Growth, Private Investment, and the Cost of Doing Business in Tunisia:

A comparative perspective

by

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Abstract

In Tunisia’s emerging, more competitive environment, the key precondition for accelerated growth and faster job creation is greater private investment, compared to other high-growth countries, Tunisia’s growth was driven more by public and less by private investment. Comparisons with fast-growing countries also suggest that consolidating and further improving Tunisia’s human capital assets, and further strengthening the macroeconomic fundamentals are additional conditions for sustained growth. But despite Tunisia’s solid macroeconomic fundamentals and generous investment incentives, private investment remains compressed at levels below potential compared to other fast-growing countries. Moreover, empirical evidence suggests a loss of momentum of private investment since the mid-1990s.

Possible reasons include the limited openness of key services to competition, heightened business uncertainty stemming from commercial risks, and weaknesses in economic governance—in particular regarding the predictability and transparency of the regulatory framework—that weaken the investment climate. The analysis examines the quality of the regulatory framework for doing business, a key underpinning of the investment climate. Tunisia ranks well in a number of regulatory areas that affect a firm’s operations during its life cycle. But in other key areas regulations are not conducive for doing business: employment termination; credit information sharing; creditor’s rights in bankruptcy; and business exit. Well-sequenced reform in these areas would help bridge Tunisia’s “private investment gap”.


Résumé analytique

Maintenant que l’économie tunisienne commence à s’ouvrir davantage à la concurrence, le préalable indispensable au renforcement de la croissance et à l’accélération de la création d’emplois est l’accroissement de l’investissement privé. L’activité économique a en effet été tirée relativement plus par l’investissement public et moins par l’investissement privé que dans d’autres pays à croissance forte. La comparaison avec ces pays donne également à penser que pour parvenir à une croissance soutenue, la Tunisie doit consolider et encore améliorer sa base de capital humain, tout en continuant de renforcer les grands rouages de son économie. Or, malgré la solidité de ses fondamentaux macroéconomiques et la générosité des incitations offertes aux investisseurs, l’investissement privé en Tunisie reste en-deçà de ce qu’il pourrait être comparé à d’autres pays à croissance forte. Qui plus est, les données d’observation montrent que l’investissement privé s’est ralenti depuis le milieu des années 90.

Parmi les raisons pouvant être invoquées, citons le peu d’ouverture à la concurrence de certains services clés, l’incertitude accrue des entreprises face aux risques commerciaux et les carences de la gouvernance économique — s’agissant en particulier de la prévisibilité et de la transparence du cadre réglementaire — qui alourdissent le climat de l’investissement. L’étude examine si le cadre réglementaire est adapté au fonctionnement des entreprises, un aspect déterminant du climat de l’investissement. À certains égards, la réglementation tunisienne est bien adaptée aux besoins de l’entreprise durant son cycle de vie, mais elle ne facilite pas son fonctionnement dans certains domaines clés, notamment en matière de cessation d’emploi, de partage de l’information sur le crédit, de droits des créanciers en cas de faillite ou de cessation d’activité de l’entreprise. La mise en place de réformes bien programmées dans ces domaines aiderait la Tunisie à attirer les investissements privés qui font actuellement défaut.
1. Introduction and overview

Tunisia’s nonagricultural GDP grew on average by 5.7 percent per year during the Ninth Development Plan (1997-2001), outpacing MENA and lower middle-income countries’ average. Prudent macroeconomic management has helped preserve the external balance amidst a difficult international environment, especially since 2001. Human development indicators have further improved. Healthy economic growth laid the groundwork for poverty reduction, with the poor and economically vulnerable accounting for about 10 percent of the population in 2000, down from 17 percent in 1995, and a proportionate decline in the number of people in extreme poverty to about 4 percent.

But, on the downside, despite healthy growth, the number of jobs created was just enough to match the increase in labor supply. Unemployment thus remained sizeable, at about 15-16 percent. During the first two years of the Tenth Development Plan (2002-06), non-agricultural GDP growth slowed to a projected 3.5 percent, below the 6.0 percent goal for the whole 2002-06 period. An unfavorable external environment and policy adjustment undertaken to relieve pressure from the external current account contributed to the slowdown. Moreover, despite the generous incentives in place, the responsiveness of private investment has been rather muted. Meeting the goals of rapid job creation would call for greater investment and an acceleration of non-agricultural GDP growth to about 8 percent over 2004-06, beyond patterns seen in the past.

Tunisia has made the firm choice of integrating more closely the international economy—a strategic move that will lay the ground for faster growth by stimulating investment and improving efficiency. But, as seen in the past two years, the transition to greater integration into global markets will also raise challenges, due to competitive pressures in traditional exporting industries, such as textiles and clothing, and to increased exposure to volatility. At the same time, deeper trade integration would call for a high-quality regulatory framework, to provide businesses needed flexibility in the face of stiffer competition, and improve attractiveness to investment.

Companion policies would thus be needed, on top of trade liberalization, to make Tunisia’s deeper trade integration work for growth and jobs in the years ahead. To gain insight on such policies, the paper examines empirical evidence on the factors of long-term growth across developing countries, and benchmarks Tunisia against selected fast-growing comparators. It is argued that the key precondition for accelerated growth is greater private investment, as, compared to other high-growth countries, Tunisia’s growth was driven more by public and less by private investment.

Consolidating and further improving Tunisia’s human capital is an additional precondition for faster growth—but has to go along with investment in high-skill activities, to match the rapidly improving skill-mix in the labor force. Further strengthening the macroeconomic fundamentals is a third precondition, as this will further boost investor confidence and help mobilize more finance for investment.

