual GDP growth, well below that of the U-MICs average (5.5 percent), L-MICs (5.8 percent), Turkey (5.7 percent), Malaysia (5.2 percent) and Jordan (4.6 percent) and on par with that of Romania (3.3 percent).

Figure 2. Average Annual Growth Rates



Source: World Development Indicators, (May 2018)
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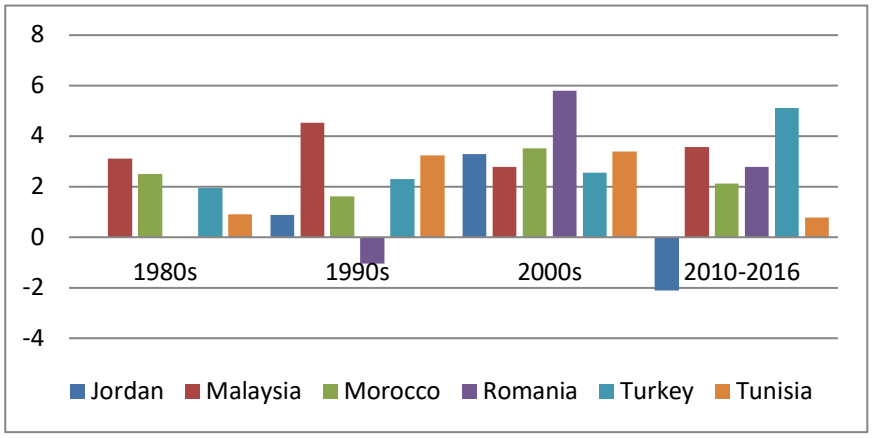
In terms of GDP per Capita, Tunisia's growth has not matched that of comparator countries. During the 1990s Tunisia strongly outgrew most comparator countries, except for Malaysia, where real GDP per capita grew at an average rate of 3.2 percent compared with 1.1 in U-MICs, 0.9 percent in Jordan, 1.6 in Morocco, -1.05 in Romania and 2.3 in Turkey. During the 2000s, Tunisia's growth (3.4 percent) has been on par with Jordan (3.3 percent) and Morocco (3.5 percent), well below that of the U-MICs average (4.2 percent) and Turkey (5.7 percent). Over the period 2010-2015, Tunisia (0.9 percent) outperformed only Jordan (-2.3 percent).

Figure 3. Growth in GDP per Capita



Source: World Development Indicators, (May 2018)
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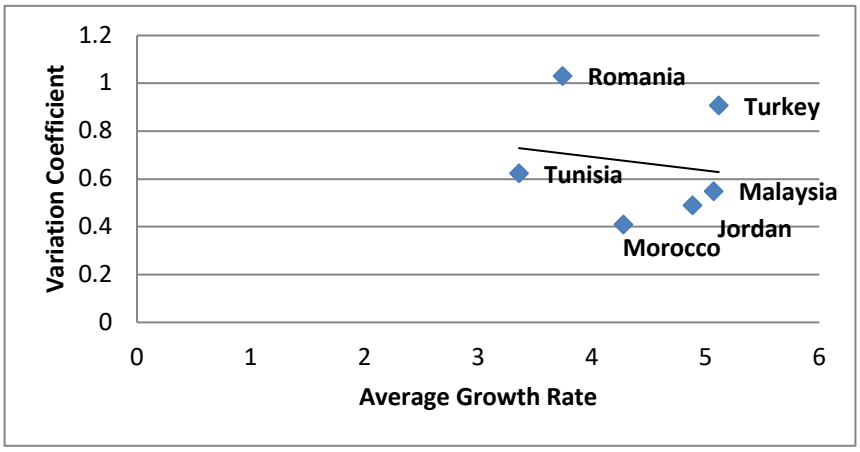
3. Volatile Economic Growth

Tunisia's economic growth is volatile. This volatility is linked to the concentration of production in a small number of sectors. From a comparative perspective, Tunisia's economic growth volatility has been on par with that of Malaysia and Jordan and lower than Turkey and Romania. Morocco has the lowest growth volatility in comparison with all comparator countries.

Figure 4. Economic Growth Volatility (1990-2016)

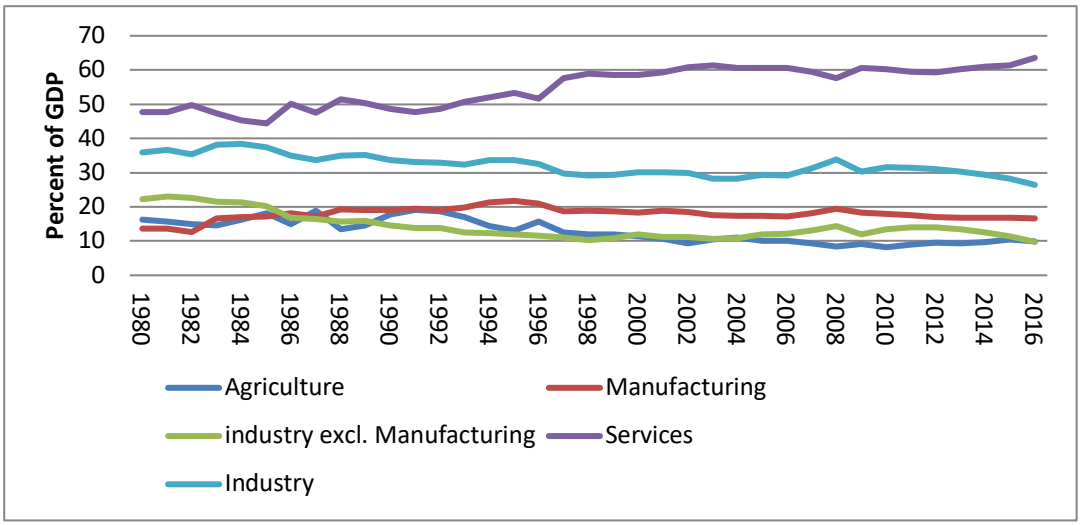


Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

4. *Production Structure*

Over the past few decades, Tunisia's economy has undergone significant restructuring, as its output mix shifted away from agriculture and raw materials (Phosphates, Oil and Gas…) in favour of services and, to a lesser extent, manufacturing. The share of services in GDP rose from 48 percent in 1980 to 60 percent in 2010. As a result, the growth in services contributed to the majority of GDP growth: 1.7 points of the 2.8 percent annual growth in the 1980s, 3.7 out of 4.7 percent in the 1990, and 2.8 out of 4.4 percent in the 2000s.

Figure 5. GDP Sector Break-Down



Source: World Development Indicators, (May 2018)
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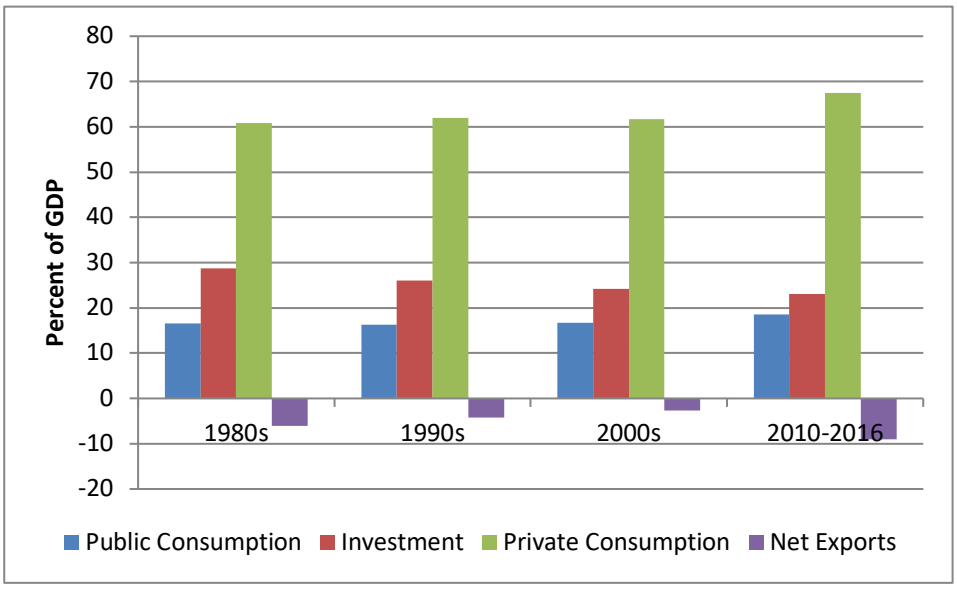
5. *Domestic Demand Driven Growth*

Private consumption and investment sustained growth over the period 1980-2016. Consumption has been the main driver of growth, with private consumption accounting for 67.4 percent of growth during the period 2010-2016. Investment has remained sluggish and volatile, accounting for only 23 percent of GDP for the same period. Further, most of the private investment (54 percent) is concentrated in the service sector, which is highly protected from international competition.

Domestic private investment has been constrained by predatory practices and an underperforming banking sector. Much of the legislative and administrative framework that allowed for predation, crony capitalism and elite capture remain in effect. Meanwhile, the domestic banking sector has been unable to channel credit to the most productive economic activities and projects[2].

Figure 6. Contribution of Demand Components to Growth



Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

6. *Export Performances*

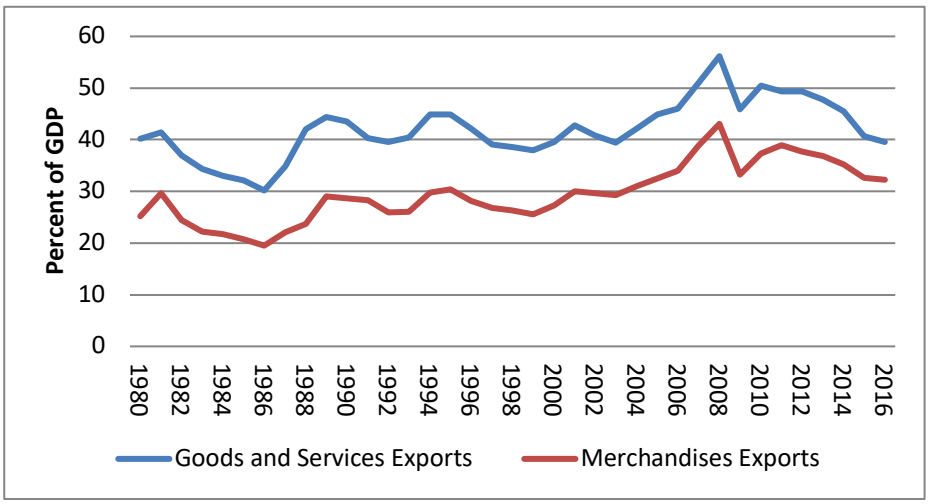
International experience shows that similar economies to Tunisia have only developed by promoting exports. External demand is considered as an

[2]African Development Bank. (2013). Towards a New Economic Model for Tunisia.

engine for long-term growth and domestic demand is only used as a tool for countercyclical purposes.

While the contribution of net exports to growth has been small and negative in most years, Tunisia's trade openness grew from 82 percent of GDP to 102 percent of GDP between 1990 and 2010. In 1986, Tunisia started a programme of gradual liberalisation of foreign trade and investment. In 1995, it joined the World Trade Organisation and entered into an Association Agreement with the European Union. Following these measures, Tunisia's exports increased from 30.1 percent of GDP in 1986 to 56 percent in 2008, before slipping below 50 percent in response to the recession in Europe.

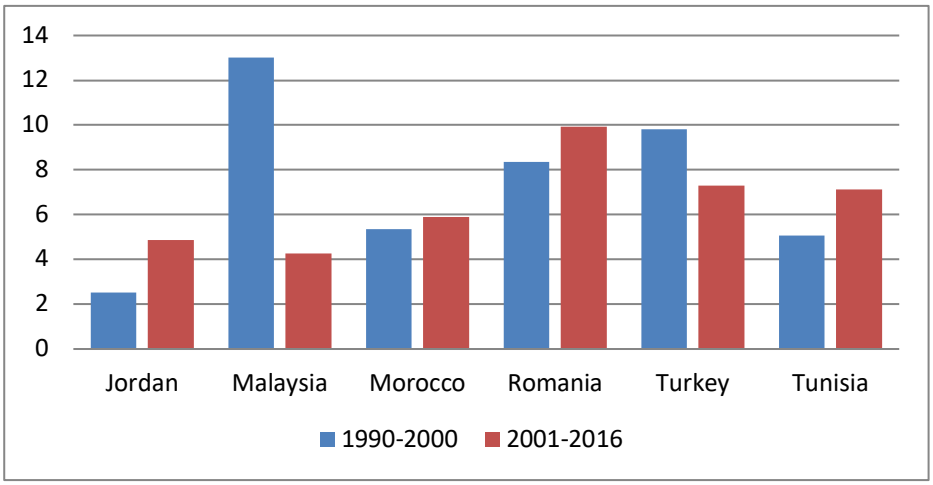
Figure 7. Export as a Share of GDP



Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

Export growth rates in current dollars between 1990 and 2000 were lower than those of Malaysia, Romania and Turkey, but higher than those of other comparator countries. From 2000 to 2016, Tunisia's export growth rate increased and was the second of the five comparator countries .

Figure 8. Average Export Growth



Source: World Development Indicators, (May 2018)
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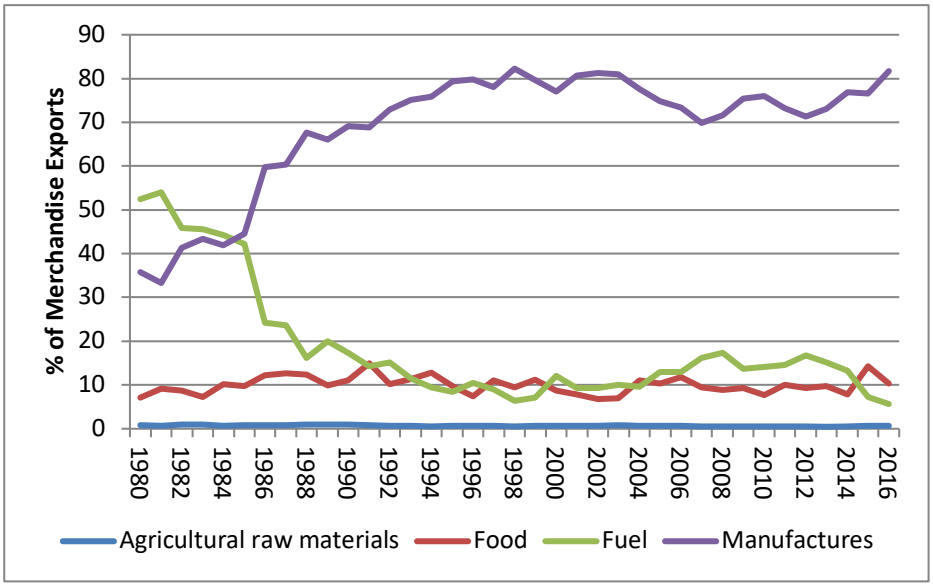
The composition of Tunisia's merchandise exports has transformed from an exporter of oil, phosphate, and agricultural products into an exporter of manufactured goods. The share of manufacturing in Tunisia's exports grew from 35 percent in 1980 to 81.7 percent in 2016. In return, the element of agricultural, raw materials and fuel in Tunisia's merchandising exports dropped from 53.3 percent in 1980 to 16.7 percent in 2016.

Figure 9. Composition of Tunisia's Merchandise Exports



Source: World Development Indicators, (May 2018)
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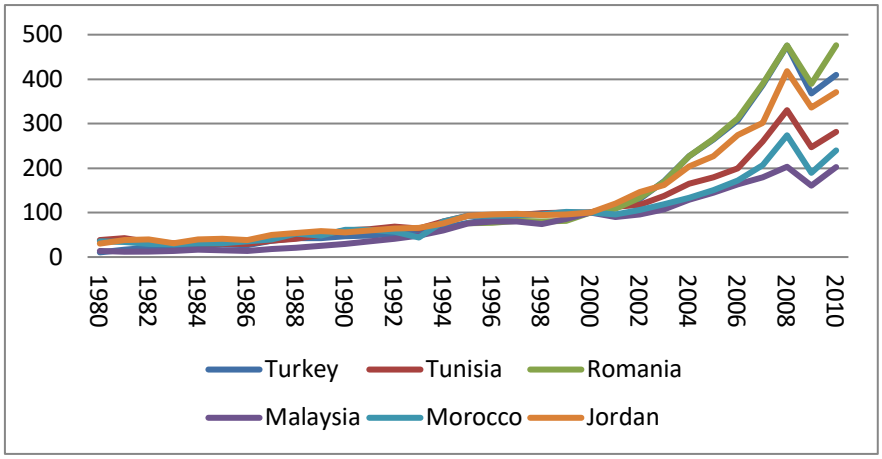
In Tunisia, modest export performances resulted in a persistent trade imbalance for almost three decades. The weak performance of exports in the global market is explained by the fact that exports are dominated by agricultural, chemical and textile products and the export sophistication level has not changed significantly.

Furthermore, export prices have not increased more rapidly than those of comparator countries. This suggests that the weak competitiveness of Tunisian exports is probably more the result of non-price competitiveness (low content of technology and innovation) content than price-competitiveness.

Figure 10. Trend of Export Price

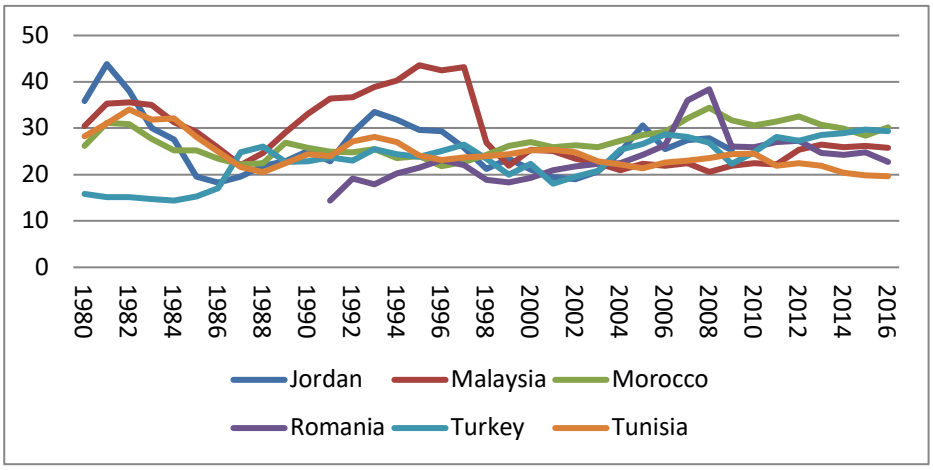


Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

7. Private investment

The analysis of the investment rate (Gross Fixed Capital Formation as a percentage of GDP) shows that Tunisia has been a strong but not a good performer in stimulating investment. Over the period 1990-2016, Tunisia's ratio of total investment to GDP was 23.5 percent. This ratio has been on par with the average of Romania (23.3 percent of GDP) and L-MICs (23.9 percent of GDP). On the other hand, Turkey (24.8 percent of GDP), Malaysia (28.3 percent of GDP), Morocco (27.5 percent of GDP) Jordan (25.7 percent of GDP) and U-MICs (27.8 percent of GDP) have devoted a larger share of GDP to total investment.

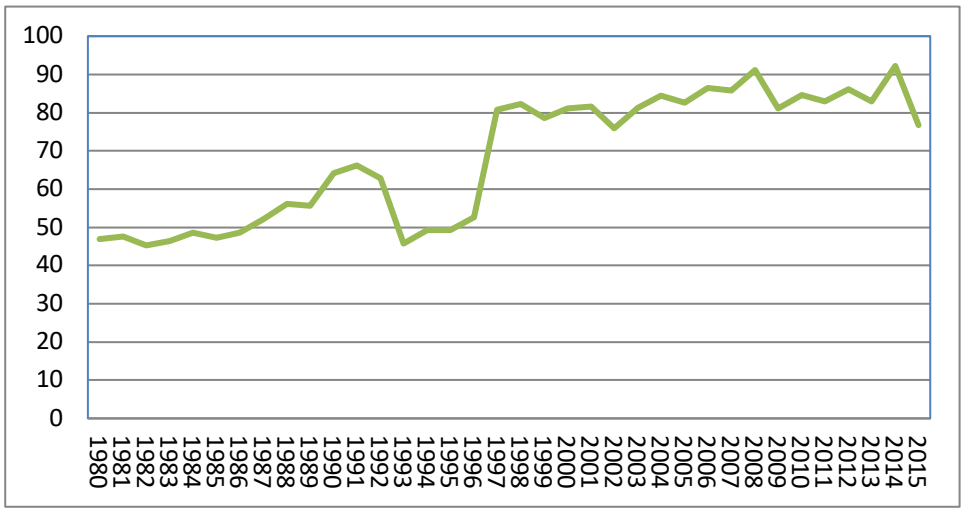
Figure 11. Total Investment in Percentage of GDP



Source: World Development Indicators, (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

One of the characteristics of investment in Tunisia in past decades has been the increase in private investment. From 1980 through to 1996, the share of private investment as part of total investment fluctuated around an average of 52 percent. In 1997, private investment rose to 81 percent and then to 91 percent in 2008. However, in recent years private investment has declined; in 2015 it accounted for only 77 percent of total investment.