Strengthening the investment climate, making more room for private investment in services and network industries, which have been traditionally under the government’s umbrella, and further improving access to finance, are key to fostering private investment. The paper places particular emphasis on the quality of the regulatory framework, which is a key underpinning of the investment climate. The quality of business regulations and the institutions that enforce these regulations may either enhance business activity or constrain it, thus directly impinging on private
investment. Using a set of recently developed indicators on business regulations (World Bank, 2003), the paper benchmarks Tunisia against selected comparators in MENA and other developing regions. The analysis highlights regulatory areas where Tunisia stands at, or close to, best practice, but also areas where more progress is needed to create a more conducive environment for investment.

Section 2 briefly reviews Tunisia’s growth performance and points to key upcoming challenges. Section 3 benchmarks Tunisia against other developing countries, especially fast-growing ones, in terms of sources of growth. Based on this analysis, section 4 looks at the key preconditions for accelerated growth in the years ahead. Section 5 examines reasons for the “missing private investment” in Tunisia. Strengths and weaknesses in the regulatory framework for doing business, are reviewed in section 6, with the view of identifying priorities for strengthening the investment climate and fostering private investment.

2. Tunisia’s growth performance—strengths and challenges ahead

Thanks to a steady pace of structural reforms and sound macroeconomic management, Tunisia experienced fast and sustained growth. GDP grew on average by 4.3 percent in the decade since the initiation of structural adjustment in the late 1980s, and growth accelerated to 5.2 per cent during the Ninth Development Plan (1997-2001). Non agricultural GDP grew more rapidly in 1997-2001, by 5.7 percent on average. Growth outpaced MENA and middle-income countries’ average since 1987, even though it fell short of the pace seen in fast growing comparators (Chile, Korea, Malaysia, Mauritius, Thailand—see Figure 1).

High and pro-poor growth contributed to a sharp reduction in poverty in the second half of the 1990s. The core poor (those living below a lower poverty line, reflecting a minimum consumption expenditure level) made up only 4 percent of the population in 2000, equivalent to some 400,000 people, down from about 8 percent in 1990 and in 1995 (World Bank, 2003d). Similarly, the share of poor and economically vulnerable (those living below the upper poverty line), fell from 17 percent in 1995, to 10 percent in 2000 (Figure 2). The trends of falling poverty over the second half of the 1990s hold for both urban and rural areas and are visible in all administrative regions.

Tunisia has also made important headway on human development. Health levels improved, as indicated by increasing life expectancy and falling infant, child and maternal
mortality rates. Primary education became nearly universal and illiteracy is close to becoming eradicated among younger generations. Disparities still remain in female and male literacy rates, and urban and rural infrastructure. Overall, however, these achievements have put Tunisia ahead of countries at similar income levels. The strong progress on the social front has greatly contributed to the reduction in poverty over the 1990s.

Forward-looking policies helped preserve external and internal balances. Despite strong and accelerating GDP growth over the 1990s, prudent demand management helped bring inflation down, to levels below those seen in the five fast-growing comparators (Figure 3). At the same time, the number of administered prices has steadily decreased. Tunisia’s current account deficit—reflecting the sizeable trade deficit, at over 10 percent of GDP—was also kept under control, at around 3 percent of GDP for most of the late 1990s. However, due to domestic demand pressures, the current account deficit surpassed 4 percent of GDP in 2000 and 2001 (Figure 3). In early 2002, the external shocks were further exacerbating the pressures on the current account. To prevent a potentially steep widening of the deficit, the authorities tightened fiscal and monetary policies, thus containing domestic demand pressures and relieving pressure from the current account.

Source: Authors’s calculations

Over the past two decades, Tunisia successfully controlled the public debt burden by pursuing a prudent debt management policy. Prudent macroeconomic policies have helped Tunisia improve its access to international financial markets, allowing borrowing at long maturities and under relatively favorable conditions. Tunisia is among the few emerging market borrowers that have investment grade rating. But owing to the structural current account deficit and the persistent primary budget deficit, public debt still hovers at around 60 percent (of which, 39 percent foreign and 22 percent domestic debt in 2002). Despite the reduction of the debt service ratio to 15 percent of exports in recent years, Tunisia’s foreign debt remains high in international comparison, in view of the country’s exposure to external shocks. The foreign debt ratio to GDP is higher than in other MENA countries, and also higher than in the five fast-growing comparators (Figure 4).

On the downside, despite strong growth, the number of jobs created was just enough to match the increase in labor supply. With the labor force growing rapidly, by an estimated 2.5 percent per year, unemployment remained sizeable, at about 15-16 percent. Nonagricultural employment (78 percent of total employment in 2001) grew by about 2.6 percent in 1994-2001, down from a healthy 4.4 percent in 1989-94. Agricultural employment grew more slowly, by 1.5 percent per year on average over 1989-2001. Employment growth slowed markedly in
manufacturing and private services, where 60 percent of non agricultural workers hold a job (Figure 5). Employment grew faster in administration and public services.

The composition of labor supply is also shifting toward more education, but labor demand has not kept pace with the structural changes in the labor force. Reflecting ongoing education reforms, workers with higher education will account for 23 percent of the labor force by 2016, up from 8.3 percent now, while the share of less-educated workers (primary education and below) will shrink from 61 to 40 percent (World Bank, 2003a). But, in recent years, job creation for skilled workers has slowed, so that unemployment among higher educated groups may increase significantly.

Moreover, despite Tunisia’s solid macroeconomic fundamentals and generous investment incentives, private investment remains compressed at levels below potential and is losing momentum. Over 1997-2001, average private gross fixed investment remained compressed at 13.5 per cent of GDP, moderately up from 13 per cent over 1990-1996. Private investment accounted for just 54 percent of total investment. By contrast, over the 1990s, the private investment ratio in the five fast-growing comparators was 25 percent (Figure 6). Tunisia’s structural gap in private investment further broadened over the 1990s. And the private investment ratio remained stagnant in 2002-03, amid a difficult economic environment.