Figure 12. Private investment as Share of Total Investment

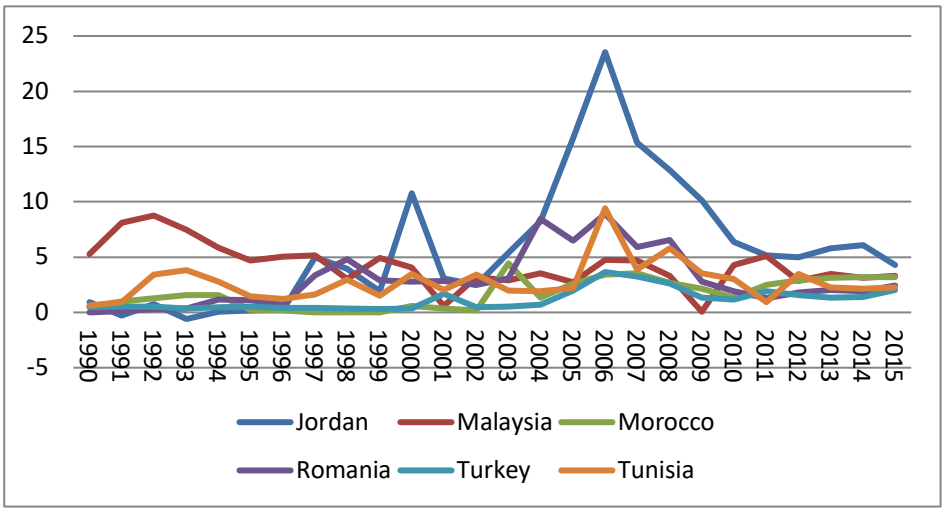


Source: National Institute of statistics (May 2018)
http://www.ins.tn/fr/themes/compte-de-la-nation

8. *Foreign Direct Investment Inflows*

Foreign Direct Investment (FDI) is a pillar of the Tunisian development model. Since 1972, Tunisia has promoted FDI through significant tax advantages to the offshore sector, positioning Tunisia as a potentially attractive destination for FDI. On the other hand, Tunisia imposed a number of significant restrictions on Foreign Investment, including (a) requirement for prior approval in many sectors for equity holding of above 50 percent, and (b) restriction on foreign investment in commerce, air transport, communication, and certain professional services[3].

Figure 13. FDI Net Inflows as percent of GDP



Source: World Development Indicators, (May 2018)
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FDI to Tunisia has been on par with comparator countries, except for Jordan and Malaysia, and has risen particularly after 2004. While the volume of these flows appears healthy, the pattern of inflows has been more problematic. FDI has been heavily focused on the energy sector, which generates little employment compared with investment in manufacturing and services. Energy absorbed just over 60 percent of total FDI inflows from 2000-2015, manufacturing was in second place at 25 percent, and heavily protected services were third at 8 percent (against Morocco, where 88 percent

[3]AfDB (2013), Op. cit

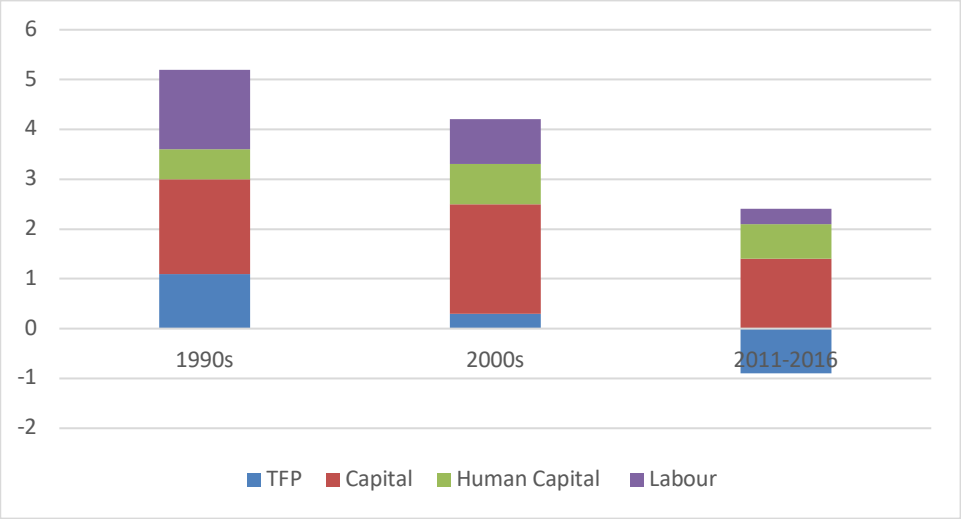
of FDI was directed into the service sectors). FDI in manufacturing remained focused on low value added industries.

9. *Total Factor Productivity*

Total factor productivity measures the efficient use of economic resources in the production process. In this regard, countries which have experienced strong growth have shown a high capital accumulation, followed by a sharp increase in total factor productivity.

The Tunisian economy has been unable to efficiently reallocate resources from low-return to high-return activities and it has remained trapped in low-productivity growth. Between 1990 and 2010, accumulation of capital, human capital and labour contributed, on average, 44 percent, 15 percent and 26 percent to growth, respectively. Only the remaining 14 percent of growth can be attributed to average improvements in Total Factor Productivity (TFP). This corresponds to an average annual TFP growth rate of approximately 0.7 percent.

Figure 14. Decomposition of GDP Growth



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

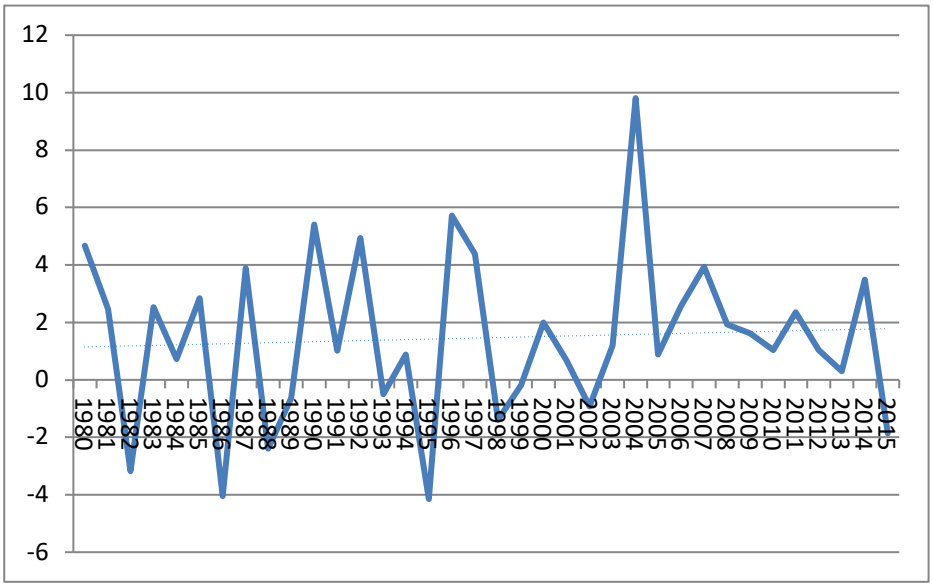
Low TFP growth suggests the existence of barriers that prevent a reallocation of resources towards more productive activities and hamper the economy's capacity to generate wealth and jobs. Moreover, in Tunisia, the manufacturing sector has a very low productivity, only slightly higher than agriculture and, in fact, the textiles sector is even less productive than

agriculture. This reflects the fact that most of the manufacturing in Tunisia focuses on simple assembly and other low value added activities. Moreover, some critical sectors for the Tunisian economy, such as financial services and tourism, have shown no productivity growth in past decades, as heavy regulations stifled competition and, ultimately, their development.

10. Labour Productivity Growth

The growth of labour productivity affects long-term economic growth and increasing labour productivity requires that labour and other productive resources must be allocated to the productive sector. Output per worker grew 1.8 percent per year in the period 1990-2015. This performance can be explained by the fact that, during past decades, favourable demographic facilities increased labour utilisation and an improvement in education helped the accumulation of human capital which, in turn, pushed up labour productivity.

Figure 15. Growth of Labour Productivity

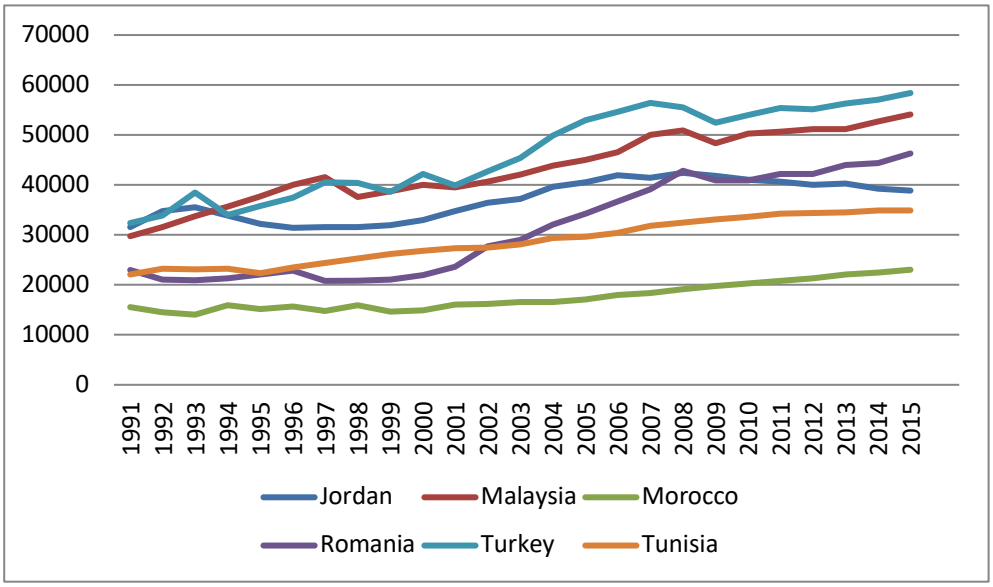


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Compared to comparator countries, the labour productivity of Tunisia has increased at a relatively low rate, except for Morocco.

Figure 16. Trend of Labour Productivity



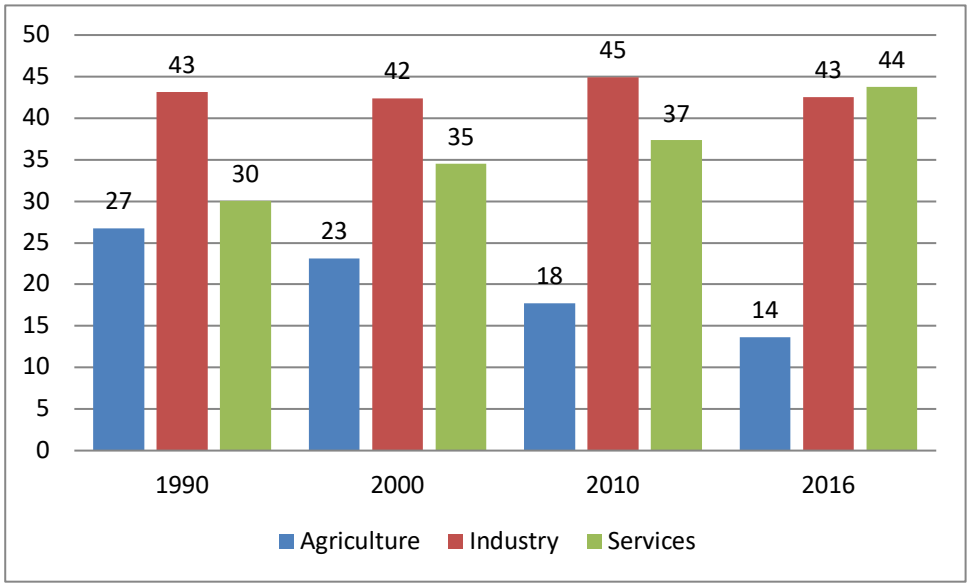
Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

The improvement of labour productivity concerns all sectors with the exception of agriculture. Over the period 1984-2010, labour productivity has grown with significant differences across sectors. By 2010, labour productivity in the agriculture sector had fallen by 4.6 percent and labour productivity in services emerged as the highest amongst all sectors.

11. Unemployment

The service sector, which is the sector with the highest average labour productivity, absorbs the majority of the Tunisian labour force. Employment in services grew rapidly, reaching the 37 percent level in 2010 and 44 percent in 2016. Conversely, agriculture's share in total employment fell by a half from 1990 to 2016. We can conclude that the allocation of the Tunisian labour force has gradually shifted from lower-productivity sectors to those with higher labour productivity.

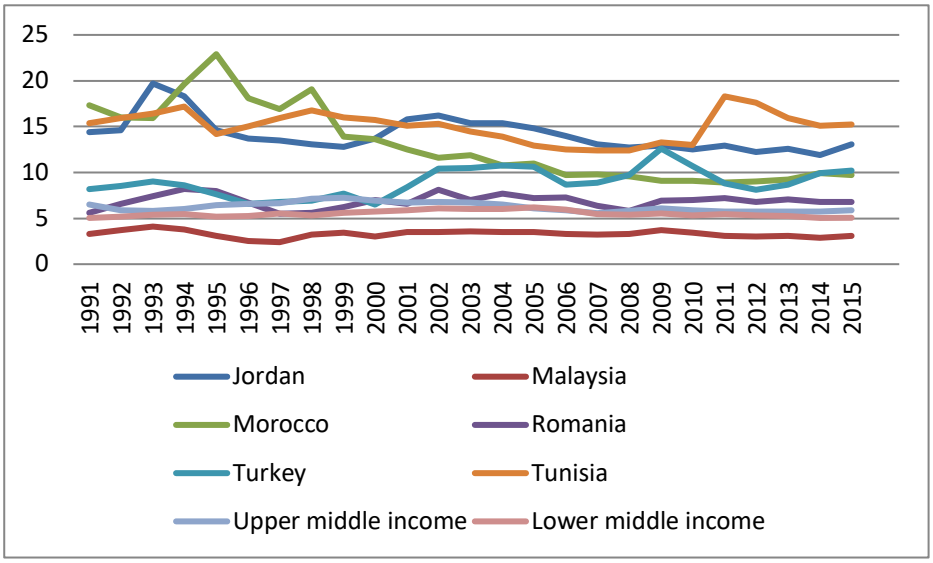
Figure 17. Employment by Sector



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

The unemployment rate has been persistently high for more than two decades preceding the 2010 revolution and subsequently. The unemployment rate showed a slight decline since 1995, but is still much higher than most comparator countries, notably Malaysia and U-MICs.

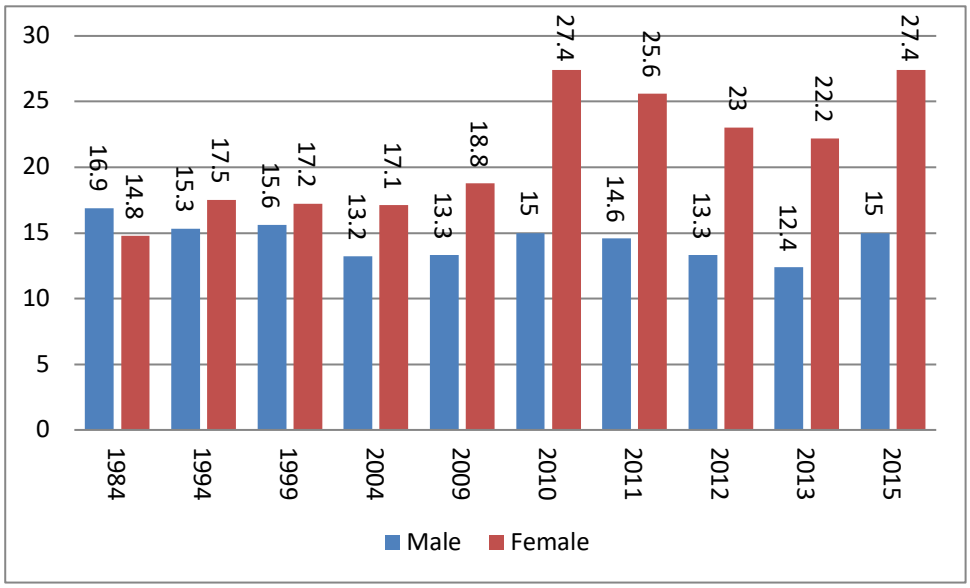
Figure 18. Unemployment Rates



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

Although access to schools at all levels is equally available for males and females, unemployment among women is far higher than among men (27.4 percent versus 15 percent in 2015).

Figure 19. Unemployment Rate by Gender

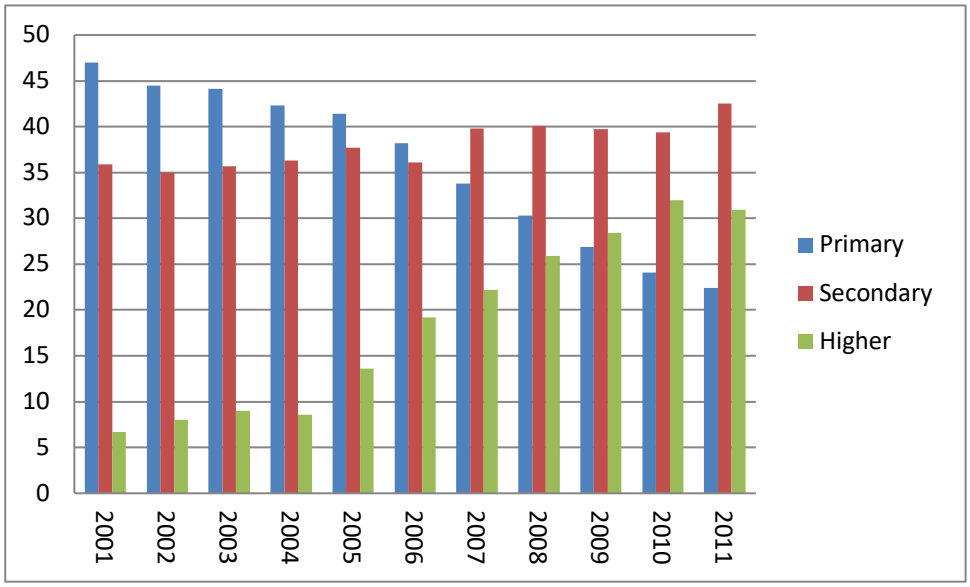


Source: National Statistics Institute (May 2018)

http://www.ins.tn/fr/themes/emploi#sub-374

Over the past two decades, the educational characteristics of the unemployed have changed dramatically. The most important phenomenon reported is that the unemployment rate increases amongst higher education levels and is highest for those with university degrees. Across the labour force, the unemployment rate for university graduates was above 30 percent. The number of unemployed with university degrees was close to 200,000 in 2011 (compared to around 700,000 unemployed in total).

Figure 20. Unemployment by Education Level



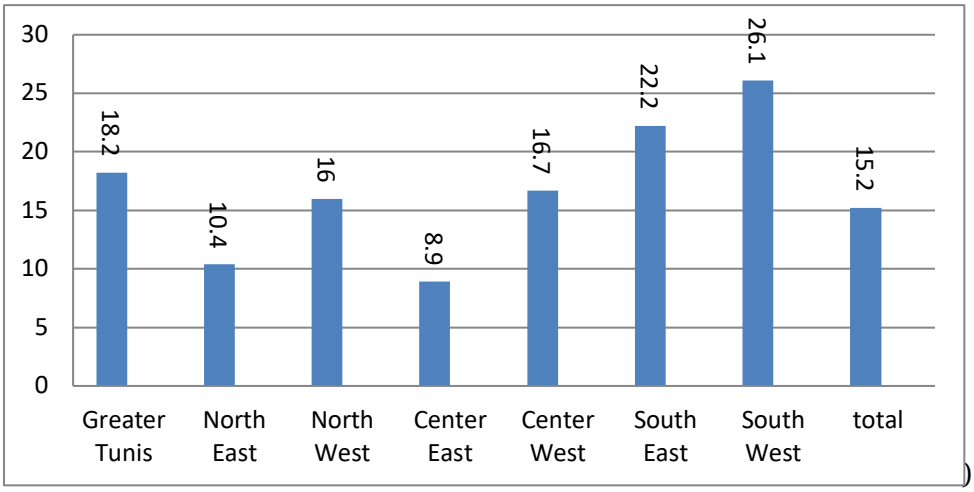
Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Tunisia suffers from high and increasing rates of youth unemployment. The unemployment rates among 15-29 year old's has increased from 12.6 percent in 1984 to 33.1 percent in 2015.

Unemployment is concentrated geographically in the North West (16 percent) and the interior south of the country (South East at 22 percent, South West at 26.1 percent). Levels of unemployment are lower along the North Eastern coastal areas (at 10.4 percent).

Figure 21. Unemployment Rate by Region (2015)



Source: National Statistics Institute (May 2018)

http://www.ins.tn/fr/themes/emploi#sub-374

12. Key Messages

- The Tunisian economy has experienced strong performance across a variety of growth indicators in recent decades. This demonstrates that the economy has the potential to achieve faster and more broad-based growth in the future.