In view of past achievements and the upcoming more competitive environment, Tunisia would need to meet a multi-faceted development challenge during the Tenth Development Plan and beyond:

- Secure rapid growth and job creation, while mobilizing enough savings to forestall pressures on the external balance;
- Maintain fast productivity growth, to improve competitiveness and meet the challenge of the free-trade zone with the EU and stiffer international competition;
- Promote high-skill sector growth, and the emergence of a knowledge-based economy, to match the rapidly changing skill mix in the labor force;

3. Sources of long-term growth—Tunisia vs. other fast growing countries

International evidence on factors of long-term growth can provide useful insights on policy options to help meet Tunisia’s growth challenges in the years ahead. The analysis of long-term growth factors draws on a growth regression on a panel of 38 developing countries,
spanning 5-year periods from 1970 to 1999. The list of countries is presented in annex 1. The regression explains average growth of per capita GDP over each 5-year period (gdpgr). The explanatory factors of growth are:

- The level of per capita GDP at the beginning of each period (laggdp), measuring growth effects due to convergence. These are positive for countries with per capita GDP below the average of the sample and negative for countries above the average;

- Macroeconomic stability, measured by an indicator (MS) comprising:
  a) inflation (p),
  b) the ratio of external debt to GDP (exdebt);
  c) the ratio of the external current account balance to GDP (curacc);
  d) the ratio of budget deficit to GDP (pubdef)

- Structural reform in trade and finance, measured by an indicator (SR) that includes:
  a) the black market premium on foreign exchange (bmp);
  b) the ratio of private sector credit to GDP (creditgdp);
  c) the ratio of trade flows (sum of imports and exports) to GDP (trageddp)

- Human capital accumulation measured by an indicator (HUM) composed of:
  a) the infant mortality rate (mort) as a proxy of the health conditions of the population;
  b) the number of years of primary schooling of the population (school).

- The ratio of private investment to GDP, including investment by private companies and private real estate investment (priinv)

- The ratio of public investment to GDP, including investment by administrations and by state-owned enterprises (pubinv).

Principal component analysis was used to obtain the composite indicators MS, SR, and HUM, with the detailed results reported in annex 1. The regression was estimated using country-specific fixed effects (Table 1).

**Table 1:** Growth regression—dependent variable: gdpgr

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Estimates/ Student t-ratios</th>
</tr>
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<tbody>
<tr>
<td><strong>laggdp</strong></td>
<td>-0.087 (-10.70)</td>
</tr>
<tr>
<td><strong>MS</strong></td>
<td>0.026 (7.40)</td>
</tr>
<tr>
<td><strong>SR</strong></td>
<td>0.013 (1.78)</td>
</tr>
<tr>
<td><strong>Hum</strong></td>
<td>0.022 (4.05)</td>
</tr>
<tr>
<td><strong>Pri inv</strong></td>
<td>0.0029 (6.09)</td>
</tr>
<tr>
<td><strong>Pub inv</strong></td>
<td>0.0034 (5.45)</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.57</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations
The regression fits the data well, accounting for 57 percent of the variation of growth across countries and over time. All independent variables are significant (the structural reform indicator marginally so) and have the expected sign: Better macroeconomic stability, greater openness to trade, larger supply of credit to the private sector, and stronger human resources are all associated with faster growth. Private investment and public investment contribute equally to faster growth.

The estimated growth regression was used to calculate the contributions of the different factors to the average growth of Tunisia and of the five fast growing comparators (Chile, Korea, Malaysia, Mauritius, Thailand) over each 5-year period from 1970 to 1999. As benchmark for both Tunisia and the five fast-growing countries was selected the average the remaining 32 developing countries in the sample. Using the coefficients of the coefficients of the regression, we thus decomposed, for each 5-year period, the growth differential to the average of the 32 developing countries into 7 components: convergence effect (initial conditions in terms of income level); macroeconomic stability; structural reform in trade and finance; human capital; private investment; public investment; other exogenous factors included in the fixed effects and the growth residual. The contributions to growth for Tunisia and the five comparators are shown in Annex 1 and summarized in Figure 7.

As already observed, Tunisia’s growth outpaced that of comparator developing countries, except during the period of structural adjustment in the late 1980s (Figure 1 and Annex1). Tunisia has performed better, or at least as well as other developing countries, across all determinants of long-term growth. But strong growth over time reflects above-average performance mainly on three fronts (Figure 7):

- progress in structural reform in foreign trade and finance;
- above-average investment by the public sector;
- strong human capital assets (education and health).

Macroeconomic stability contributed as much to growth as in other developing countries. On average, private investment had a contribution to growth as in other developing countries, but seems to have been loosing steam since the mid-1990s.

Figure 7: Contributions to average growth--Tunisia vs. High-growth (in % per year)

Source: Authors’s calculations

But compared to high-growth countries, Tunisia’s growth relied more on public investment, and less on private investment and human capital. The contribution of trade and financial reform to growth was as strong as in the five high-growth comparators. However, the high-growth countries took advantage of much stronger private investment (see also Figure 6). By
contrast, public investment was not a significant factor in these countries, as it had just about the same contribution to growth as elsewhere in developing countries (Figure 7). In addition, human capital assets had a stronger contribution to growth over time in the fast-growing countries than in Tunisia. Growth in the five comparators was also bolstered by better macroeconomic stability than in Tunisia. These countries had, on average, smaller current account and budget deficits, and a lower foreign debt ratio (Figure 8).