- Low productivity, insufficient investment and persistently high unemployment rates (especially for more educated young people) have characterised Tunisia's macroeconomic dynamics and represent a substantial waste of productive capacity.

- Exports and output per worker have grown considerably more slowly than in a sample of comparator countries. Private investment has been in line with international averages. However, other countries invest more and grow faster as a result.

II. Cost of Finance

The cost of financing can be considered as a binding constraint to growth and employment, if it is consistently higher than the anticipated return to investment, to dissuade investors from embarking on the development of new projects. The cost of financing encompasses three dimensions: the real interest rate, credit period and the required collaterals.

The constraint can arise through: i) limited access to domestic and international financial markets, ii) inefficient financial intermediation and iii) weak financial sector regulations that prevent the mobilisation and efficient allocation of financial resources towards the most productive projects.

1. Tunisian Financial and Banking Sector

According to international rankings, Tunisia has obtained a consistently low score by the Heritage Foundation on its financial freedom index. The index indicates banking efficiency, as well as how independent the financial sector is from the government. This aspect looks at five broad areas: (i) Extent of government regulation of financial services. (ii) Degree of state intervention in banks and other financial firms through direct and indirect ownership. (iii) Government influence on the allocation of credit. (iv) Extent of financial and capital market development. (v) Openness to foreign competition.

Since 2005, Tunisia has obtained a score of 30 out of 100, indicating major government intervention in credit management and a heavy restriction on

financial institutions. Though its peers have improved on their index, Tunisia continues to earn the lowest marks of the group.

Table 1. Heritage Index of Financial Freedom

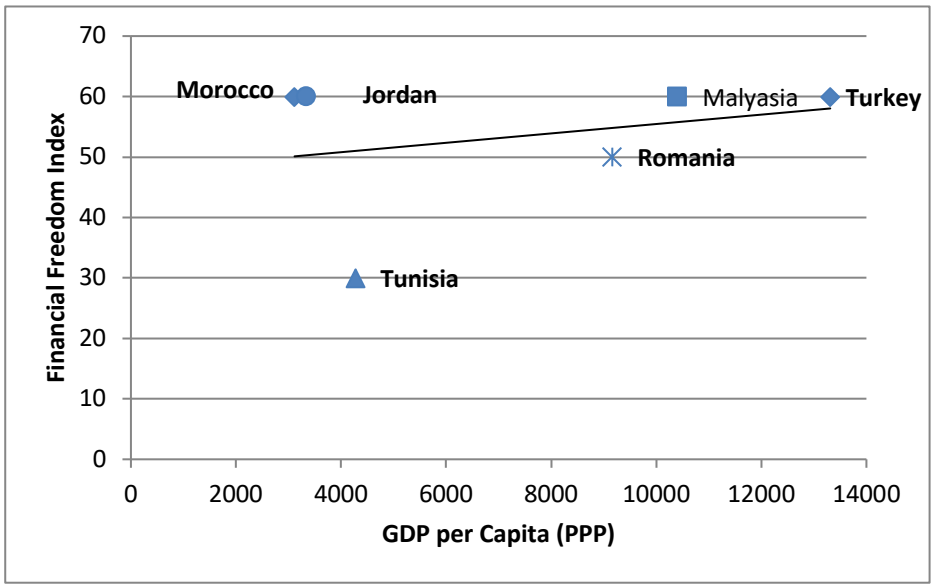
Country	1995	2000	2005	2015
Tunisia	50	50	30	30
Morocco	50	50	30	60
Malaysia	50	50	30	60
Jordan	70	70	70	60
Romania	50	50	50	50
Turkey	70	70	30	50

Source: Heritage Foundation database (May 2018)

https://www.heritage.org/index/explore

The score obtained by Tunisia places it below the comparator countries in absolute values and in comparison with them in respect of GDP per Capita.

Figure 22. Financial Freedom and GDP per Capita 2016



Source: World Development Indicators, Heritage Foundation database (May 2018)

The Tunisian financial sector is divided into offshore and onshore markets. Tunisia has eight offshore banks which are subject to a unique set of financial regulations. Onshore firms have access to a more varied range of financial institutions (Leasing, Factoring, Bank…). The financial sector is

dominated by banks (21), with assets equal to about 115 percent of GDP. Despite a large number of banks, the banking sector suffers from a severe lack of competition due to weak regulatory practices. The majority of bank assets are concentrated within the top four banks, two of which are mostly state-owned.

Table 2. Four largest Banks by Assets (2015)

Bank	Assets (Millions of dinar)	Proportion of Total Banking Sector Assets
BIAT	7 644	16.8%
BNA*	5 853	12.9%
STB*	5 422	11.9%
Amen Bank	5 089	11.2%

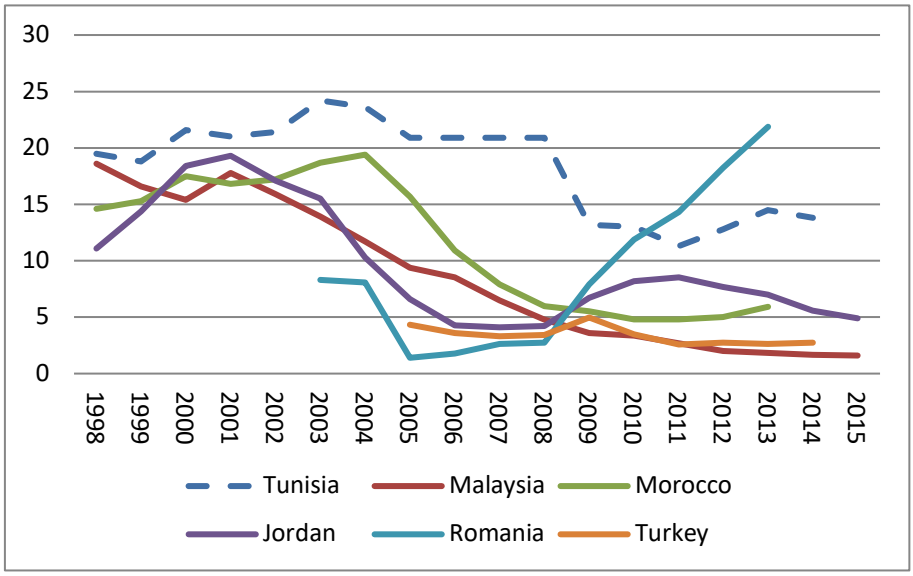
*State Owned Bank

Source: Tunisia's Professional Association of Banks and Financial Institutions.

http://www.apbt.org.tn/

The banking sector suffers from a high proportion of Non-Performing Loans (NPLs) resulting from the poor governance of the banking sector. Although the ratio of NPLs has decreased during recent times, it remains high at over 13 percent. Tunisia's level of NPLs exceeded that of comparator countries, which increasingly poses a risk to the stability of the financial system.

Figure 23. Ratio of Non-Performing Loans to Total Gross Loans



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

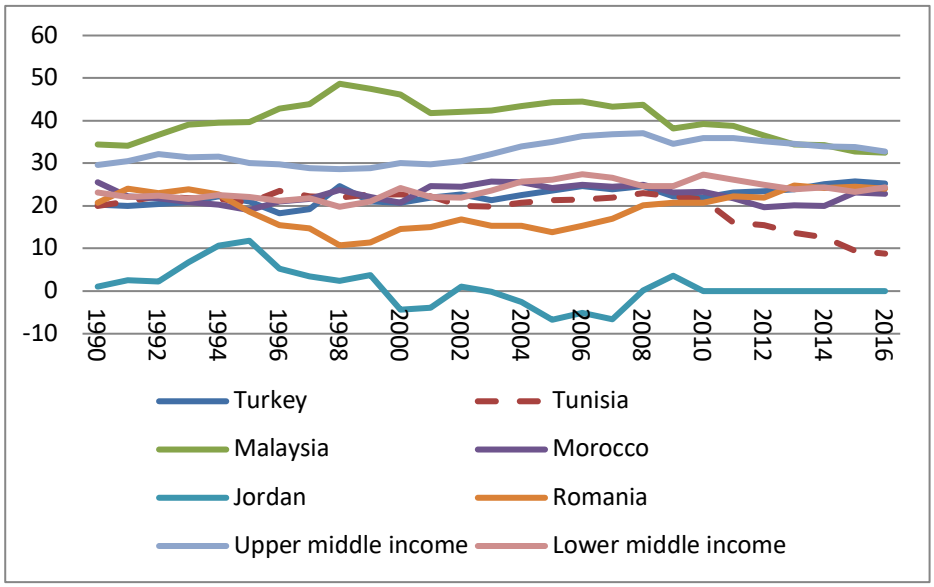
The former regime created a system of privileged credit access through clientelism and state ownership of major banks, which has impacted negatively on the banking system (limited profitability, inefficiency, low credit intermediation…).

Financial integration has been constrained by regulations that limit the ability of banks to access foreign savings, to take domestic credit risks and mobilise adequate domestic savings. The absence of long term refinancing resources for banks, mainly through capital markets, limits long-term domestic lending and impacts credit affordability[4].

2. *Savings-Investment Balance*

Gross domestic savings, as a percent of GDP in Tunisia, remained fairly constant over the period 1990-2010 at approximately 21 percent of GDP and fell sharply since 2011 (15.5% in 2013 and 8.3% in 2016). The savings rate in relation to income level remains below that of comparator countries, except for Jordan (1.3 percent of GDP) and Romania (19 percent of GDP). Moreover, the financial savings structure is still dominated by liquid savings, resulting in a preference for short-term credit.

Figure 24. Gross Domestic Savings as a percentage of GDP



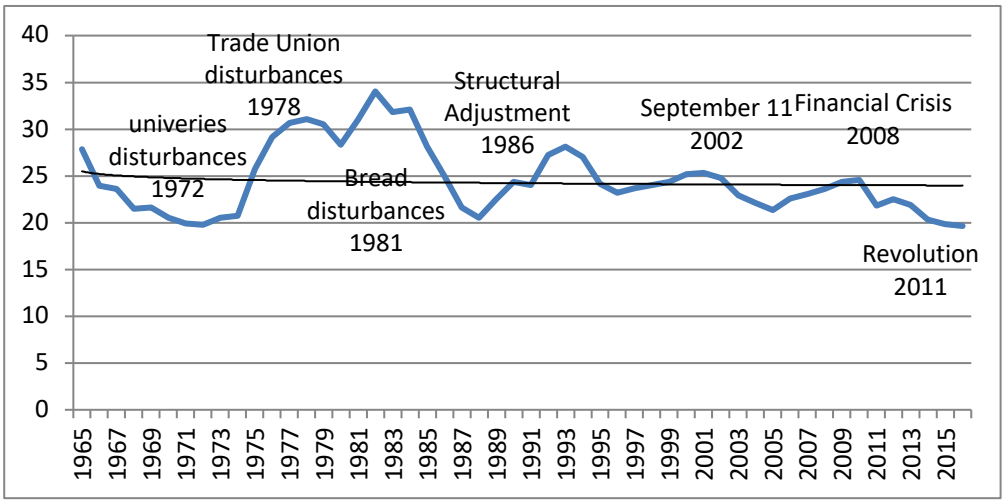
Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

[4]AfDB (2013), Op. cit

Since 1965, total investment in volume shows an upward trend and fluctuations related to national or international crises. The first major crisis occurred in January 1981 (Bread Riots). As a result, investment fell by 52%. The 2011 revolution constitutes the second major crisis, with total investment dropping by 13.5% over the period 2011-2015.

Figure 25. Gross Fixed Capital Formation as a percentage of GDP

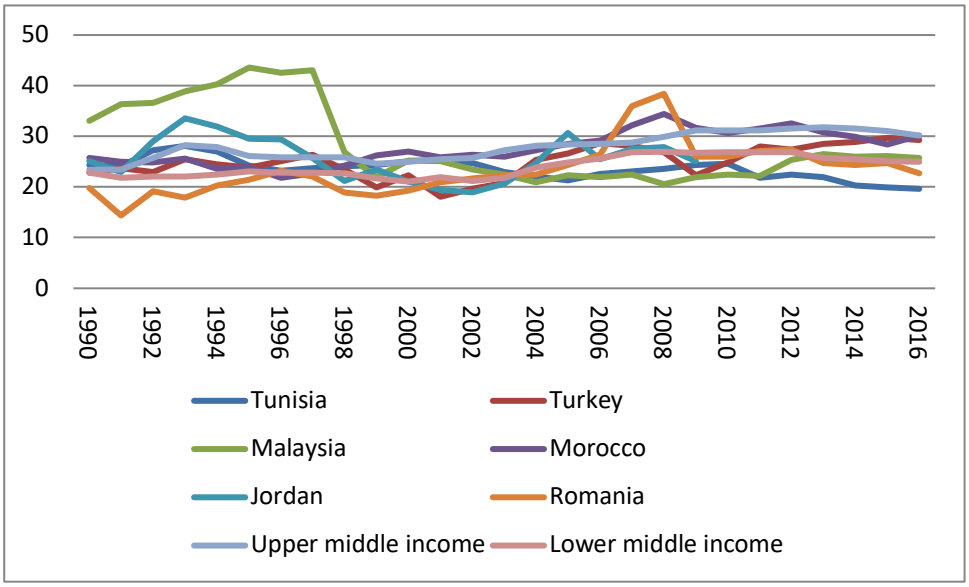


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

The analysis of the investment rate (Gross Fixed Capital Formation as a percentage of GDP) shows that Tunisia has been a strong but not a good performer in stimulating investment. During the 1960s and 1970s, the investment rate was historically high; it represented on average 28% of GDP. This level resulted from public investment programs and the effect of Law 72 on private investment. Since the 1980s, the investment rate has lost on average 5 points and has fluctuated around 23% of GDP. Over the period 1990-2016 Tunisia ratio of total investment to GDP was 23.6 percent. This ratio has been on par with the average of Romania (23.3 percent of GDP) and L-MICs (23.9 percent of GDP). On the other hand, Turkey (24.8 percent of GDP), Malaysia (28.3 percent of GDP), Morocco (27.5 percent of GDP) Jordan (25.7 percent of GDP) and U-MICs (27.8 percent of GDP) have devoted a larger share of GDP to total investment.

Figure 26. Total Investment as a percentage of GDP

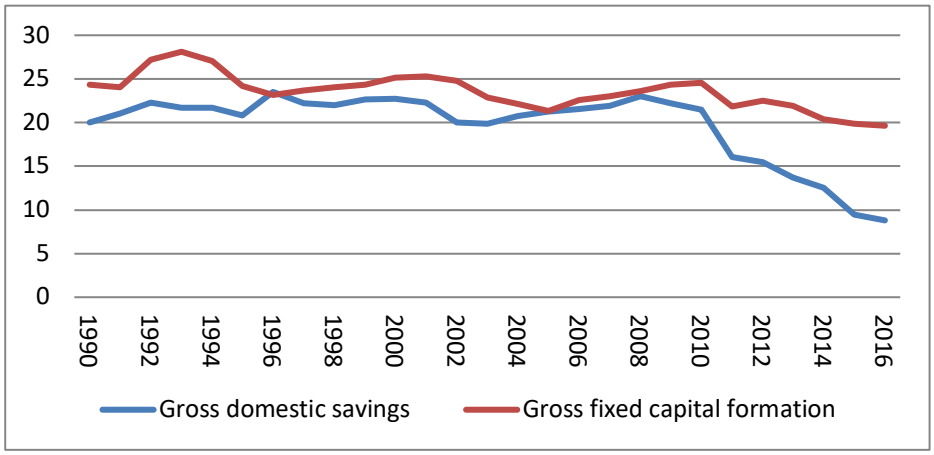


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Domestic savings have always been insufficient in financing investments and the gap between savings and investment accounts for the acceleration of the economy's financing needs. This was particularly valid for the recent period, when domestic savings fell more sharply than the investment rate.

Figure 27. Savings-Investment Balance

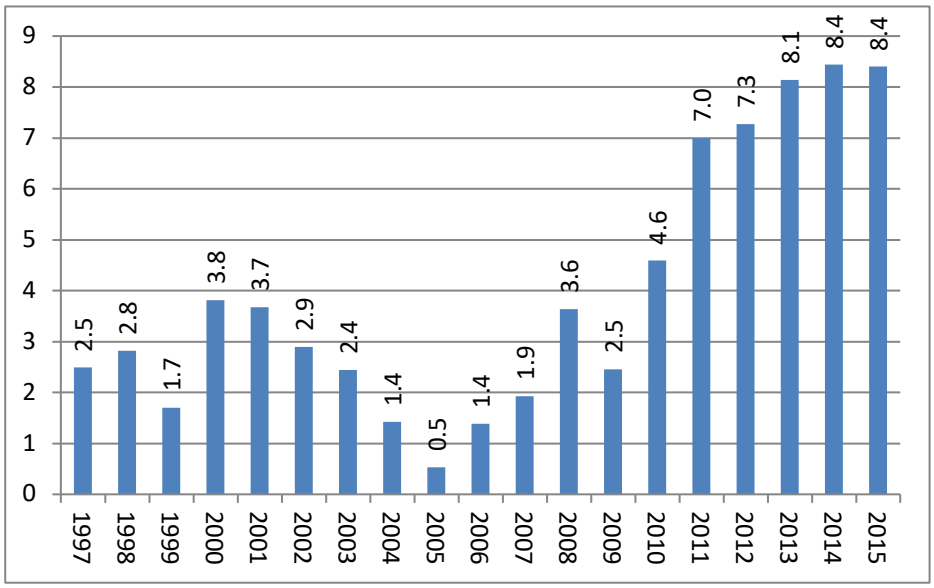


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

During the growth acceleration period (1997-2007), the economy generated an average annual financing requirement of 2.3% of GDP. However, since the international financial crisis and 2011 revolution, financing needs have accelerated, reaching an annual average of 6.2% of GDP. Between 2010 and 2015, the financing needs of the Tunisian economy rose from 2.8 billion dinars to 7.1 billion dinars. This increase is mainly attributable to the deficit accumulated by public administration and non-financial enterprises.

Figure 28. Financing Needs as a percentage of GDP

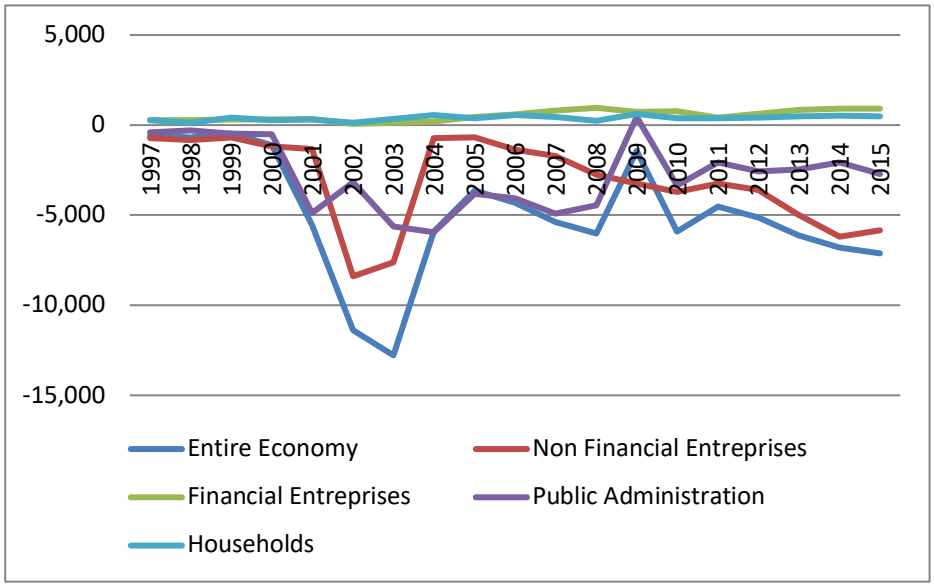


Source: National Statistics Institute (May 2018)

http://www.ins.tn/fr/themes/compte-de-la-nation

For the institutional sector, in 2015, data highlights a widening of the deficit to 2.6 billion dinars in public administration and to 5.7 billion dinars in non-financial enterprises. At the same time, household financing capacity was limited to 0.5 billion dinars and that of financial enterprises to 0.92 billion dinars. This emphasises the imbalance in financing needs amongst the institutional sector.