4. Key preconditions for accelerated growth in the years ahead

Creating enough jobs to reduce unemployment, the main development challenge in Tunisia, would call for a significant acceleration of growth, spurred by much higher investment. Indeed, Tunisia cannot afford to increase employment at the expense of productivity growth, because improving competitiveness is a prerequisite to meet the challenge of intense global competition. With the relatively low elasticity of employment to output growth observed in recent years, and in view of the projected trends in the labor force and the participation rate, reducing the unemployment rate by about 3 percentage points in 5 years would call for a higher growth rate, of about 6.5 percent per year. All else equal, this would require a much stronger investment effort, of about 7 percentage points of GDP.\(^1\)

However, it is unrealistic to assume that public investment will continue to be a main driver of growth in Tunisia in the years ahead. With a large part of the budget absorbed by non discretionary public expenditures, and given the need to achieve faster fiscal consolidation, there is practically no room for maneuver to increase public investment. Moreover, investment by public enterprises has been declining over the last decade, and this trend is likely to continue with the gradual etrenchment of the state from commercial activities and a number of network industries. Achieving sustained, fast growth in the years ahead would thus call, as a first precondition, for a new “model of growth”, driven more by greater private investment and less by public investment. To achieve the required increase in investment, mutual reinforcing, broad-based reforms would be necessary, to considerably strengthen the business environment and secure adequate financing for investment.\(^2\)

\(^1\) Assuming the incremental capital output ratio remains unchanged at its 1998-2001 level (5.06), achieving 6.5 per cent growth per year would call for an increase in the fixed domestic investment ratio from 25.7 to 32.8 percent.

\(^2\) Improvements in total factor productivity could reduce the needed incremental investment effort to achieve faster growth. But such improvements would also call for continuing structural reforms, spurring diffusion of ICT in
Consolidating and further improving Tunisia’s human capital assets is a second precondition for faster growth, as suggested by the experience of the high-performance countries. At the same time, a labor force with the right skills mix will improve the environment for private investment. Despite steps taken recently in education and vocational training, there still exist gaps between skills in demand by employers and skills offered by job seekers, as reflected by the increase in unemployment among the educated labor force. This is also confirmed by the findings of local enterprise surveys, according to which a growing number of companies (74 percent in 2002, up from 53 percent in previous years), experience shortages of skilled workers (IEQ, 2002). Exporting industries seem to be more concerned with the lack of skilled workers.

Further strengthening the macroeconomic fundamentals is a third precondition for faster growth, as this will further boost investor confidence and help mobilize more finance for investment. Main benefits from fiscal consolidation would include:

- Securing domestic finance for greater investment, by mobilizing more public savings, so as to minimize pressures on the external balance over the medium term.
- Reducing the level of public debt. This would further bolster the confidence of domestic and foreign investors. As seen above, at 60 percent of GDP, public debt remains relatively high and possibly denies Tunisia a more favorable access to international capital markets.
- Creating in due time enough fiscal room for counter-cyclical action, to offset part of the impact of the external shocks, in view of Tunisia’s increasing exposure to a volatile international environment.

5. The “private investment gap” in Tunisia

What are the reasons for Tunisia’s private investment gap? The question warrants detailed investigation. Possible factors include the limited openness of key services to competition, heightened business uncertainty stemming from commercial risks, and flaws in the regulatory framework and economic governance that weaken the investment climate.

International experience suggests that the limited openness of the Tunisian services markets and network industries to private investment, in particular telecommunications and transport, deprives Tunisia from significant opportunities for private investment, and probably also foreign direct investment. Telecommunications is a case in point because, despite recent moves, Tunisia still ranks low compared to other developing countries—including in MENA—in telecommunications liberalization (Rossotto, Sekkat, and Varoudakis, 2003, Figure 9). Experience from developing countries throughout the 1990s shows that telecommunications have received the lion’s share of private investment—US$ 330 billion out of US$ 755 billion in total private investment in network industries over 1990-2001 (World Bank 2003e).

production and distribution, and ensuring better quality of production inputs and services, more efficient organization of enterprises, and better skills in the labor force.
At the same time, limited competition in network industries keeps the cost of backbone services high and hinders competitiveness, as consistently suggested by the results of business surveys in Tunisia (IEQ 2002). This limits Tunisia’s attractiveness to private investment. Further liberalizing infrastructure, opening up markets in telecommunications, transport, finance, and other network industries to competition, would help create more opportunities for private sector investment, while supporting competitiveness by improving the quality and reducing the cost of key business inputs. But liberalization of network industries and services works better when there is transparency and a strong regulatory framework that ensures competitive market conditions. In their absence, privatization, deregulation, and other supporting reforms may not produce the expected results, owing to regulatory uncertainty and mute investment response.

Heightened uncertainty in Tunisia's economic environment may also have deterred private investment. Businesses face uncertainty reflecting the surrounding risks in Tunisia’s changing economic environment. Commercial risks stem partly from Tunisia’s commitment to deeper international integration since the signing of the Association Agreement with the EU in 1997, and partly from the expected removal of MFA quotas for textiles and clothing exports, which will deprive Tunisia from preferential access to EU markets for these products. Structural weaknesses in the tourism industry, a main pillar to Tunisia’s growth over the past decades, and the increased exposure of the sector to volatility, due to international security concerns, also amplify business uncertainties.

Flaws in the regulatory framework, especially in credit and labor markets, and business operations (reviewed below), may also have played a role by weakening the investment climate. Indeed, international experience suggests that uncertainty stemming from weaknesses in the regulatory framework for doing business may hinder private investment (World Bank 2003f). The Tunisian authorities have traditionally kept a high degree of discretion in regulating economic activity—including by providing generous privileges for exporting and investing in selected economic activities. This strategy has supported the country’s development in a context of limited trade integration. But in the context of a much deeper engagement with the world, existing incentives systems run the risk of locking the country’s specializations into threatened activities, which may leave Tunisia ill-positioned in the face of stiffer international competition. Moreover,
regulatory uncertainty and high discretionary intervention by the government may weaken the investment climate, especially when competitive forces are weak.

Reflecting business uncertainties and weaknesses in the investment climate, private investment has been losing momentum since the mid-1990s, with little help from the generous incentives system in place. The weak responsiveness of private investment since 1995 is highlighted through an investment function for Tunisia, estimated over 1970-2001. Significant factors that affect private investment in Tunisia turn out to be:

- The difference of actual to potential GDP, in percent of potential GDP, as a proxy for the business cycle ($\text{Gap}$). Potential GDP is calculated using a Hodrick-Prescott filter on the level of real GDP since 1965.
- The real interest rate ($\text{Realint}$), calculated as the difference between the “Taux du Marché Monétaire” (TMM) and the consumer price inflation. In Tunisia, all lending rates are indexed on the TMM.
- The amount of credit extended by the banking system to the private sector, as a percent of GDP ($\text{Creditgdp}$).
- A measure of openness to international trade (sum of exports and imports in percentage of GDP), as greater openness to trade expands market size for domestic firms and creates more opportunities for investment ($\text{Tradegdp}$).

Because of the possible “endogeneity” that may arise, due to the interaction of the output gap and private investment, the regression was estimated by instrumental variables. The instruments are: the ratio of external debt to GDP; the ratio of agricultural GDP to total GDP; the terms of trade; the ratio of public expenditures to GDP; and the real money supply, defined as M3 deflated by the CPI. These instruments are likely to be correlated with the level of GDP and thus the output gap, but uncorrelated with the error term of the investment function. The estimation results of the regression are reported in table 2.

Table 2: Investment function for Tunisia. Dependent variable: private investment as a ratio to GDP (estimation period: 1970-2001; estimation method: instrumental variables with White heteroskedasticity correction)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Estimates/ Student t-ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{Gap}_t$</td>
<td>0.38 (2.96)</td>
</tr>
<tr>
<td>$\text{Realint}_t$</td>
<td>-0.16 (-4.04)</td>
</tr>
<tr>
<td>$\text{Tradegdp}_t$</td>
<td>0.04 (2.09)</td>
</tr>
<tr>
<td>$\text{Creditgdp}_t$</td>
<td>0.10 (3.45)</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.21 (1.72)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Source: Authors’ calculation

The investment function accounts for a large part of the variation in the private investment ratio (about 75 percent). It tracks fairly closely the swings of private investment over the past three decades (Figure 10). However, since the mid 1990s, the regression systematically
overestimates actual private investment. This is most clearly seen by an out of sample simulation of the regression, estimated over the period 1970-1995. The average overestimation is of 0.5 percentage points per year (Figure 10). This suggests a “downward shift” in the investment function, resulting in missing private investment of about 3 percent of GDP from 1996 to 2001 (shaded area in Figure). This may have deprived Tunisia of an estimated 5 percent of GDP over the same period, with a resulting “deficit of jobs” of 2.5 percent of total employment. This “missing investment” comes on top of the structural investment gap identified above.

It is worth noting that the “missing investment” occurs despite the generous investment incentives in place, and the subsidies granted through the enterprise “Mise à niveau” program. The estimated investment function does not account for these financial and fiscal incentives. If these incentives had a significant impact on private investment—on top of the structural factors accounted for by the regression—the estimated regression should systematically under predict private investment. The fact that private investment is fairly accurately tracked over time, and even overestimated since the mid-1990s, calls into question the effectiveness of the existing incentive systems as a means of stimulating private investment.

Figure 10: Actual and predicted private investment ratios (in % of GDP)

Source: Authors’s calculations

6. Regulatory quality and the “cost of doing business” as determinants of the investment climate in Tunisia

Although the macroeconomic framework is unquestionably important, there is a growing consensus that the quality of regulation of business and the institutions that enforce this regulation impinge on the level and the productivity of private investment (World Bank, 2003a). The regulatory areas analyzed below cover the fundamental aspects of a firm’s life cycle: starting a business, hiring and firing workers, enforcing contracts, getting credit, and closing a business.

Starting a business

The legal incorporation of a business makes every business venture less risky and increases its longevity and its likelihood of success (Djankov et al, 2001). In a recent World Bank survey on the costs of doing business, Tunisia scores relatively high in several business entry indicators (World Bank 2003b). Business registration is relatively fast and efficient in Tunisia when compared with countries at similar levels of economic development (see Figures 11 and
It takes 9 procedures and 47 days to start up a business in Tunisia. By contrast, in Hungary, although the number of procedures is only 5, it takes about 65 days to start up a business.

The one-stop shop (guichet unique) of the Industry Promotion Agency (API), which was certified ISO 9002 in June 2000, has undoubtedly facilitated business registration and start up in the manufacturing sector. It informs prospective entrepreneurs on the procedures for statistical and tax registration, assists with on-line registration, provides 24-hour responses to business-related queries and maintains a detailed database on the registered companies.

![Figure 11](chart11.png) ![Figure 12](chart12.png)

*Source: World Bank, 2003b*

However, prior authorizations relating to environment, labor and sectoral regulations are still relatively numerous and impinge on the establishment of new businesses in non-manufacturing sectors. Delays are also reported in securing finance, land and in obtaining the construction permit. If these are added up, the effective period to start up a business in Tunisia may exceed two years (World Bank, 2001; Lahouel, 1999).