Figure 29. Financing Need/Capacity by Institutional Sector



Source: National Statistics Institute (May 2018)

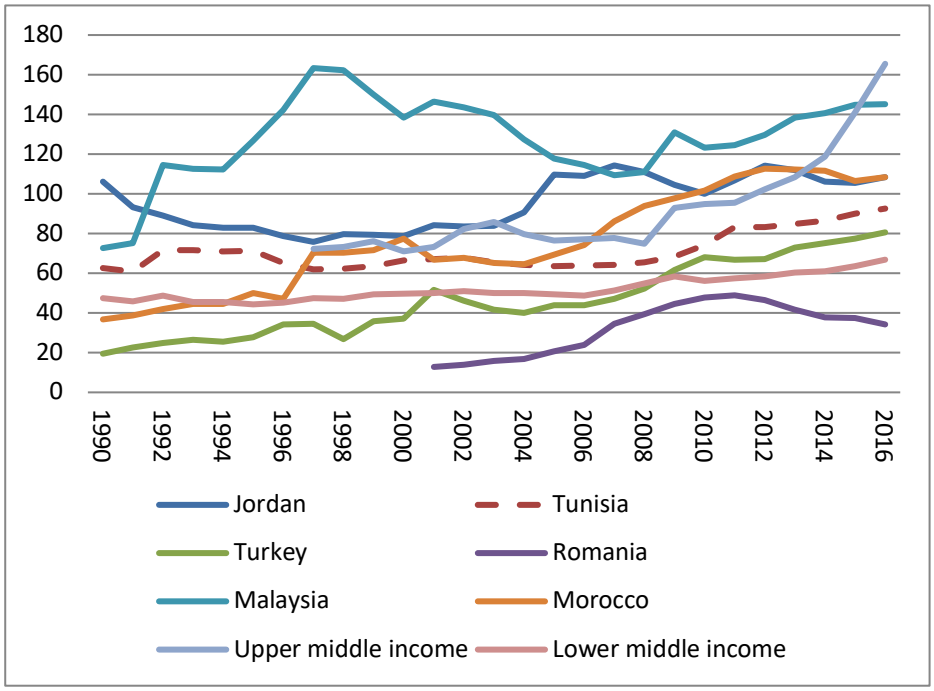
http://www.ins.tn/fr/themes/compte-de-la-nation

3. Access to Finance

Growth in the volume of credit can be considered as an indicator of access to finance. Tunisia's domestic credit, as a percentage of GDP, has remained more or less steady over the past decades, reaching 92 percent in 2016. Between 2010 and 2016, the massive growth in bank credit (21 percent) helped to meet a part of the economy's financing requirements. Tunisia's level of credit provision exceeded that of Turkey (45 percent), Romania (32 percent) L-MICs (51 percent) and remains below the performance of other comparator countries (Jordan 94 percent, Malaysia 127 percent, Morocco 74 percent and U-MICs 76 percent).

In comparison to Tunisia's level of development, the supply of credit relative to the size of the economy, is not unusually low. This moderate performance could be due to the low demand of credit, rather than to supply side constraints.

Figure 30. Domestic Credit Provided by Banking Sector (% GDP)



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

The Tunisian stock market is very small. In 2016, only 79 companies were listed on the Tunisian Stock Exchange. However, market capitalisation as a percentage of GDP, after developing rapidly between 2006 and 2010, has declined since 2011, mainly on account of political and economic instability. Market capitalisation of listed companies in Tunisia (20 percent of GDP), is significantly lower than in other comparator countries, except for Romania (9.4 percent of GDP). The stock market remains underdeveloped owing to a lack of demand for equity finance. Bank loans continue to be a more attractive financing option for firms.

Table 3. The Stock Market in Tunisia and Comparator Countries (2016)

	Market Capitalisation (% of GDP)	Listed Enterprises
Tunisia	20.08	79
Morocco	55.7	74
Jordan	63.57	224
Malaysia	121.33	893
Romania[5]	9.4	77
Turkey	19.88	380

Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Prior to the revolution, Tunisia followed a prudent approach to foreign borrowing. For years, rating agencies (S&P, Moody's and Fitch) rated Tunisian sovereign debt as investment grade. Since the revolution, all three agencies downgraded the country's rating to below investment grade. Macroeconomic uncertainties and fragility and weaknesses of the financial market are the main reasons for the downgrading.

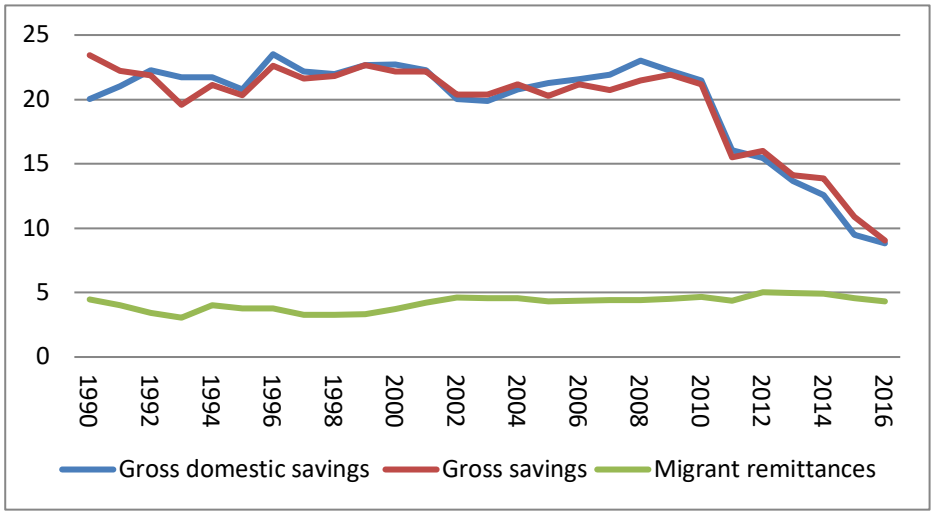
Since 2005, Tunisia has undertaken a strategy of current account openness, in order to attract more external savings, diversify sources of foreign inflows and to enhance the efficiency of the domestic financial market6. Nonetheless, remaining capital controls can present an obstacle for banks to access international finance. Onshore banks may only borrow 10 million dinars worth of foreign currency per year.

Worker remittances from Tunisians working abroad can present an additional source of foreign inflows. The trend of national and domestic savings, establishes the marginal importance of migrant savings in insuring the macroeconomic balance. Worker remittances represent approximately 5 percent of GDP and 11 percent of total foreign inflows.

[5]Data for 2012

[6] AfDB, 2005

Figure 31.Migrant Remittances as a percentage of GDP



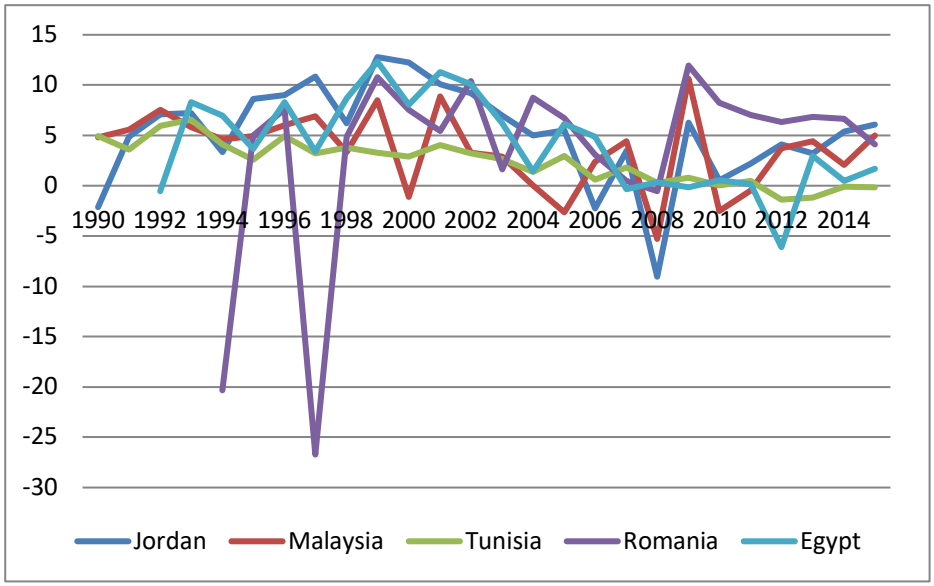
Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

4. Cost of Financing

It is important to position the country in relation to comparator countries in order to answer the following question: are real interest rates given to the GDP per capita level too high? The real lending interest rate remained on a low average in relation to comparator countries.

Figure 32. Real Interest Rate

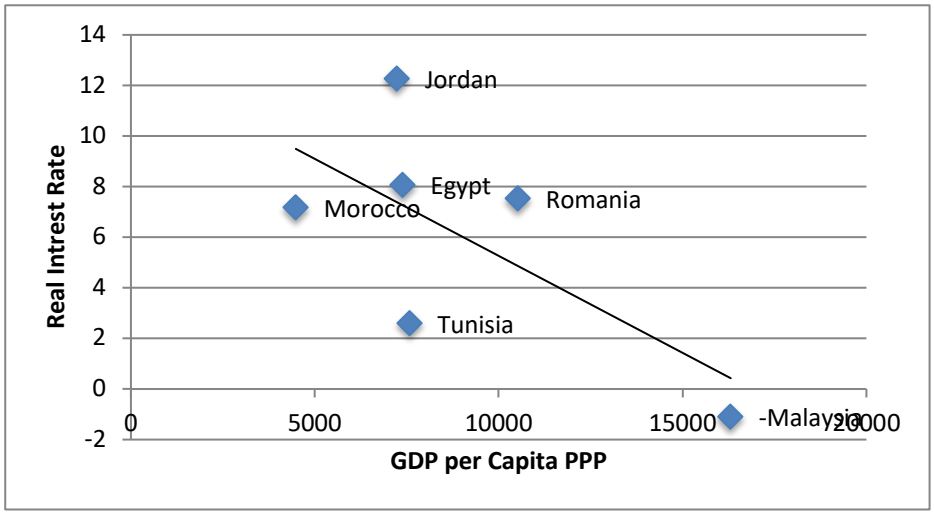


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

In 2000, Tunisia had a comparative advantage over the comparator countries; its real interest rate of 2.6 percent was relatively low considering the level of development.

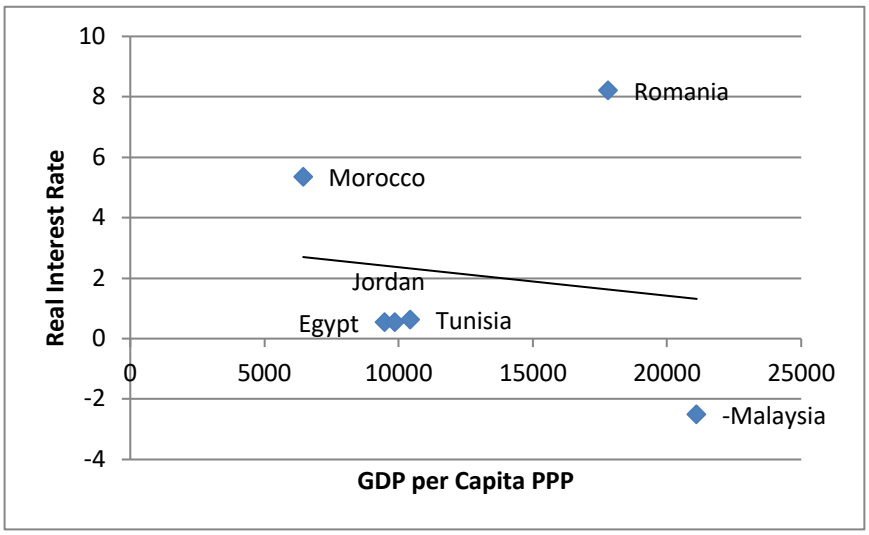
Figure 33. Interest Rate and GDP per Capita Relationship (2000)



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

On the other hand, in 2015, despite the drop in the real interest rate, the Tunisian economy no longer had any advantage compared to Egypt and Jordan, which sharply reduced their interest rates to revive economic activity.

Figure 34. Interest Rate and GDP per Capita Relationship (2015)



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

Based on the level and trend of the real interest rate, it is difficult to argue that the cost of finance is sufficiently high in order for it to be considered a binding constraint to private investment and growth.

5. Test of constraint

To test the assumption that the high cost of finance would appear to be a binding constraint to growth and employment in Tunisia, we use the diagnostic test proposed by Hausman et al. (2005).

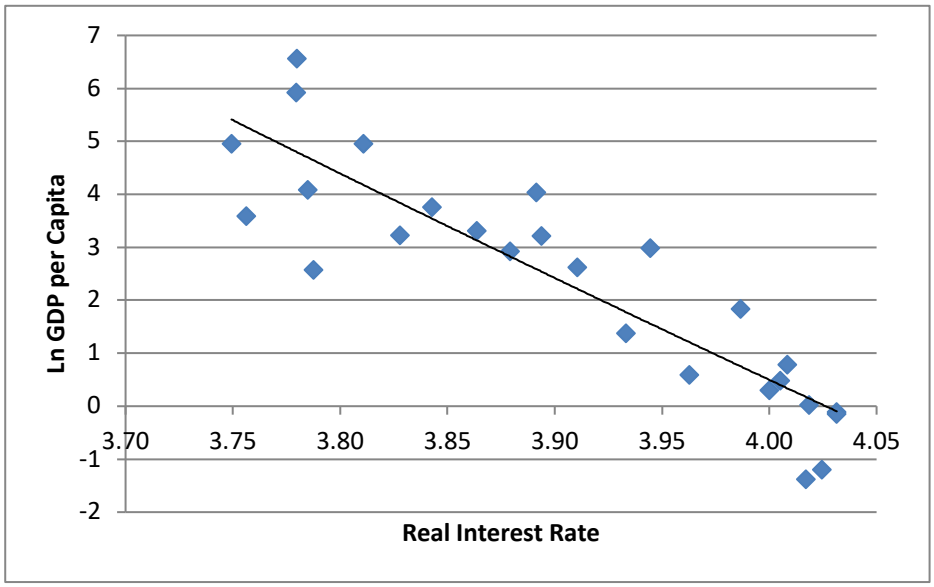
The test seeks to assess whether the level of private investment is constrained by supply-side factors in the financial market (low levels of financial intermediation, savings, and financial depth) versus demand-side factors (i.e. limited investment opportunities, low return to investment). If the tests point to problems on the supply-side, then the cost of finance would be considered as a binding constraint.

a. Test 1: Correlation between Real Interest Rate and GDP per Capita

The real interest rate can be implemented by the Central Bank to affect growth and GDP per capita, through consumption and investment. The negative relationship between the real interest rate and the GDP per capita level (decreasing IS curve) would indicate that investment is sensitive to real interest variation.

Figure 35 plots the relationship between the real interest rate and GDP per capita in Tunisia over the period 2000-2016. One observes a negative relationship, indicating that shifts in the real interest rate have effects on GDP per capita through investment demand.

Figure 35. Relationship between GDP per Capita and Real Interest Rate (1990-2016)



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

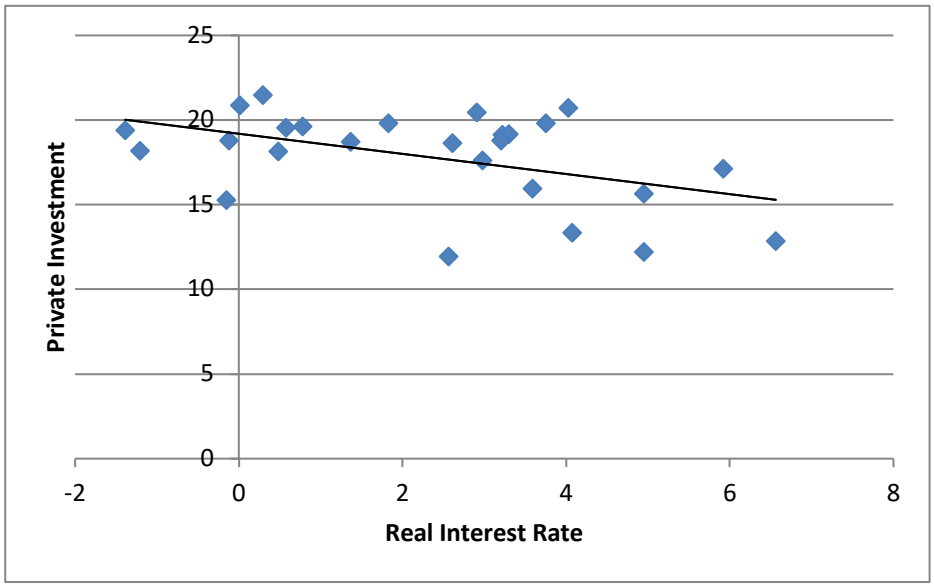
b. Test 2: Correlation between Real Interest Rate and Private Investment

We test the correlation between the real interest rate and private investment, to examine whether the supply of financing is the dominant determinant of the investment level. The test seeks to determine whether the co-movement pattern is driven by demand factors (positive correlation) or by supply factors (negative correlation). In the case of negative correlation, the test conclusion would be the existence of a private sector financing constraint and an increase in the supply of finance (drop in real interest rates), should private investment decrease and vice versa.

Graphically, one should observe a downward-sloping relationship between the real interest rate and private investment. Such a pattern would suggest that a supply of finance is an important determinant of private investment and, possibly, a binding constraint.

Figure 36 plots the relationship between the real interest rate and private investment, as a percentage of GDP in Tunisia over the period 2000-2016. One observes a statistically significant negative relationship. This pattern suggests that the shifts in the supply of finance have effects on the demand for investment. Thus, investment financing is an important determinant of private investment and the assumption of a private financing constraint cannot be ruled out.

Figure 36. Relationship between Private Investment and Real Interest Rate



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

c. Test 3: Hippos and Camel Test

The "Hippos and Camel" test is an alternative test of binding constraint. The test examines whether firms are heavily reliant on constraining factors. In this case, the potentially binding constraint is financing sources external to the firm. The by-passing financing constraint by firms is the increase of the share of self-financed investment. If firms are depending massively on internal (self-financing), this means that only firms that do not require external financing can survive.

Following the World Bank Enterprise Survey (2013), the share of self-financed investment is within the norm for comparator countries. In Tunisia, on average 63 percent of investment is financed from internal funds. In addition, the share of credit-financed investment places Tunisia below the norm of most comparator countries (three of the five comparator countries). In Tunisia, 28 percent of investment was financed from bank loans.

Table 4. Breakdown of funding sources

	Proportion of investment financed internally	Proportion of investment financed by banks	Other
Tunisia	63	28	9
Jordan	85,9	10,9	3,3
Turkey	59,2	38	2,8
Morocco	49,3	32,8	17,8
Malaysia	76,5	12,2	11,3
Romania	68,3	21,1	10,6

Source: World Bank Enterprises Survey 2013

The by-passing test shows that the portion of firms that rely intensively on internal financing sources is not unusually high.

6. *Key Messages*

- Tunisian financial sector shows some important limitations
- Domestic savings are insufficient to meet financing requirements
- High level of Non-Performant Loans resulted from poor governance of the sector.
- In comparison to Tunisia's level of development, the supply of credit relative to the size of the economy, is not unusually low. The moderate performance could be due to the low demand of credit, rather supply side constraint.
- The stock market is small and underdeveloped and access to foreign savings is restricted.
- Financial integration has been constrained by regulations that limit the ability of banks to access foreign savings, to take domestic credit risks, and to mobilise adequate domestic savings.
- The financing cost of private sector investments remains high, although the real interest rate has dropped.
- Diagnostic tests result in the following conclusions: (i) existence of a negative relationship between GDP per capita and the real interest rate between 1990 and 2016, (ii) existence of a negative relationship

between private investment and the real interest rate, which does not reject the assumption of a private investment financing constraint, (iii) the portion of firms that rely intensively on external financing sources is relatively high in relation to the comparator countries.

- Based on HRV method, cost of finance would constitute a binding constraint on growth and productive employment.

III. Human Capital

Human capital, which covers all skills, talents, qualifications and experience accumulated, is a highly important factor in long-term growth[7]. An improvement in the level of education and skills helps to improve a firm's productivity through creation, assimilation and using new technologies.

In the context of employment diagnostics, a lack of human capital can represent a major challenge to growth, if private investment cannot secure the skilled labour they need to effectively manage and operate their business at a competitive cost.

A shortage of human capital can pose a binding constraint to growth, either from a quantitative standpoint (with an inadequate number of persons in a fit state to work or having received specific training), or from a qualitative standpoint (given the inadequate quality of training received). Thus, a lack of human capital only poses a binding constraint to growth, if the demand for skills exceeds supply, so that the costs of obtaining the required skills are high.

1. Demographic Context

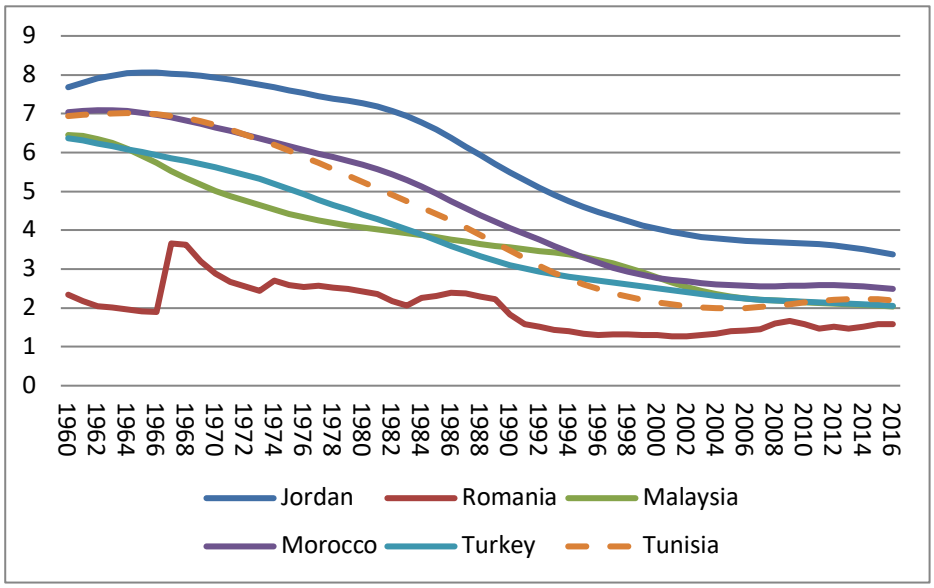
In the early 60s, the political economic and social development of Tunisia supported the idea that population pressure is a constraint that must be controlled in order to meet the essential needs of the population in terms of education, health and employment.