Recent evidence shows that high minimum capital requirements can thwart the establishment of new businesses (World Bank, 2003b). Capital requirement is reported an obstacle to starting a business in Tunisia, particularly for small size companies (Institut d'Économie Quantitative, 2002). In Tunisia, the minimum capital requirement is still high when compared with other countries at similar levels of economic development (Figure 13). Not surprising, with paid-in capital at registration amounting to 350 percent of income per capita—about the same amount as the capital requirements to start a business in France.
Flexibility of hiring and employment termination

International evidence shows that rigid labor market regulation is associated with unemployment—especially of young workers and women—and informality (Djankov et al, 2002). On the other hand, effective labor market regulation can have a significant impact on labor market performance (World Bank, 2003b, OECD, 1999). In Tunisia, hiring rules are flexible but termination regulations are rigid and too protective when compared with its peers. Surveys of managers also show that employment regulation is seen to be a bottleneck to improving efficiency, and thus productivity of investment (World Bank, 2003c; Institut d’Economie Quantitative, 2002).

i) Flexibility of hiring

Tunisia compares favorably with other countries at similar levels of economic development in terms of flexibility in hiring (Figure 14). The legal conditions of employment – covering flexibility in working time requirements, mandatory payment for non-working days, and minimum wage legislation—also compare favorably with the selected peers (Figure 15). Labor reforms in Tunisia have introduced flexibility in hiring. The 1996 revision of the labor code introduced fixed-term contracts, covering by 2001 about 15 percent of the labor force. According to the Labor Code, businesses can hire workers on part-time or fixed term contracts for any job, without specifying maximum duration of the contract (World Bank, 2003c)

Figure 13

Source: World Bank, 2003b
However, there are areas where regulatory reform could introduce more flexibility. Tunisia restricts the use of fixed contracts, and the use of temporary help agency workers is not allowed. It does appear, however, that temporary hiring does occur through agencies, sometimes operating as training firms. This reflects the fact that businesses do need the flexibility provided by temporary labor (World Bank, 2003c).

**ii) Flexibility of employment termination**

Flexibility of firing encompasses grounds for dismissal, procedures for dismissal, notice periods, and severance payments. Compared with other countries at similar levels of economic development, Tunisian termination rules are rigid and too protective (Figure 16).

Dismissals for economic reasons are still heavily regulated. Companies must notify the labor inspector of planned dismissals in writing one month ahead, indicating the reasons and the workers affected. The inspector may propose alternatives to layoffs. If these proposals are not accepted by the employer, the case goes to the regional tripartite committee of labor inspector, employer organization, and labor union (commission du controle des licenciements). The committee decides by a majority vote (if the inspector and union reject the proposal, no dismissal is possible). It may also suggest retraining, reduced hours, or early retirement. Only 14 percent of dismissals end up being accepted. As a result, annual layoffs are less than 1 percent of the workforce, compared with more than 10 percent in the average OCDE country (World Bank, 2003c). Yet, the unemployment rate remains obstinately high, above the OECD average.
As a result, private enterprises in Tunisia find it hard to restructure, and small firms often find solutions outside the legal framework (World Bank, 2003c). In Tunisia, an estimated 38 percent of business activity takes place in the informal sector (Figure 17). International evidence shows that heavy labor market regulation encourages entrepreneurs to operate in the informal economy (Figure 18). This is also likely to hamper private investment. Firms in the informal sector do not operate at full capacity, while their counterparts in the formal sector suffer from unfair competition, and may thus not expand capacity at potential (Jentzsch, 2003).

**Enforcing contracts**

Tunisia is the world’s leader in speedy resolution of small commercial disputes (World Bank, 2003b). And its current procedures were only put in place in 1996. The process lasts only 7 days and includes 14 procedures, from the moment of filing the claim with the tribunal cantonal in Tunis until the moment the credit receives payment (See Figures 19 and 20 below ).
In Tunisia there are no requirements to appoint a lawyer or initiate a protest procedure before a public notary. The creditor files a claim in a court, and the court issues a summons to the debtor. The recovery of overdue small debts is normally achieved by means of a special procedure called ‘*injonction de payer*’ before a general-jurisdiction judge. Provided that the debt has proven an established, the judge grants the injunction to pay. The debtor cannot oppose the order. Therefore, the civil lawsuit excludes the usual stages of service of process, opposition, hearing and gathering of the evidence. This simplified procedure for small debt recovery, which does not mandate legal representation, helps reduce the legal costs which amount to 8 percent of the total enforcement cost. By contrast, in Guatemala it takes 19 procedures and 1,460 days to enforce the contract, with 40 percent of the claim amount going to attorney and court fees.

**Getting credit**

In most countries, banks will not extend credit without assurances that borrowers are creditworthy and that it will be possible to recover the debt if there is a default. As a consequence, entrepreneurs with promising business opportunities cannot obtain loans if the bank does not have enough information on the value of property and the credit history of the borrower – and where the legal system does not protect creditors enough in case of bankruptcy (Djankov et al, 2002)

**i) Credit Information Sharing**

In Tunisia, there exists a public credit bureau (*Centrale de Risques*) established in 1958, which is supervised by the Central Bank of Tunisia. The length of historical data collected is 10 years, on a total of 56,000 credit reports. However, it records only loans above a minimum size of 13,605 USD, indicating a focus on monitoring systemic risk. Fewer regulatory restrictions on credit information sharing will benefit small firms’ access to finance the most. In terms of the scope of credit information distribution, only positive data is made available in Tunisia – that is, total loans outstanding, assets and personal information. Access to credit information is limited to the creditor’s own customers. Thus, weaknesses in design makes Tunisia’s public credit registry a less valuable tool for lenders than in similar countries (Figure 21). Access of lenders to credit information is also hampered by the absence of private credit registries.
**ii) Creditor Rights**

In deciding whether to extend credit and at what interest rate, lenders need to know what share of debt they can recover if the borrower defaults. Collateral laws enable firms to use their assets as security to generate capital and strengthen the incentives of debtors to repay their loans. By providing creditors with the right to an asset on default, collateral also reduces a lender’s costs of screening loan applicants.

However, over-collateralization restricts access to credit by the private sector, particularly for small firms. The value of collateral depends largely on the ease of creating and enforcing security agreements. The value of collateral also depends on the efficiency of the insolvency regime, as creditors are concerned about recovering collateral if a firm goes bankrupt. Bankruptcy laws define who controls the insolvency process, who has rights to the property of a bankrupt firm and with what priority, and the efficiency of realizing the rights. In Tunisia, there are no legal protections along any of these dimensions (Figure 22). This leads creditors to either increase the price of loans to adjust for the additional risk or decrease the amount of loans.

![Figure 21](image1)

![Figure 22](image2)

*Source: World Bank 2003b*

Cross-country evidence shows that the overall effect of insufficient information sharing and lack of creditor rights is to reduce access to credit (La Porta et al, 1998). And recent studies reveal that sharing credit information reduces defaults and improves bank efficiency (World Bank, 2003b). In a recent survey, more than half reported that sharing credit information reduces default rates and loan processing time and costs by 25 percent or more (World Bank, 2003).
**Closing a Business**

In Tunisia, the bankruptcy process is lengthy. It takes about two and half years, longer than in countries at similar levels of economic development. In Poland, for instance, it only takes one and a half years (Figure 23)—and in other countries not included in the sample bankruptcy is even faster (World Bank, 2003b). But in Tunisia the bankruptcy process is not as costly as it is in peer countries. It represents about 8% of estate, compared to 18% in Poland and 38% in Hungary and Thailand (Figure 24).

![Figure 23](image1.png)  
![Figure 24](image2.png)

*Source: World Bank, 2003b*

The Tunisian jurisdiction, like many other jurisdictions of French-legal origin, has attempted to reach the goals of insolvency by giving broader powers to the court (Figure 25). But evidence shows that expanding court powers in bankruptcy proceedings do not have the desired effects. Recent cross-country evidence shows that court power is inversely related to the likelihood of achieving the insolvency goals (World Bank, 2003b).

Involving creditors and other stakeholders in the insolvency process is important to preserve absolute priority of creditors’ claims. In Tunisia, the bankruptcy report is filed only with the court and is not accessible to creditors. Such a report would inform the creditors and provide a higher chance of maintaining absolute priority. Another set of judicial procedures defines the powers of various stakeholders in formulating and adopting a rehabilitation plan. The Tunisian bankruptcy law mandates the formulation of a plan by the court, without the effective participation of creditors or management. Adopting a rehabilitation plan without considering their views does not help achieve the insolvency goal of preserving the value of creditor’s claims.
7. Conclusion

Tunisia’s choice of integrating more closely the international economy will lay the groundwork for faster growth by stimulating investment and improving efficiency. But deeper trade integration will also raise a multi-faceted growth challenge in the years ahead: Securing rapid growth and job creation, while forestalling pressures on the external balance; maintaining fast productivity growth, to meet the challenge of stiffer international competition; promoting high-skill growth, to match the rapidly changing skill mix in the labor force.

The analysis in the paper suggests that the key precondition for accelerated and sustained growth is greater private investment, as, compared to other high-growth countries, Tunisia’s growth was driven more by public and less by private investment. Consolidating and further improving Tunisia’s human capital, and further strengthening the macroeconomic fundamentals are additional growth preconditions. A better skills mix in the labor force will relax shortages that currently constrain private investment in technologically more advanced activities. A stronger macroeconomic framework will further boost investor confidence and help mobilize more finance for investment.

The paper also shows missing private investment of about 3 percent of GDP from 1996 to 2001. The reasons for the loss of momentum of private investment since the mid-1990s warrant further investigation. Heightened business uncertainty may have deterred investment, with little help from the generous incentive system in place. Further liberalizing infrastructure, opening up markets in telecommunications, transport, finance, and other network industries to competition, would help create more opportunities for private sector investment. This would also support competitiveness by improving the quality and reducing the cost of backbone services and business inputs. Such moves would be more effective if complemented with reforms to streamline and improve the quality of the regulatory framework for doing business. A high-quality regulatory framework would provide businesses needed flexibility in the face of stiffer competition, and improve attractiveness to private investment in a context of deeper trade integration.

Tunisia ranks well in a number of regulatory areas that affect a firm’s operations during its life cycle: Business registration is fast and the number of procedures reasonable; there is considerable flexibility in hiring workers and in employment conditions; and small commercial
contracts are rapidly enforced. But in other key areas, the regulatory environment is not conducive for starting, operating, and expanding businesses: Minimum capital requirements for starting a business are unduly high; business restructuring is difficult because employment termination is rigid; access to credit requires important collateral because credit sharing information is inefficient and creditor’s rights in bankruptcy are weak; business exit is still lengthy and broad court powers in bankruptcy proceedings do not help achieve the insolvency goals of preserving the value of creditors’ claims. Well-sequenced reform in these areas would be key in enabling stronger private investment.
ANNEX 1: ANALYSIS OF SOURCES OF GROWTH