Thus, Tunisia has initiated an early family planning programme whose objective is the reduction in fertility. The evidence suggests that, over past decades, Tunisia has rapidly progressed through the demographic transition,

[7]Becker. G, (1993). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. University of Chicago Press.

from high fertility and high mortality rates to low total fertility and long life expectancy. The fertility rate fell from 7.2 children per women in 1956 to 2.2 children in 2016.

Figure 37.Trend of the Fertility Rate



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Due to this demographic transition, population growth slowed during past decades; the rate of population growth declined from 3.0% in 1966 to 1% in 2016.

The demographic transition resulted in the transformation of the country's population structure by age. The age group below 15 years, which represented nearly half the population in the early 60s, has experienced a continuous decline to just over 23% of the population in 2016. On the other hand, the proportion of the 15-59 age group, the group relevant to the labour market, still continues to increase and, as of 2016, now exceeds 68%. Such an increase in the relative size of the working-age population and female participation in the labour market can provide an important opportunity to boost growth, as long as the economy is generating job opportunities.

The early demographic transition seems to be beneficial, given that the "youth bulge" has already peaked and is beginning to decline recently. The share of the population aged 15-24 rose from 20.3% to 20.8% between 1990 and 2000, but has since fallen to 19% in 2016.

Table 5. Population Structure

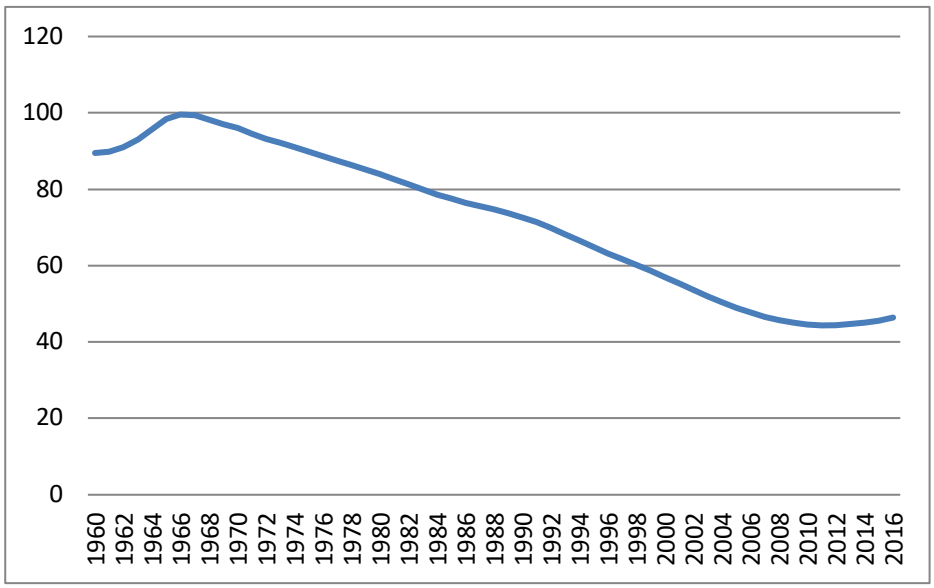
	Population aged 0-14 (% of total)	Population aged 15-64 (% of total)	Population aged 65 and above (% of total)
1960	43.5	52.8	3.7
1970	45.5	51.0	3.5
1980	41.7	54.4	3.9
1990	37.2	57.9	4.9
2000	29.5	63.7	6.7
2010	23.3	69.2	7.5
2016	23.9	68.3	7.8

Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Furthermore, the demographic transition resulted in a drop in the dependence ratio. This ratio fell from 89.4% in 1960 to 46.3% in 2016. This drop confirms that Tunisia is currently going through a demographic transition phase, promoting economic growth if the demographic dividend is properly exploited.

Figure 38. Age Dependency Ratio (% of Working-Age Population)

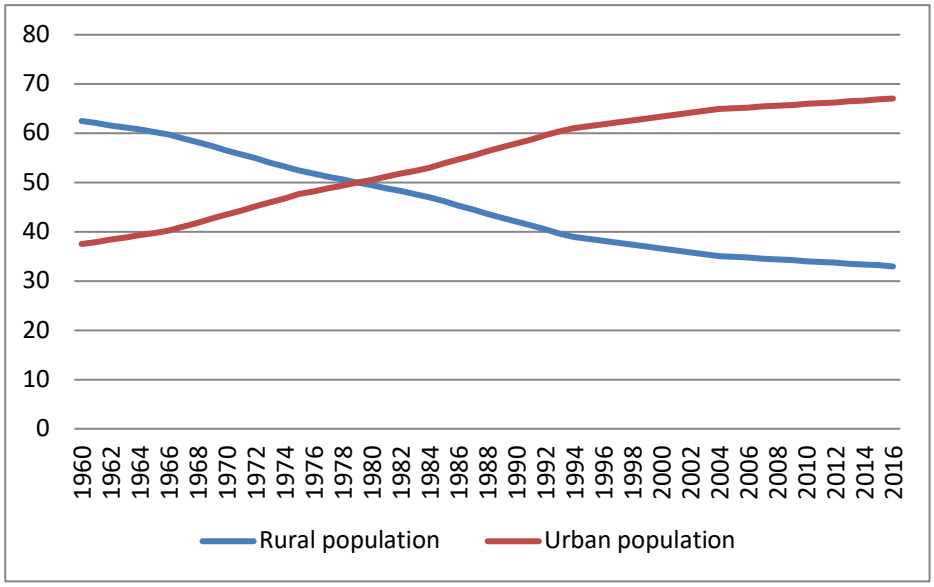


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

The demographic transition in Tunisia was also accompanied by considerable urbanisation. The share of the urban population in the total population rose from 37.5% in 1960 to 67% in 2016. This situation has created problems, such as pressure on land, unemployment…

Figure 39. Shares of Urban and Rural Population



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

2. Health

The population's poor health conditions reduce its efficiency and productivity through limiting the availability of human capital, by reducing the physical and mental capacities of workers, or by undermining student's ability to learn in school.

Since the 1960s, the Tunisian government has established a proactive policy to improve its the situation of the population's health. This strategy aims to ensure equity in care provision amongst regions and between urban and rural areas and to facilitate its access for the poorest. The health policy implemented has led to a marked improvement in Tunisia's health indicators.

Table 6 shows that Tunisia outperforms the average of almost all health outcomes among upper and lower middle-income countries. Wasting and overweight among children under 5 are the two areas where Tunisia does slightly worse than the upper-middle income average. These performances provide clear evidence that health cannot pose a binding constraint on growth and productive employment in Tunisia.

Table 6. Health outcomes, Tunisia and Comparator Countries (2012)

	Tunisia	Upper-Middle Income	Lower Middle Income
Low-birthweight babies (% of births)	6.9	5.4	21
Prevalence of overweight (% of children under 5)	8.8	7.1	5.9
Prevalence of severe wasting (% of children under 5)	3.4	2.7	16
Life expectancy at birth, female (years)	77.2	76.9	68.8
Life expectancy at birth, male (years)	73.0	72.2	65.2
Life expectancy at birth, total (years)	75.0	74.5	66.9
Mortality rate, adult, female (per 1,000 female adults)	74.0	87.0	156.4
Mortality rate, adult, male (per 1,000 male adults)	117.6	144.3	226.7
Mortality rate, infant (per 1,000 live births)	13.6	14.4	43.9
Mortality rate, neonatal (per 1,000 live births)	9.5	8.6	27.9
Mortality rate, under-5 (per 1,000 live births)	15.8	17	59
Survival to age 65, female (% of cohort)	86.4	85.2	73.0
Survival to age 65, male (% of cohort)	79.3	77.3	64.4
Incidence of tuberculosis (per 100,000 people)	37	84	244

Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

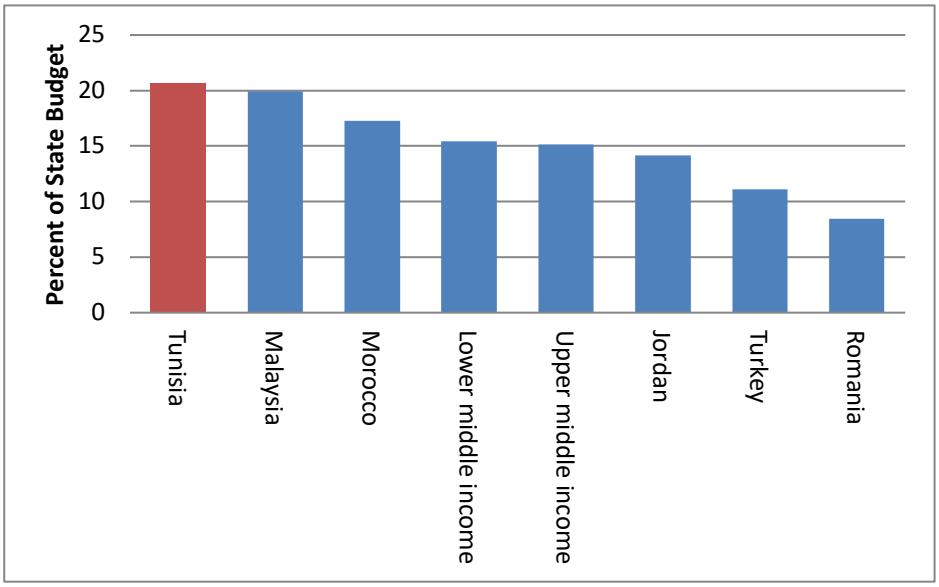
3. Education

Investment in schooling directly affects the supply of human capital by equipping the work force with skills needed to improve the competitiveness of enterprises and to gain further job specific skills through workforce training.

Tunisia has, therefore, invested greatly in education since the early 1960s. This commitment was realised through educational financing, with an increase in the share of the budget allocated to educational expenditure at all levels.

The most recent available data on the share of public expenditure allocated to education shows that Tunisia exceeds all the comparator countries, with a share of 20.6% of the general government budget.

Figure 40. Government Expenditure on Education (2012)

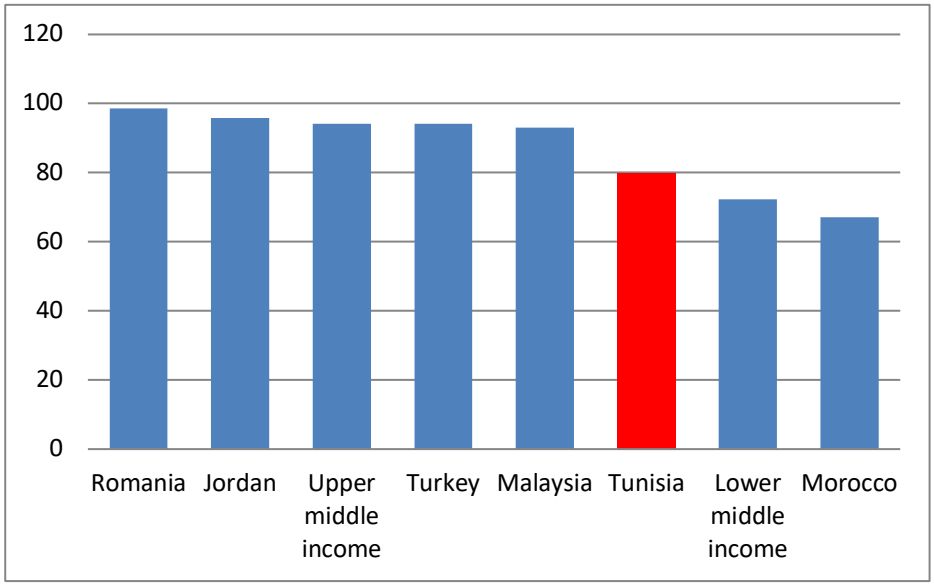


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

Although these investments have helped to improve the education level, the literacy rate remains relatively low in relation to the comparator countries, which have a rate above 90%. The international comparison shows that Tunisia is well-placed, compared to Morocco and L-MICs.

Figure 41. Literacy Rate (2015)



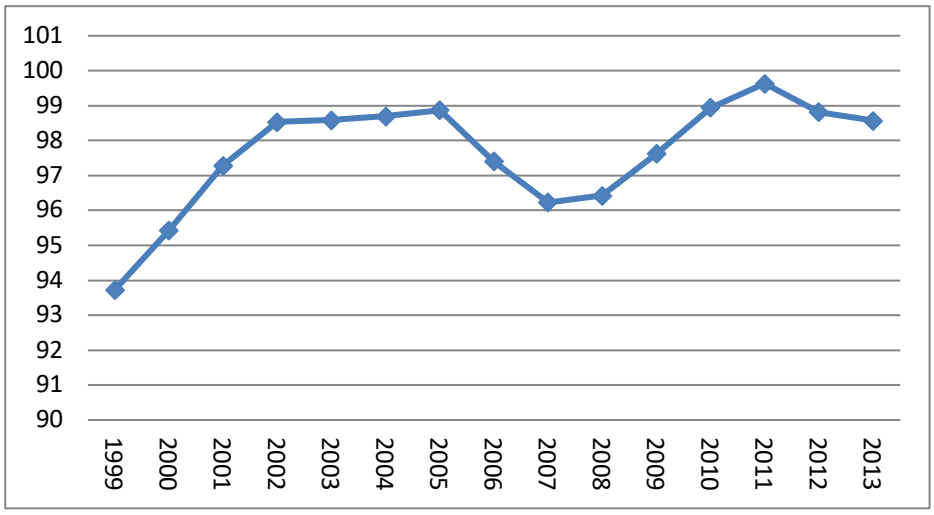
Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

4. Enrolment Rate

Primary education enrolment rates rose significantly between 1999 and 2013 and universal enrolment has almost been achieved. Tunisia has made great strides in primary education and the primary net enrolment rate rose from 94.5 percent in 1999 to 99.3 percent in 2013. Concerning girls' education, the net enrolment rate rose from 93 percent in 1999 to 98.2 percent in 2013.

Figure 42. Net Enrolment Rate in Primary Schooling

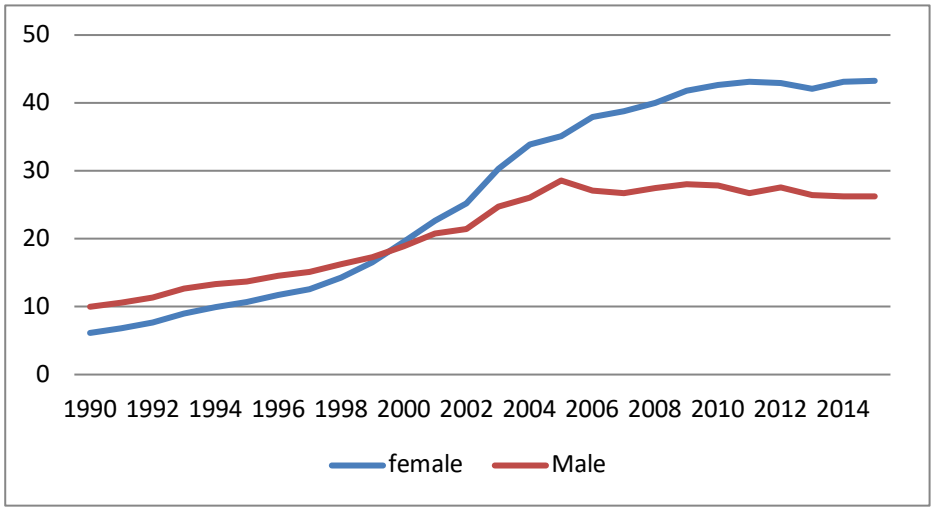


Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

The performances of secondary and tertiary education in Tunisia are satisfactory and rising school attainment in Tunisia is mirrored by high levels of enrolment at the secondary and tertiary level. The secondary net enrolment rate rose from 44.5 percent in 1990 to 92 percent in 2013 (94 percent for females and 90 percent for males). In the same period, gross enrolment at tertiary level reached 34 percent in 2015, up from 8.4 percent in 1990. This performance was explained by the rapid growth in female enrolment. The tertiary enrolment rate for women was slightly lower than that for men in 2000 but, by 2013, had reached nearly 160 percent of the male enrolment rate.

Figure 43. Gross Enrolment in Tertiary Schooling



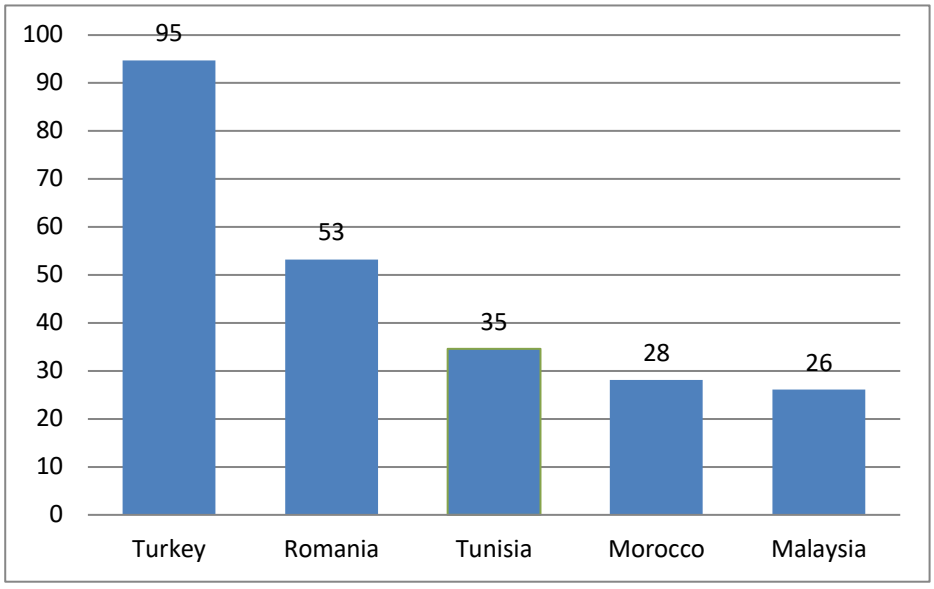
Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

The rapid growth in tertiary enrolment is partially attributed to the fact that Tunisia has a high completion rate for secondary studies and access to secondary education is near universal.

International comparison, in terms of the gross tertiary enrolment rate, shows that Tunisia is well placed compared to Morocco and Malaysia. Further efforts are required to close this gap.

Figure 44. Higher Education Enrolment Rate



Source: World Bank, World Development Indicators (May 2018)

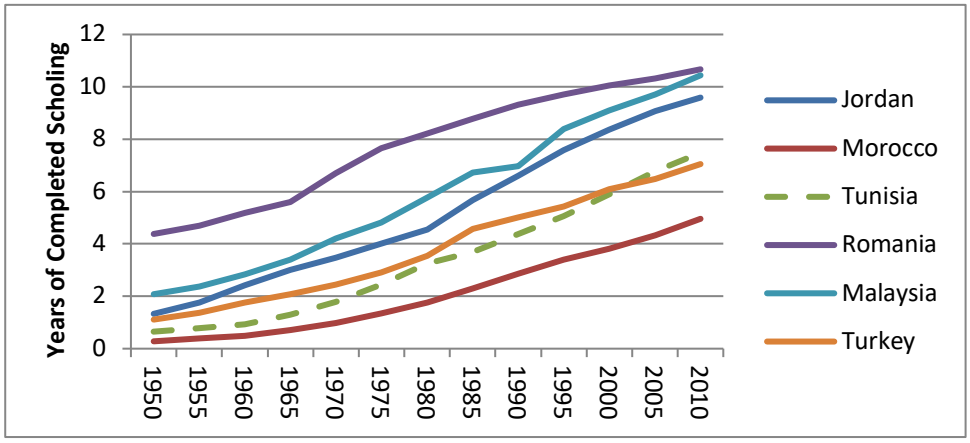
http://databank.worldbank.org/data/source/world-development-indicators

a. Length of Schooling

As a consequence of the considerable investment effort in education, levels of schooling attainment among young have rapidly raised and the average schooling among the working-age population has steadily increased over time.

The length of schooling was extremely limited in 1960, less than a single year. Then, over the next five decades, average years of schooling rose steadily to 7.5 years in 2010. Growth in attainment was on par with that of comparator countries.

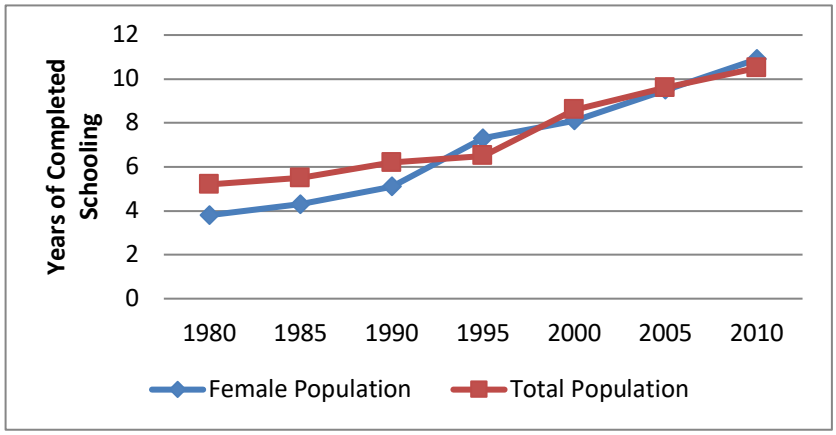
Figure 45. Average Schooling Attainment



Source: Barro, R; Lee, J (2013). "A New Dataset of Educational Attainment in the World, 1950-2010" http://www.barrolee.com/

Moreover, the pattern of schooling investment appears to benefit women more than men. In 1980, average schooling among Tunisian young people was 3 years for men and only 1 year for women. By 2010, the average attainment gap remained at 2 years, but the relative gap had shrunk dramatically, with women aged 25 or more averaging 5.5 years of schooling versus 7.5 years among men.

Figure 46. Average Schooling Attainment



Source: World Bank, World Development Indicators (May 2018)

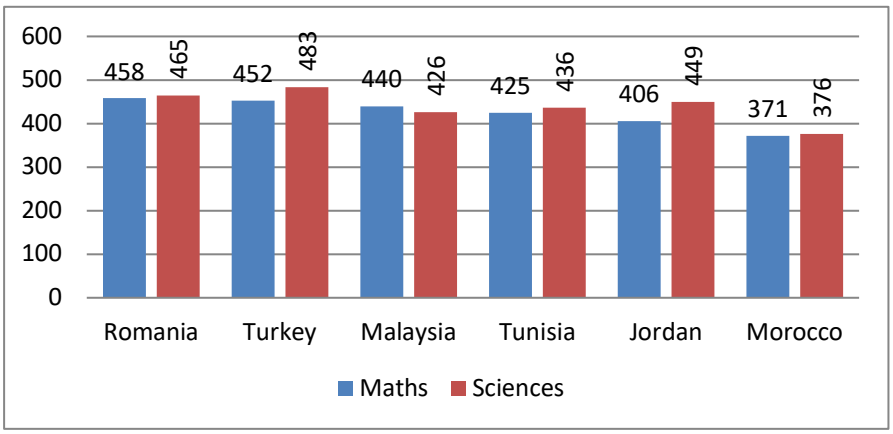
http://databank.worldbank.org/data/source/world-development-indicators

b. Education Quality

Even though Tunisia has achieved good performance in terms of raising the quantity of schooling, some observers have raised concerns about the quality of schooling. The international assessment tests for students can be used to assess a country's education quality, notably TIMSS (Trends in International Mathematics and Science Study).

TIMSS is a series of international assessments of mathematics and science knowledge amongst students around the world. The participating students come from a diverse set of educational systems (countries or regional jurisdictions of countries) in terms of economic development, geographical location, and population size.

Figure 47. Results of TIMSS Tests (2011)



Source: TIMSS dataset (May 2018)

https://timssandpirls.bc.edu/timss2015/international-database/

TIMSS results and performance analyses of the Tunisian educational system display serious shortcomings in its performance. As cognitive performances are generally correlated with income levels at international level, it is relevant to compare the performances of Tunisian students to those of groups of comparator countries, in order to determine if the lack of skills is a binding constraint to economic growth and productive employment. The results for Tunisia are relatively low. In mathematics, Romania (458), Turkey (452) and Malaysia (440) scored significantly higher than Tunisia (425). In sciences, Tunisia (436) falls significantly below Romania (465), Turkey (483) and Jordan (449).

The mediocre performance of Tunisian students in international tests suggests that they have not acquired the elementary skills necessary to pursue their education. This demonstrates that the share of Tunisian students with a high level of cognitive skills is very small.

Hanushek and Woessmann (2012) identify this group as particularly important for a country's long-term growth. Only 0.3 percent of Tunisian students fall into this top-achieving group - a higher proportion than in Morocco (0.1) but far lower than in Turkey (3.9 percent), Romania (4.6 percent) and Malaysia (6.5 percent)[8].

5. Constraint Test

a. Test 1: Return to Schooling

The return on investment in education is measured by estimating "the Mincer equation" which links the wage level to the number of years of study and taking into account professional experience, as well as individual specific characteristics (age, sex, region, etc.).

The study of Kraft et.al (2016) examines what is the value of a degree in Egypt, Jordan and Tunisia by estimating "Mincer model" for the level and years of schooling. They find the following results: (i) Overall, returns were lower than global averages in all three countries. (ii) Tunisia has the greatest return to education with an 8.1% increase in wages for each additional year of school, like Jordan which has a 7.7% return, whereas Egypt has almost half as much at 4.6%. (ii) Returns increased substantially starting at the post-secondary level. University versus secondary education has the greatest marginal return with the highest being 92.8% (22.0% annually) for females in Tunisia. (iii) Generally, the older generation had greater returns to education compared to the younger generation. (iv) Women have greater rates of return

[8]AfDB (2013), Op. Cit

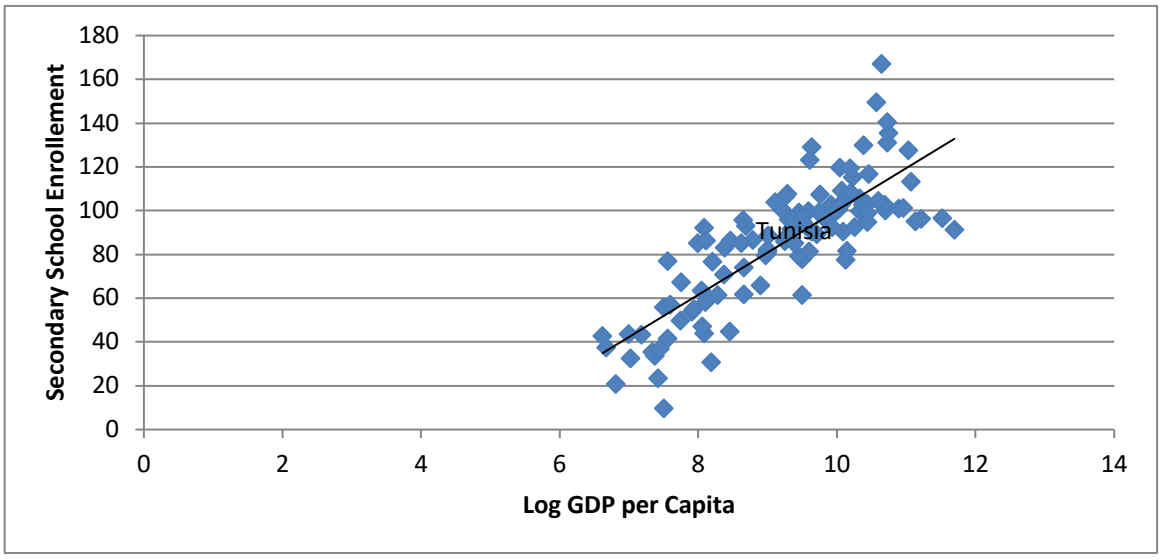
than men at all levels. (v) The private sector has lower returns than the public sector. These results give evidence that returns to education are not very high.

b. Test 2: Correlation between GDP per Capita and Secondary Education Rates

The correlation between secondary education rates[9] and GDP per capita makes it possible to determine if the enrolment level in Tunisia corresponds closely with its GDP per capita. Many empirical studies show that there is a positive correlation between the average length of schooling and income per capita and that high education levels lead to increased GDP per capita.

The correlation between secondary education rates and GDP per capita shows that, in Tunisia, enrolment rates are slightly above those of countries with the same income level. This confirms that the quantity of schooling does not present a specific problem and supports the assumption that a shortage of human capital does not currently represent a binding constraint to growth and productive employment in Tunisia.

Figure 48. Correlation between Secondary School Enrolment and GDP per Capita (2015)



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

[9]Often used to measure the efficiency of educational system

c. Test 3: By-passing the constraint

From the standpoint of the firm, the test first attempts to determine how firms manage to by-pass the scarcity of skilled labour. Second, from the standpoint of graduates, the test seeks to determine how skilled labour can successfully overcome the obstacles imposed by insufficient demand for skilled labour.

Generally, enterprises turn towards training to overcome the lack of skilled labour. According to the ITCEQ survey (2015)[10], only 15 percent of Tunisian enterprises identify the lack of adequately skilled labour as a major constraint. Thereby, firms in Tunisia view the human capital of their employees with relative satisfaction. For this reason, worker skills and training came in second to last place as an obstacle to competitiveness, before infrastructure.

53 percent of all firms reveal that they have provided their employees with training during the last two years. Interest in training increases with the size of the enterprise and appears more evident amongst exporters, as well as those operating in services, especially in the financial and health sectors.

Table 7. Firms Providing Training for their Employees (%)

Size of firm	
Small	35
Medium	59
Large	85
Sector	
Manufacturing	47
Services	61
Financial sector	100
Health	89
Export Status	
Exclusive Exporters	60
Partial Exporters	56
Producing for Domestic Market	48

Source: ITCEQ Enterprise Survey 2015

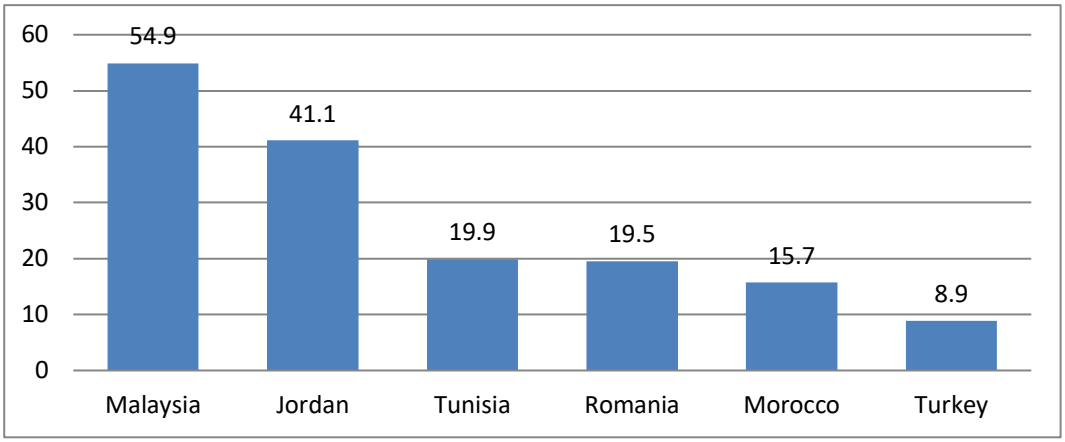
http://www.itceq.tn/wp-content/uploads/files/Rapports/rapport-etudes-competitivite-2015.pdf

[10]The Tunisian Institute of Competitiveness and Quantitative Studies (ITCEQ) conducted a survey on business climate and business competitiveness covering a sample of 1200 formal private firms, operating in industry and services.

Concerning graduates, the by-passing of insufficient demand for skilled labour constraint would be the increase in the graduate immigration rate. The share of tertiary educated Tunisians living abroad was relatively high, particularly compared with Romania, Morocco and Turkey.

The prevalence of educated emigration challenged the assumption that in Tunisia the shortage of skilled labour would be a binding constraint to growth and productive employment. The by-passing test reinforces the view that, at the higher education level, the problem is on the demand rather than the supply side and the economy has not created sufficient job opportunities for tertiary educated job seekers.

Figure 49. Higher Education Graduate Emigration Rate



Source: World Bank Migration and Remittances Factbook (2016)

d. Test 4: Camel and Hippos Test

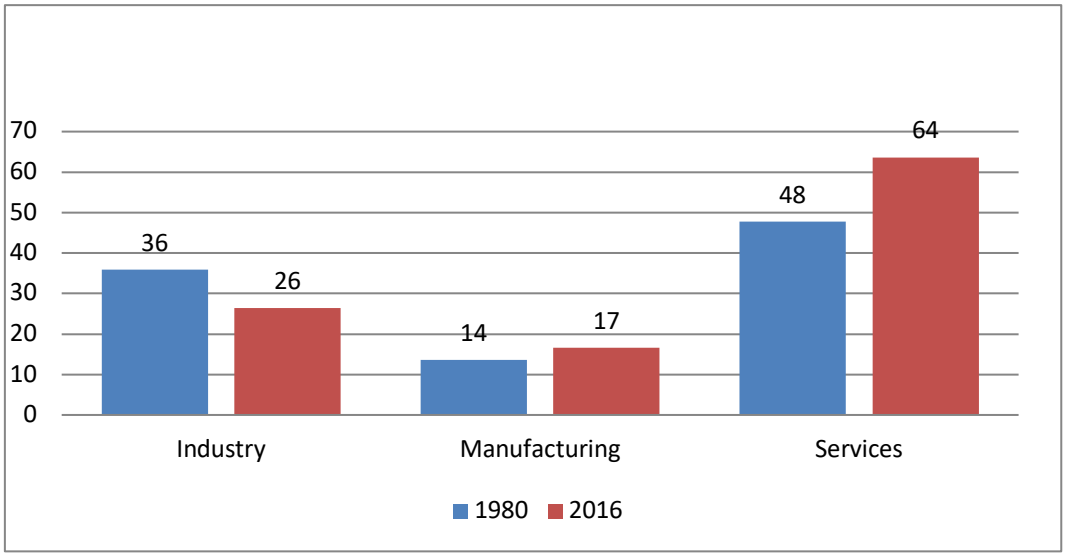
The "Camel and Hippos" test seeks to identify whether Tunisian firms are robust in the factor that is being tested. In this case, the potentially constraining factor is the shortcoming of skilled labour. The objective of the test is to identify which types of firm are able to develop, despite the lack of skilled labour.

The shortage of skilled labour will constrain the majority of firms to engage in low productivity activities which require a low amount of skilled labour (Camel enterprises). On the other hand, abundant skilled labour supply encourages firms to engage in high productivity activities (Hippos enterprises).

In Tunisia, if the quality of labour represents a binding constraint, firms operating in the high productivity sector will find more difficulties in developing. As illustrated in figure 3.14, the share of value added in GDP of the services sector rose between 1980 and 2016 from 48 percent to 64

percent. This sector is less demanding in terms of skilled labour. On the contrary, the industrial sector, which is highly sensitive to labour quality, saw its value added share in GDP fall from 36 percent to 26 percent over the same period. This sector faces difficulties in developing.

Figure 50. Comparison of Value Added by Sector



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

6. *Key Messages*

- Tunisia has rapidly progressed through the demographic transition from high fertility and high mortality rates to low total fertility and long life expectancy. This phase is characterised by a transformation of the population structure by ages (drop in dependence ratio) and the highly significant phenomenon of urbanisation.
- Currently, the Tunisian population's health situation and demographic trend does not pose a biding constraint to growth and productive employment.
- Despite the great effort of investment in education, the return on investments and the literacy rate remain low in relation to the comparator countries.

- Different analyses and tests converge toward the conclusion that a shortage of human capital does not represent a binding constraint to growth and productive employment.
- The high rates of unemployment among highly educated individuals and the high share of tertiary educated Tunisians living abroad provide strong evidence that the Tunisian economy does not create sufficient opportunities for skilled labour
- Results of international assessment tests have revealed that Tunisia's student scores are relatively low. The mediocre performance suggests that they have not acquired the elementary skills necessary to pursue their education.
- Tunisian firms view the human capital of their employees with relative satisfaction.
- Albeit Tunisia's achievement in raising the quantity of schooling among its population, the evidence points to the need for continuing improvements in educational quality, particularly at primary and secondary level.

IV. Microeconomic Risks

The gap between intrinsic economic return and private return to investment resulted from the weak ownership of the return on economic activity. Weak ownership or micro-appropriability arises through government policy and institutional failings, which create risks and distortions, reduce the return on private investment and decelerate economic growth and productive employment.

To overcome the issue of weak micro-appropriability, it is fundamental to establish adequate microeconomic policies and efficient institutions through the establishment of a reliable system of property rights, predictable, transparent and efficient regulations, an impartial, modern and efficient judicial system, relatively flexible and non-distortionary fiscal burdens,

flexible access to the factoring market, and adequate protection against unfair trade practices and situations of monopolistic competition[11].

Within the framework of employment diagnosis, this chapter seeks to determine whether the weakness in certain microeconomic policies and institutional failings can pose binding constraints to growth and productive employment.

1. Governance, corruption and transparency

It is well known that good governance affects the conditions of private sector development and is the core determinant of economic growth and productive employment. The Institute of Governance defined governance as "the institutions, processes and traditions which determine how power is exercised, how decisions are taken, and how citizens have their say".

According to the World Bank, good governance is based on six dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regularity and quality, rule of law and control of corruption.

The lack of executive accountability and an insufficient independent judiciary cause high levels of corruption, limited rule of law and, ultimately, weaken property rights. These failures also lead to the creation of barriers to entry, which hamper free and fair competition. The absence of effective competition is likely to negatively affect growth and productive employment.

Although these issues are clearly identified in Tunisia, the country has started a reform process to remedy the underlying institutional weaknesses. This process aimed at enhancing institutional efficiency and shifting towards good governance and was manifested in the adoption of a new Constitution in 2013. However, despite these efforts, Tunisia still ranked lowly in comparison to comparator countries. Evidence supports the idea that addressing institutional problems requires additional time and effort. The Index of Economic Freedom is an annual index and ranking, created by The Heritage Foundation and The Wall Street Journal in 1995, to measure the degree of economic freedom throughout the world's nations.

The index scores nations on twelve factors of economic freedom, separated into four categories (Rule of Law, Government Size, Regulatory Efficiency, Market Openness). In each factor, countries are scored 0 to 100,

[11]African Development Bank (2014), "Morocco's Growth Diagnostic: Identifying Morocco's Binding Constraints for Broad-Based Growth"

with 0 being the least free and 100 the most free. A score of 100 signifies an economic environment or set of policies that is most conducive to economic freedom.

The Heritage Foundation (2016) ranks Tunisia the lowest in overall economic freedom against the comparator countries. This ranking highlights weaknesses, especially in the area of weak property rights, financial freedom and freedom from corruption.

Table 8. "The Heritage Foundation" Economic Freedom Indicators (2016)

	Jordan	Malaysia	Morocco	Romania	Tunisia	Turkey
Overall Score	65	75	62	69	59	65
Property Rights	58	84	54	61	49	55
Business Freedom	63	84	70	65	81	63
Labour Freedom	59	76	36	67	53	48
Monetary Freedom	89	86	82	83	77	72
Trade Freedom	82	87	79	87	82	79
Investment Freedom	70	60	65	75	45	75
Financial Freedom	60	50	70	50	30	60
Freedom from Corruption	40	43	34	36	38	42

Source: Heritage Foundation

https://www.heritage.org/index/explore

In the same context and according to Worldwide Governance Indicators, Tunisia earned the lowest score on the governance and control of corruption: -0.2 for government effectiveness, behind Turkey, and -0.1 for control of corruption.

The World Governance Indicators Project reports aggregate and individual governance indicators for over 200 countries over the period 1996–2016, for six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

Table 9. Governance Indicators (2016)

	Control of Corruption	Government Effectiveness
Jordan	0.3	0.1
Morocco	-0.1	-0.1
Malaysia	0.1	0.9
Romania	0.0	-0.2
Tunisia	-0.1	-0.2
Turkey	-0.2	0.0

Source: World Governance Indicators (May 2018)
http://info.worldbank.org/governance/wgi/#home

In 2017, Tunisia was ranked 71st out of 177 countries in corruption perception, measured by the "Transparency International" index, with a score of 42 out of 100. The World Bank's Enterprise Survey (2013) confirms the issue was linked to widespread corruption in Tunisia. In fact, 36 percent of Tunisian firms identified corruption as a major constraint to their business. This percentage is significantly higher than that of Malaysia (12.4 percent), Turkey (12.1 percent) and Jordan (20.8 percent).

The World Bank's Enterprise Survey is a firm-level survey covering a representative sample of an economy's private sector. The surveys focus on a broad range of business environment topics, including access to finance, corruption, infrastructure, crime, competition, and performance measures. Typically, 1200-1800 interviews are conducted in larger economies, 360 interviews are conducted in medium-sized economies, and for smaller economies, 150 interviews take place. The Sampling Note provides the rationale for these sample sizes.

Table 10. Percent of Firms Identifying Corruption as a Major Constraint

Country	Percent of Firms
Jordan	20.8
Morocco	53.1
Malaysia	12.4
Romania	46.1
Tunisia	36
Turkey	12.1

Source: World Bank Enterprise Survey 2013
http://www.enterprisesurveys.org/

The judicial system can be a very important factor for the development of private investment. Indeed, an efficient judicial system ensures the protection of investor's rights and promotes a climate of trust, to encourage private investors and promote economic activity. The quality of the judicial system depends on its ability to render impartial judgments, ensure compliance with agreements and contracts and see to the reliable and transparent enforcement of laws in settling trade conflicts.

In 2008, according to the Global Integrity Report, Tunisia earned a score of 57 out of 100 for the rule of law criterion and was ranked in the "weak" category. This score could hamper the investment perspective and remains lower than that of Romania (82) and Turkey (80). Other comparator countries were all rated "weak" (50 for Morocco and Malaysia and 57 for Jordan).

Table 11. Global Integrity Score on Anti-Corruption and the Rule of Law

Anti-corruption and Rule of Law	48	Very weak
Anti-Corruption Law	100	Very Strong
Anti-corruption Agency	4	Very weak
Rule of Law	57	Very weak
Law of enforcement	29	Very weak

Source: Global Integrity (May 2018)
https://www.globalintegrity.org/research/reports/

The ITCEQ Enterprise Survey (2010) confirms this problem. In fact, a large proportion of Tunisian firms considered the judicial system to be a major obstacle. 41 percent of partially exporting companies and 35 percent of non-exporting companies rated the judicial system as a severe constraint to their business.

Table 12. Percentage of Tunisian Firms identifying Judicial System as a Constraint

	Minor Obstacle	Moderate Obstacle	Major Obstacle
Totally Exporting	64	12	24
Partially Exporting	36	22	42
Local Market	41	24	35

Source: ITCEQ Enterprise Survey 2010

http://www.itceq.tn/wp-content/uploads/files/Rapports/rapport-etudes-competitivite-2010.pdf

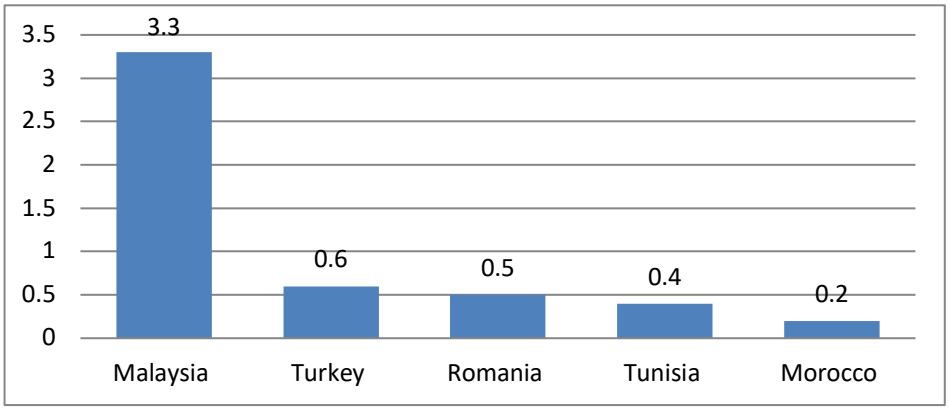
2. *Test of Constraint*

a. Test 1: High Cost of Corruption

The objective of the test is to analyse the cost of corruption paid by Tunisian firms resulting from poor governance in public institutions. The estimated corruption cost is based on data from the World Bank Enterprise Survey (2013) on the value of the gifts that Tunisian firms pay for the execution of a public contract. Thus, if these rates are high, they indicate that Tunisian firms pay a high cost of corruption and there is a problem of governance and control of corruption.

Data from the World Bank Enterprise Survey (2013) shows that Tunisian firms pay 0.4% of the value of their contracts in "gifts", which is a very low cost compared to Malaysia (3.3%) and almost equal to those of other comparative countries.

Figure 51. Value of gift expected to secure a government contract



Source: World Bank Enterprise Survey
http://www.enterprisesurveys.org/

b. Test 2: High Cost of Justice

Tunisian investors' perception of the judicial system is very complex in terms of contract execution. They often indicated that Tunisian justice is very slow, uncertain and unpredictable. The Doing Business Report (2018) shows that the number of contract execution procedures is very high in Tunisia (39) compared to Malaysia (29) and Romania (32). This observation is also valid regarding time frame: in Tunisia, the time required to execute a contract is 565 days, which is very high compared to Malaysia (425), Morocco (510) and Romania (512).

Table 13. Execution of Contract: number of procedures, cost and time frame

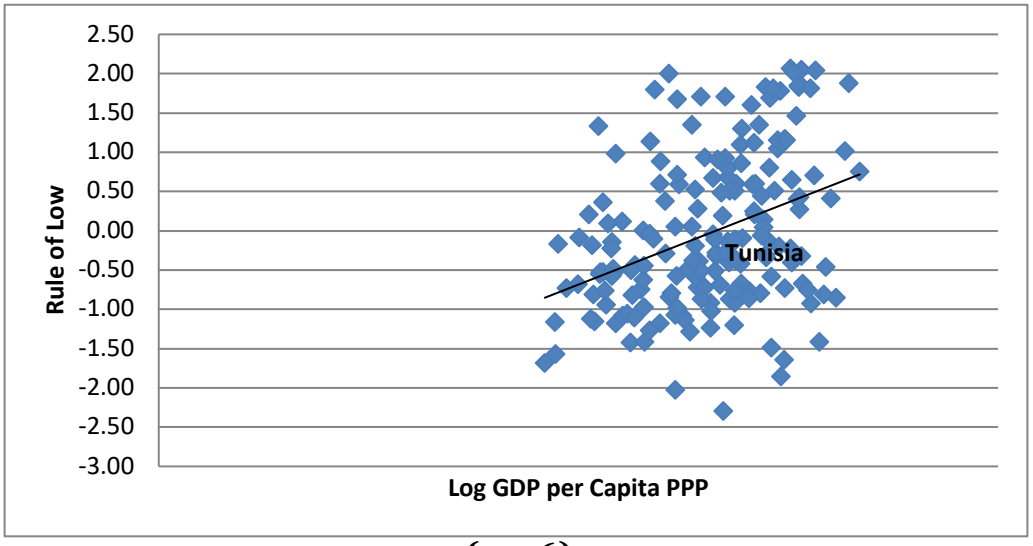
Economy	Time (days)	Cost (% of claim value)	Procedure (number)
Jordan	642	31.2	
Malaysia	425	37.3	29
Morocco	510	26.5	40
Romania	512	25.8	32
Tunisia	565	21.8	39
Turkey	580	24.9	36

Source: Doing Business, 2018 (May 2018)
http://francais.doingbusiness.org/data

c. Test 3: Relationship between quality of judicial system and GDP per Capita

The observation of the relationship between the quality of the judicial system, measured by rule of law index and GDP per capita, shows that the rule of law index is consistent with the level of GDP per Capita. Tunisia is ranked badly, considering its level of development.

Figure 52. Relationship between Rule of Law and GDP per Capita



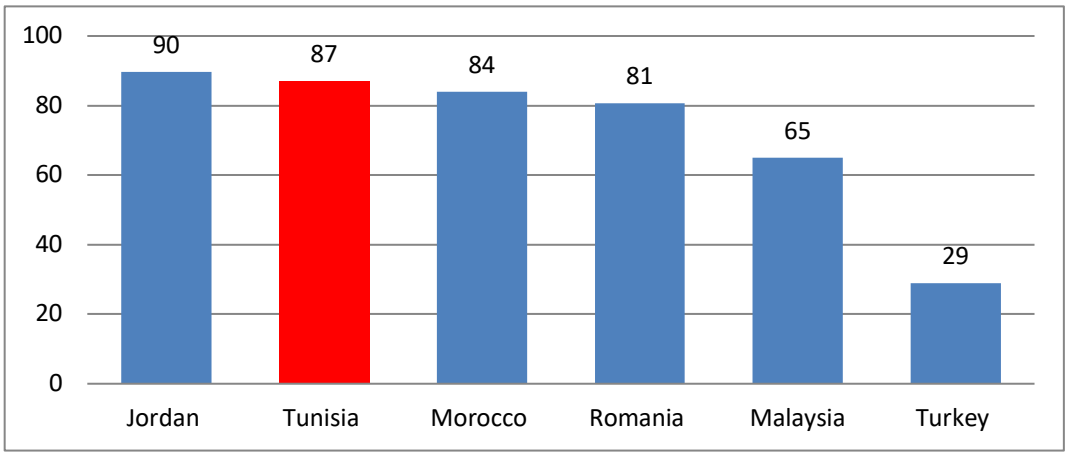
(2016)

Source: World Governance Indicators, World Development Indicators (May 2018)

d. Test 4: By-passing the Constraint

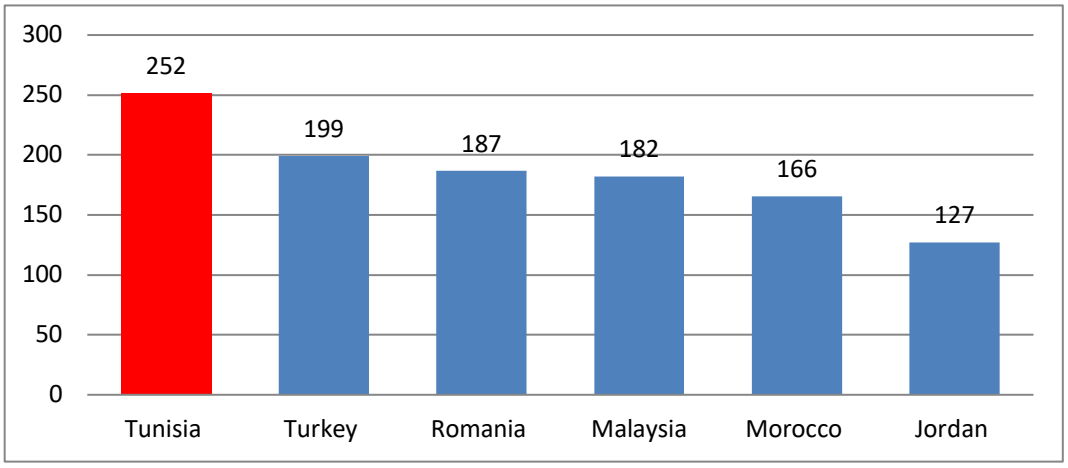
One of the ways to overcome the constraint of judicial system complexity, in the financial system for example, is that banks require guarantees. According to the World Bank Enterprise Survey (2013), 87 percent of loans provided by Tunisian banks are subject to guarantee. This rate is higher than those of the comparator countries, except for Jordan (90 percent). In Tunisia, the average collateral requirement of 252 percent of the value of the loan is unusually high, compared to comparator countries.

Figure 53. Percentage of Loans requiring a Guarantee



Source: World Bank Enterprise Survey
http://www.enterprisesurveys.org/

Figure 54. Value of collateral needed for a loan



Source: World Bank Enterprise Survey

http://www.enterprisesurveys.org/

3. *Key message*

- The analysis leads to the conclusion that microeconomic risks are a major constraint to private investment and productive employment in Tunisia.
- Poor governance (weak property rights and rule of law), corruption and a complex judicial system have imposed high economic costs and appear to be a major constraint.
- Tunisia has started a reform process to remedy underlying institutional weaknesses. This process aims at enhancing institutional efficiency and shifting towards good governance.
- Evidence supports the idea that addressing institutional problems requires additional time and effort.
- The cost of justice is very high in Tunisia, as the number of procedures and the time frame needed to execute contracts are very high.
- Although a large proportion of Tunisian firms identified corruption as a major constraint to their business, the contract values of Tunisian firms are not seriously affected by corruption

V. Labour Market Regulation

Labour market regulation is a key factor in economic development and the promotion of investment, especially in the private sector. The regulation of certain aspects of the labour market is fundamental to attaining an appropriate balance between worker remuneration, job security and flexibility. However, the high regulatory cost of labour would i) reduce growth employability ii) push down wages, iii) raise unemployment and iv) impede investment and innovation, which are essential for productivity growth. Empirical studies have revealed that labour market regulation tends to reduce productivity, growth and employment as well as labour force participation.

To achieve greater flexibility in the labour market, amendments to the Labour Code were adopted in 1994 and 1996 to improve freedom of hiring and firing, to index wages to productivity and to decentralisze wage negotiations. These reforms introduced specific provisions for both definite and indefinite contracts, and also the notion of part-time work. Labour laws from 1994 and 1996 allow greater flexibility in three areas (Zouari, 2014):

- *Recruitment:* Employers may hire directly (are not required to hire through employment agencies), may choose their future employees without any constraint and may use the model (fixed-term or permanent contract) they prefer when hiring people.

- *Layoffs:* When employers dismiss workers, with or without due cause, the process is lengthy and expensive. Nevertheless, layoffs based on being guilty of serious misconduct, can be considered a flexible option, as they offer the possibility of dismissing workers more easily.

- *Working hours:* Part-time workers find this option convenient, especially women in the clothing and textile sector where female labour is widely used. However, the option is still under-used because of the lack of suitable and clear regulations for working conditions and social protection.

In the case of downsizing, the minimum compensation for dismissals is set by the labour code (one day's pay for each month of service, up to a maximum of three months) which is not excessive compared with what happens in other countries (Spain, Germany, and Japan). However, in cases of unfair dismissal, compensation rates are higher and exceed the international standard. The World Bank Report (2014) considered that dismissal is both bureaucratic and costly and the labour code remains overprotective of those within the labour system.

Some provisions in the Tunisian labour code, such as working time arrangements, are relatively flexible. Also, some entitlements, such as annual and maternity leave in Tunisia, are below internationally accepted ILO standards. However, several other provisions, especially administrative arrangements for contract termination, regulations on fixed-term contracts, and collective wage agreements, might need revisions.

According to the World Bank Report (2015) high payroll taxes and rigid dismissal procedures may be affecting the ability of firms to manage human resources efficiently and giving them incentives to use mainly fixed-term contracts and/or to hire workers informally. In addition, collective wage agreements in certain industries and sectors set wages that can be high relative to labour productivity, constraining labour demand for highly-skilled youths. Active labour market programmes, on the other hand, have been ineffective and the government has been trying to address these shortcomings.

Labour market regulation is not restricted to labour acts. Regulations on minimum wages, taxes on labour and social security contributions also have a significant impact on employment. The minimum wage plays an important role in protecting workers in the labour market that are not ideally competitive and in situations where employers have market power and are able to impose wages that are too low, relative to productivity.

Tunisia has official mechanisms for setting minimum wages in the private sector. The minimum wage for formal sector workers in non-farm activities is modest, in comparison to international standards. Following Kuddo (2013), the minimum wage represents only 24 percent of value added per worker, a low ratio compared to countries such as Jordan and Morocco. Even so, there are many workers in the private sector who earn less than this minimum, presumably workers in low-productivity firms

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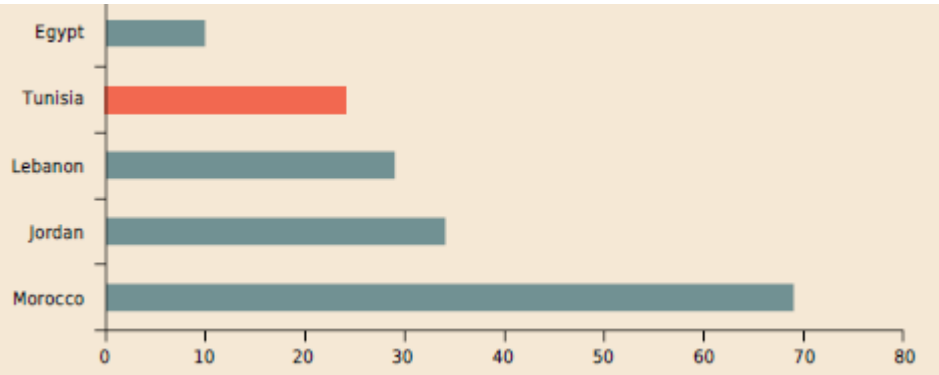
Figure 55. Minimum Wage
(Percentage of Added Value per Worker)



Source: Tunisia Development Policy Report 2013

Following the World Bank Report (2014), labour regulations in Tunisia are not likely to be the main cause of unemployment, but they contribute to the high level of informality and job insecurity and the focus of the economy towards low-skilled jobs.

1. *Financial and Regulatory Cost of Labour*

International indicators can be used to assess whether labour market regulations have a high shadow price. The World Economic Forum indicators measure the efficiency of the labour market. In 2016, Tunisia overall ranked 135th out of 137 countries, only ahead of Yemen and Venezuela. Tunisia earned the lowest marks in the almost every area of the labour market efficiency index and it does particularly poorly on hiring and firing practices, flexibility of wage determination and the country's capacity to attract and to retain talent.

Table 14. Country Ranking in Labour Market Efficiency (2016)

	Tunisia	Jordan	Malaysia	Morocco	Romania	Turkey
Aggregate indicator	135	90	26	120	89	127
Flexibility	126	28	30	79	50	109
Cooperation in labour-employer relations	123	38	20	115	99	118
Hiring and Firing practices	130	43	11	109	51	87
Flexibility of wage determination	128	43	31	33	36	51
Redundancy costs	92	11	120	88	8	122

Efficient of use talent	134	122	29	127	110	129
Pay and Productivity	126	53	5	96	11	91
Reliance on professional management	88	84	21	79	102	80
Country's capacity to retain talent	111	67	12	90	132	83
Country's capacity to attract talent	119	78	15	69	131	103
Women in labour force	125	135	101	130	81	123

Source: World Economic Forum. Global Competitiveness Report, (May 2018) http://reports.weforum.org/global-competitiveness-report-2015-2016/labour-market-efficiency/

Economic Freedom in the World (EFW), published by the Fraser Institute, gives six sub-indicators of labour institutions as a part of its indicator of economic freedom. The composite indicator is standardised on a 0-10 range, with the higher the value of the indicator representing a more flexible labour market. This measure gives a lower rating to countries in which the free hiring and firing of workers is impeded by regulation.

Table 15. Labour Market Regulations Index (2015)

	Labour market regulations	Hiring regulations and minimum wage	Hiring and firing regulations	Centralised collective bargaining	Hours Regulations	Mandated cost of worker dismissal	Conscription
Tunisia	**5.38**	6.10	2.94	4.71	10.00	5.51	3.00
Jordan	**7.90**	8.90	5.3	6.98	6.00	10.00	10.00
Morocco	**4.41**	1.10	3.91	7.14	8.00	5.29	1.00
Malaysia	**8.05**	10.00	6.77	7.27	10.00	4.24	10.00
Romania	**7.27**	3.90	4.35	7.39	8.00	10.00	10.00
Turkey	**4.51**	4.43	4.20	6.88	8.00	2.52	1.00

Source: Fraser Institute's Economic Freedom of the World (EFW) database (May 2018) https://www.fraserinstitute.org/economic-freedom/dataset/

In 2015, this indicator points out that the Tunisian labour market overall is not so rigid in absolute terms (scoring 5.38 out of 10), but less flexible than in other comparator countries (Jordan Malaysia, Romania). Morocco and Turkey were relatively more rigid. In addition, it seems that some sub-indices of labour market regulation are less than in other comparator countries. These are in the areas of hiring and firing regulations, centralised collective bargaining and conscription.

2. *Test of constraint*

a. Test 1: Cost of Labour

The objective of this test is to examine whether regulation and financial cost constitute a constraint for Tunisian firms to hire. Rigid regulation and high financial cost of labour could hamper firms from growing.

According to the ITCEQ Survey (2010), Tunisian firms do not place labour market regulations at the top of the list of obstacles. Between 20-25 percent of Tunisian firms identify labour code as a major or severe constraint. The difficulty of firing emerged as the greatest obstacle of all issues relating to labour code. Financial cost of labour (especially social contributions) could appear as a major constraint. In fact, following the ITCEQ Survey (2015), 35 percent of all firms considered social contribution as a major constraint to their own business.

Table 16. Enterprise Survey Reponses on Restrictiveness of Labour Code (2010)

Number of employees	Minor Obstacle	Moderate Obstacle	Major Obstacle
6-10	65	10	25
11-50	56.1	24	19.9
51-100	53.5	23.2	23.2
101-200	46.5	29	24.5
>200	43.7	31.1	25.2

Source: ITCEQ Enterprise Survey 2010 http://www.itceq.tn/wp-content/uploads/files/Rapports/rapport-etudes-competitivite-2010.pdf

It is also important to see whether the minimum wage in Tunisia is "too high". The test seeks to determine whether a high proportion of employees are paid the minimum. A recent analysis, using the 2011 Labour Force Survey[12] by Rutkowski et al. (2013) provides evidence that most Tunisian firms pay their employees the minimum wage. At the same time, if a large fraction of firms pay below the minimum wage, this means that in many cases firms are not constrained from circumventing regulations. In fact, 66 percent of workers with fixed term contracts are paid below the minimum wage and 27 percent of workers with flexible contracts are paid less than this wage.

b. Test 2: By-passing the constraint

Tunisian firms would try to by-pass labour regulation and cost constraints. One means of circumvention is to redefine the informal sector.

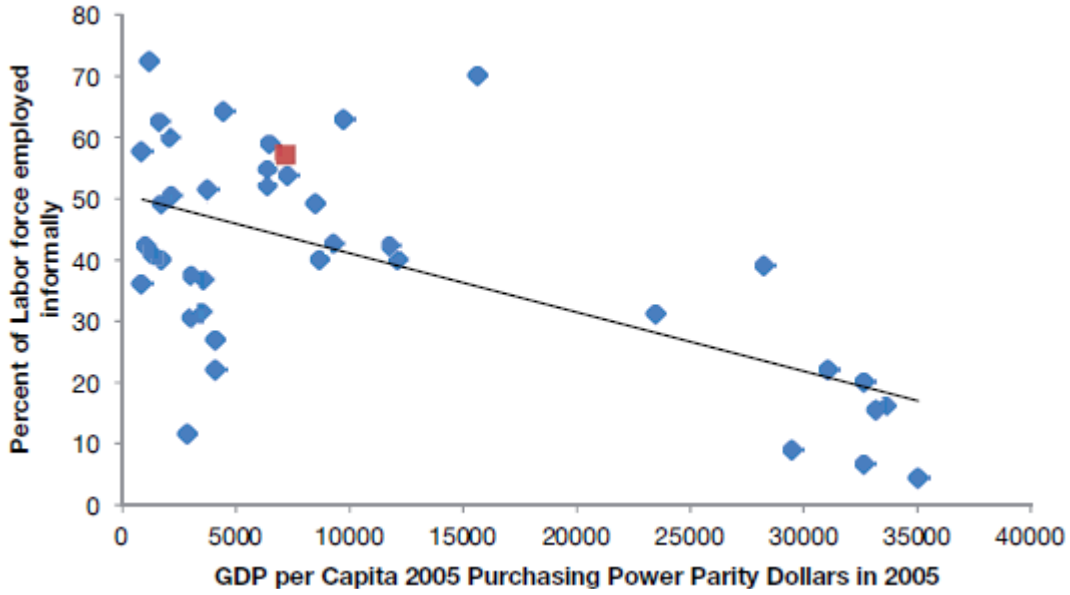
Charmes (2012) distinguishes between the following three concepts. (i) The concept of informal sector refers to self-employed and micro and small firms (less than 6 employees) which do not hold full accounts. (ii) The concept of informal employment is usually defined by the absence of social protection or the absence of a written contract. (iii) The concept of employment in the informal economy is the sum of employment in the informal sector and informal employment outside the informal sector.

The informal sector's importance in the Tunisian economy is high, in relation to income per capita. The informal sector is more important than might be expected, given the level of income per capita.

The large size of the informal economy suggests that the high level of costs for hiring, firing and payroll tax obligation are among the greatest deterrents to formalization. [13]. The informal sector seems to be driven by the desire to by-pass the constraint linked to strict labour regulation.

[12] The size of the sample is 132,000 households, representing all major regions. It is spread over 5,280 districts using the 2004 census survey. The survey aims to estimate the characteristics of the employed and unemployed for the year 2011 and to follow the indicators of employment and unemployment at national and regional level, in particular the unemployment rate, additional demands for employment and the number of job creations.
[13] AfBD (2013), Op. Cit

Figure 56. Informality of Economic Activity Relative to Income

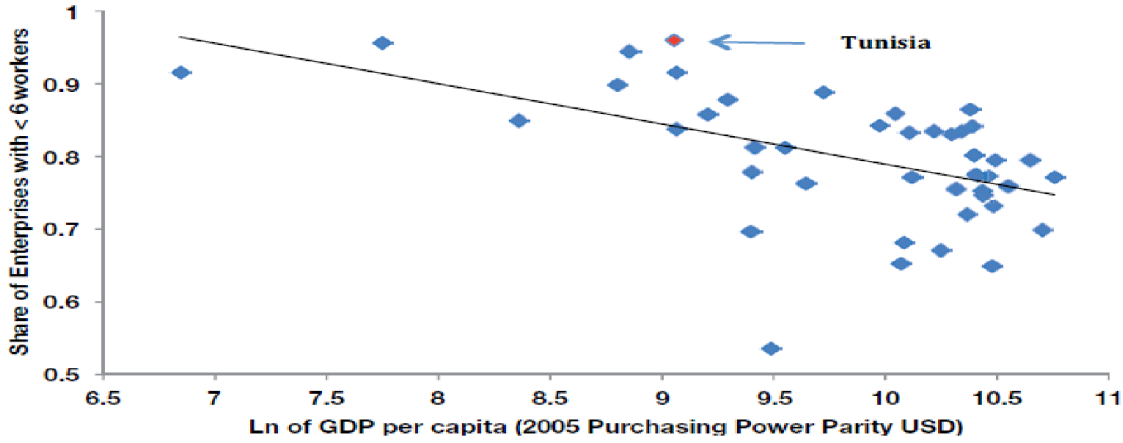


Source: African Development Bank. (2013). Towards a New Economic Model for Tunisia.

c. Test 3: Camel and Hippos test

The "Camel and Hippos" test is an alternative test of labour regulation as a binding constraint. The test seeks to determine the number of firms that do not rely heavily on the constraining factor (labour regulation). The test assesses the intensive use of employees by Tunisian firms to examine whether few firms with many employees survive, or rather whether a high percentage of existing firms employ very few workers. As shown in figure 5.2, Tunisia has significantly higher fraction of total firms with fewer than 6 workers than might be expected, given the level of income per capita. Tunisian firms have adapted to existing conditions in the labour market.

Figure 57. Fraction of Firms with Fewer than 6 Workers



Source: African Development Bank (2013). Towards a New Economic Model for Tunisia.

3. Key message

- Labour regulation and cost appear to be a major constraint. International indicators show that Tunisia's labour market is not so rigid in absolute terms, but less flexible than in other comparator countries, which results in implicitly high costs.
- Labour market regulation and the financial cost of labour can explain the weak productivity growth, small firm size and scaling up difficulties and the high level of informal employment.
- While Tunisian firms do not consider labour code as a problem, it is clear that most of them are unable or unwilling to respect regulations.

VI. Macroeconomic Risks

Macroeconomic imbalances can constrain growth and productive employment when they generate inflationary pressures, crowding out private investment by government deficits and financial and exchange crises.

Macroeconomic risks and distortions constrain productive employment through two broad channels. The first channel is when macroeconomic policies create distortions which negatively affect the return on private investment. The second channel is when macroeconomic risks arise and create a growing probability of an economic crisis event in the future, which tend to discourage investment.

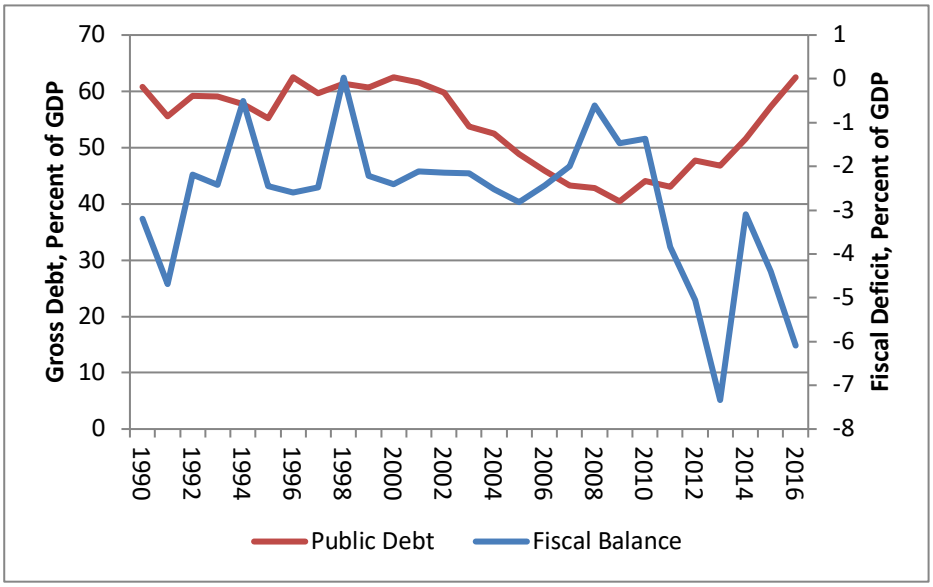
The objective of this chapter is to assess whether macroeconomic imbalances occurred during the years leading up to the revolution, or have arisen since the revolution. For the first case, macroeconomic instability already represents a binding constraint to productive employment which calls for an important policy shift after the revolution. However, for the second case, the risks of macroeconomic instability are likely to become a binding constraint in the short-to-medium term, if policy-makers fail to respond to the economic and social demands associated with the political transition.

1. Macroeconomic Policies before the Revolution

During the decade prior to the revolution, Tunisia maintained a modest fiscal deficit. Throughout the 2000s, fiscal deficits declined from 2.4 percent of GDP in 2000 to 0.6 percent of GDP in 2008. The deficit rose to 1.3 in 2010 as a consequence of a fiscal stimulus package, used by government to offset the slowdown in European economic activity. This conservative fiscal policy is mainly based on containing subsidies and other current expenditure and promoting public investment.

As a consequence of a precautionary fiscal policy, overall indebtedness steadily declined as a share of GDP, from 62 percent in 2000 to 40 percent in 2010. This fiscal consolidation provided the fiscal space to allow the government to pursue countercyclical fiscal policies, namely in 2009. The main source of vulnerability, identified prior to the revolution, was that most of the 60 percent of sovereign debt was denominated in foreign currency.

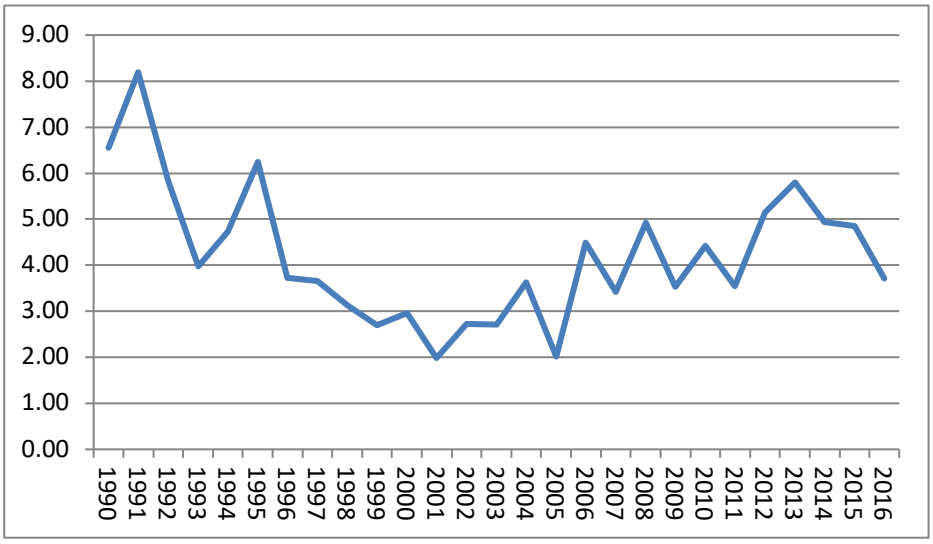
Figure 58. Tunisia's Fiscal Deficit and Public Debt



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

The financing needs of the Tunisian economy during the decade prior to the revolution were covered mainly through domestic and foreign debts, rather than through monetary expansion. As a consequence, inflation was maintained at a low level and fluctuated within a narrow band, between 1 percent and 5.1 percent. Evidence shows that inflation did not represent a constraint on growth and productive employment during the 2000s.

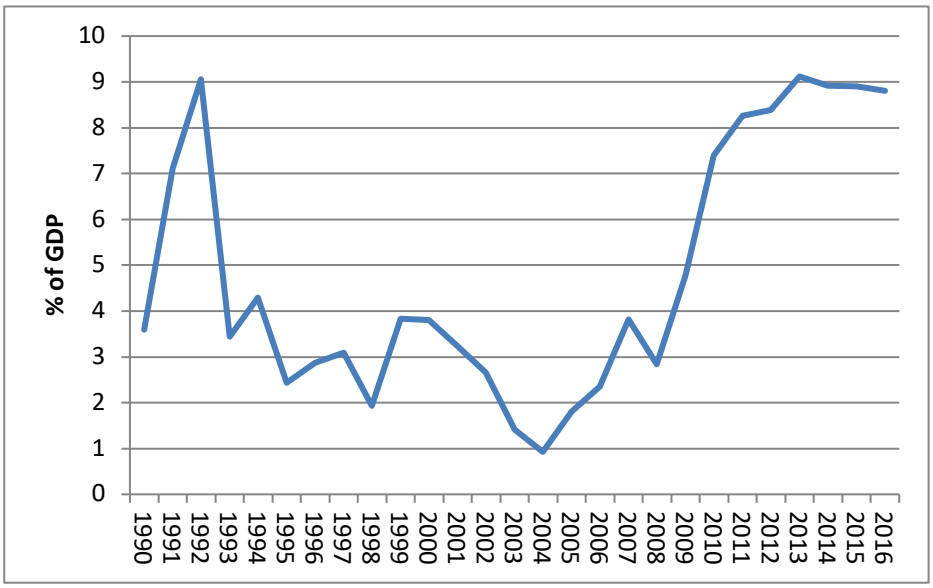
Figure 59. Consumer Price Inflation



Source: World Bank, World Development Indicators (May 2018)
http://databank.worldbank.org/data/source/world-development-indicators

Current account sustainability is generally performed by the IMF through debt sustainability analysis. Since the early 2000s, Tunisia has reduced its current account deficit from 3.8 percent of GDP in 2000 to 2.84 percent of GDP in 2008, before rising sharply to 4.8 percent of GDP in 2009. The current account deficits remain below the 5.4 percent deficit identified by the IMF as the threshold beyond which current account deficit becomes destabilising. Tunisia's external debt to GDP ratio fell from 74.9 percent in 2002 to 46 percent in 2008, before rising slightly to 48.5 percent in 2010.

Figure 60. Current Account Deficit



Source: World Bank, World Development Indicators (May 2018)

http://databank.worldbank.org/data/source/world-development-indicators

According to IMF assessment in 2010, Tunisia's real effective exchange rate was broadly in line with the fundamental. On the basis of the macroeconomic balance approach, the IMF found that the real exchange rate was over-valuated by 6.5 percent. Following the external sustainability model, the real exchange rate was under-valuated by 4.6 percent. The third approach, the "cointegration approach", concluded that the real exchange rate was over-valuated by 3 percent. The different models converge towards the evidence that the real exchange rate in Tunisia was close to its equilibrium value. Therefore, exchange rate misalignment is highly unlikely to be considered as a binding constraint.

2. *Macroeconomic Policies in the aftermath of the revolution*

Table 17.Macroeconomic Indicators (2010-2016)

	2010	2011	2011	2013	2014	2015	2016
Real GDP Growth	2.6	-1.9	3.9	2.4	2.23	1.1	1.0
Inflation	3.3	3.5	5.1	5.8	4.9	4.8	3.7
Fiscal Balance, % of GDP	-2.2	-4.3	-5.2	-7.3	-3.7	-5.2	-5.9
Current Account Balance, % of GDP	-4.8	-7.4	-8.3	-8.4	-9.1	-8.9	-8.9
Public Debt, % of GDP	39.2	43.1	47.7	46.8	51.6	57.2	62.9
External Debt, % of GDP	48.5	48.1	53.3	56.2	56.0	61.5	70.0

Source: World Economic Outlook, IMF (May 2018)

https://www.imf.org/external/pubs/ft/weo/2018/01/weodata/index.aspx

Although macroeconomic stability provided strong support for Tunisia's growth prior to the revolution, political and economic uncertainty following the January 2011 revolution has created a larger challenge for macroeconomic stability. In the post up-rising period, real GDP growth fell sharply from 2.3 percent in 2010 to 1 percent in 2016. During 2011, GDP per Capita contracted by 3 percent and output growth losses were in the order of 5.5 percentage points. In 2011, investment declined sharply by 3 percentage points, standing at 22 percent of GDP. By 2016, this situation had deteriorated to 19 percent of GDP. Savings have declined significantly since the political uprising, with a ratio to GDP falling as low as 10 percent in 2016.

According to Khandelwal and Roitman (2013), political transitions were, generally, accompanied by deterioration in overall fiscal balances by about 1 percent of GDP during the year of event, and by a cumulative 1.75 percent of GDP during the following two years. Fiscal deficits can be expected to return to pre-crisis levels only four years after the event. So far, this prediction does not seem to be holding in the case of Tunisia.

Tunisian governments have pursued an expansionary fiscal policy to limit the downturn of economic activity. On the expenditure side, Tunisia was constrained to increase public expenditure to appease popular demand. The highest increases in public expenditure occurred between 2010 and 2016 when public spending increased by more than 4 percentage points of GDP. Most of the increases in expenditure took the form of higher subsidies for food and energy, higher public-sector wages and pensions, and expanding unemployment benefits. On the revenue side, fiscal revenues increased during the early years of the transition but declined afterwards. This development exerted further pressure on the fiscal balance. Tunisia's budget deficit experienced a six fold increase, reaching 6 percent of GDP in 2016. Because

Tunisia's initial fiscal conditions were relatively strong, deficits remain below 10 percent of GDP.

The deterioration in fiscal balances and the decline in GDP led to the build-up of government domestic debt. The debt level was initially lower, hovering around 40 percent of GDP in 2010, but rose considerably to 63 percent of GDP in 2016.

According to Khandelwal and Roitman (2013), most transition countries witnessed a deterioration in their current accounts during the year of political instability, with the external current account balances improving in 60 percent of the countries but only five years after the event. After the uprising, the current account in Tunisia has come under pressure, as a result of declining tourism receipts following ongoing security threats and growing trade deficits (from buoyant energy and capital goods imports and declining oil and phosphate exports). Tunisia's large pre-crisis current account deficit (5 percent of GDP in 2009) deteriorated to an alarming 9 percent of GDP in 2019, its highest level since the 1980s. Consequently, external imbalances remain higher.

3. Key Messages

- Evidence supports the idea that macroeconomic risks and distortions did not pose a binding constraint on growth and productive employment prior to the revolution.
- The 2011 revolution has created macroeconomic imbalances that pose a serious challenge to maintaining macroeconomic stability.
- Domestic and external debts have been rising sharply at unsustainable rates. This could increase macroeconomic risks and emerge as a binding constraint to productive employment over the medium term.

Conclusion

The application of the employment diagnostic methodology framework highlighted three broad categories of binding constraints.

First, cost of finance would constitute a binding constraint on growth and productive employment. Access to finance passes the empirical tests of a binding constraint. Correlation tests suggest that investment levels in the economy are dominated by supply side issues rather than by shifts in the demand of financing.

In spite of the reforms achieved to-date in the Tunisian financial sector, major challenges remain, which must be tackled in order for the sector to play its expected role in financing the economy. Tunisia's financial system is relatively under-developed and financial integration has been constrained by regulations that limit the ability of banks to access foreign savings, to take domestic credit risks, and to mobilise adequate domestic savings. In order to stabilise the banking sector and to support credit supply more effectively, a consolidation of the banking system would seem necessary. Disengagement by the State, which still has a presence in almost a dozen banks with shareholding interests running from 10% to 87%, could favour this approach. Competition in the financial sector can also be enhanced by promoting the development of capital markets as alternative sources of finance to bank loans. The banks' ability to price risks and manage loans can be improved by removing the cap on lending interest rates and reforming insolvency legislation.

Second, the analyses conclude that microeconomic risks are a major constraint to private investment in Tunisia. The failure of government policies and institutions creates microeconomic risks and distortions and reduces returns on private investment. In Tunisia, poor governance (weak property rights and rule of law), corruption and a complex judicial system have imposed high economic costs and represent major challenges that need to be addressed. Effective institutions could ensure public sector accountability, the rule of law, and have checks and balances on power, leading to strong protection of property rights and control of corruption.

Property rights and investment freedom are essential for the development of private investment, innovation and risk-taking. So, a large set of reforms is needed to address these failings, by the foundation of a sound framework of economic governance, to provide a clear and transparent set of rules. In the aftermath of the revolution, property rights have been weakened because of social troubles. Governments should signal their commitments to the private sector by the adherence to and the application of laws.

Third, labour market regulation and the financial cost of labour can explain the weak productivity growth, small firm size and scaling up difficulties and the high level of informal employment. According to international indicators, Tunisia's labour market is not so rigid in absolute terms, but less flexible than in other comparator countries, which results in implicitly high costs. Tunisia's low growth in labour productivity, relative to comparator countries, reinforces the pressure to avoid large increases in the minimum wage. To achieve greater flexibility in the labour market, it is important to reduce the gap in protection between permanent and temporary contracts, both through an easing of employment-termination regulations on permanent contracts and through an increase in protection for workers on temporary contracts.

In addition to the three main obstacles that have just been mentioned, the analysis highlighted the existence of education quality weaknesses. The evidence shows that a lack of human capital does not pose a binding constraint to productive employment creation. Despite the great effort to invest in education, the return on investment and the literacy rate remain low in relation to the comparator countries. The evidence points to the need for continuing improvements in educational quality, particularly at primary and secondary level, in order to improve social mobility and equality of opportunity.

The 2011 revolution has created macroeconomic imbalances that pose a serious challenge for maintaining macroeconomic stability. Domestic and external debts have been rising sharply at unsustainable rates. This could increase macroeconomic risks and emerge as a binding constraint to productive employment over the medium term. In order to improve macroeconomic policies, Tunisia needs to accompany fiscal adjustment with structural reforms in order to set the ratio of government debt to GDP on a downward trend over the medium-term.

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