List of countries in the growth regression sample

<table>
<thead>
<tr>
<th>MENA</th>
<th>AFRICA</th>
<th>ASIA</th>
<th>LATIN AMERICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>Cote d’Ivoire</td>
<td>Bangladesh</td>
<td>Argentina</td>
</tr>
<tr>
<td>Egypt</td>
<td>Cameroon</td>
<td>Indonesia</td>
<td>Bolivia</td>
</tr>
<tr>
<td>Iran, Islamic Rep.</td>
<td>Gabon</td>
<td>India</td>
<td>Brasil</td>
</tr>
<tr>
<td>Jordan</td>
<td>Ghana</td>
<td>Korea, Rep.</td>
<td>Chile</td>
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<td>Morocco</td>
<td>Kenya</td>
<td>Sri Lanka</td>
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<tr>
<td>Tunisia</td>
<td>Madagascar</td>
<td>Malaysia</td>
<td>Costa Rica</td>
</tr>
<tr>
<td></td>
<td>Mauritius</td>
<td>Pakistan</td>
<td>Ecuador</td>
</tr>
<tr>
<td></td>
<td>Malawi</td>
<td>Philippines</td>
<td>Guatemala</td>
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<tr>
<td></td>
<td>Niger</td>
<td>Thailand</td>
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<td></td>
<td>Nigeria</td>
<td></td>
<td>Paraguay</td>
</tr>
<tr>
<td></td>
<td>Togo</td>
<td></td>
<td>Peru</td>
</tr>
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- Principal Component Analysis

Below are reported the Principal Component Analysis estimation results: the principal factors, their associated eigen values, their relative contribution to the variance and their factor loadings. We have selected the principal components that have an eigen value equal or above 1 to from the required indicators.

<table>
<thead>
<tr>
<th>Component</th>
<th>Eigen Value</th>
<th>Cumulative $R^2$</th>
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</thead>
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<td>P1</td>
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<td>0.34</td>
</tr>
<tr>
<td>P2</td>
<td>1.01</td>
<td>0.59</td>
</tr>
<tr>
<td>P3</td>
<td>0.90</td>
<td>0.82</td>
</tr>
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<td>P4</td>
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<table>
<thead>
<tr>
<th>Loadings</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P$</td>
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<td>-0.39</td>
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<td>Pubdef</td>
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<td>-0.25</td>
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</tr>
<tr>
<td>Curacc</td>
<td>0.41</td>
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<td>0.79</td>
<td>-0.15</td>
</tr>
<tr>
<td>Exdebt</td>
<td>-0.62</td>
<td>0.15</td>
<td>0.39</td>
<td>0.66</td>
</tr>
</tbody>
</table>
Table A2: Indicator of structural reform in trade and finance (SR)

<table>
<thead>
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<th>Eigen Value</th>
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</thead>
<tbody>
<tr>
<td>P1</td>
<td>1.39</td>
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<td>P2</td>
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<tr>
<td>P3</td>
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Loadings

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<th>P3</th>
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</thead>
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<tr>
<td>Creditgdp</td>
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<td>-0.64</td>
</tr>
<tr>
<td>Tradegdp</td>
<td>0.71</td>
<td>-0.04</td>
<td>0.69</td>
</tr>
<tr>
<td>Bmp</td>
<td>-0.25</td>
<td>0.91</td>
<td>0.32</td>
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</tbody>
</table>

Table A3: Human capital indicator (Hum)

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<th>Eigen Value</th>
<th>Cumulative R^2</th>
</tr>
</thead>
<tbody>
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<tr>
<td>P2</td>
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<td>1</td>
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</tbody>
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Loadings

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<th>P2</th>
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</thead>
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<td>0.70</td>
</tr>
<tr>
<td>School</td>
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<td>0.70</td>
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</tbody>
</table>

The variables underlying the composite indicators calculated from the principal components analysis (average over 5-year periods) are as follows (definitions in text).

Table A4: Variables underlying the composite indicators -- Tunisia

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<th></th>
<th>p</th>
<th>exdebt</th>
<th>curacc</th>
<th>pubdef</th>
<th>school</th>
<th>mort</th>
<th>bmp</th>
<th>creditgdp</th>
<th>tradegdp</th>
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</thead>
<tbody>
<tr>
<td>1970-74</td>
<td>3.4</td>
<td>34.8</td>
<td>-0.6</td>
<td>-1.0</td>
<td>2.4</td>
<td>109.8</td>
<td>18.8</td>
<td>31.9</td>
<td>53.1</td>
</tr>
<tr>
<td>1975-79</td>
<td>7.1</td>
<td>38.9</td>
<td>-7.1</td>
<td>-3.9</td>
<td>3.2</td>
<td>83.6</td>
<td>12.4</td>
<td>37.5</td>
<td>69.1</td>
</tr>
<tr>
<td>1980-84</td>
<td>10.0</td>
<td>45.5</td>
<td>-6.7</td>
<td>-4.8</td>
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<td>61.3</td>
<td>12.5</td>
<td>39.7</td>
<td>83.2</td>
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<tr>
<td>1985-89</td>
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<td>5.3</td>
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<tr>
<td>1990-94</td>
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<td>1995-99</td>
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Table A5: Variables underlying the composite indicators -- High-Performing countries*

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<th>p</th>
<th>exdebt</th>
<th>curacc</th>
<th>pubdef</th>
<th>school</th>
<th>mort</th>
<th>bmp</th>
<th>creditgdp</th>
<th>tradegdp</th>
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</thead>
<tbody>
<tr>
<td>1970-74</td>
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<td>4.1</td>
<td>53.8</td>
<td>58.1</td>
<td>26.9</td>
<td>57.4</td>
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<td>1975-79</td>
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<td>-3.6</td>
<td>4.5</td>
<td>40.5</td>
<td>3.6</td>
<td>31.7</td>
<td>70.5</td>
</tr>
<tr>
<td>1980-84</td>
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<td>50.5</td>
<td>-6.9</td>
<td>-5.3</td>
<td>4.8</td>
<td>29.8</td>
<td>4.3</td>
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<tr>
<td>1985-89</td>
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<td>58.8</td>
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<td>22.8</td>
<td>6.4</td>
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<td>85.7</td>
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<tr>
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<td>17.0</td>
<td>2.9</td>
<td>68.1</td>
<td>110.1</td>
</tr>
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</table>

* Chile, Korea, Mauritius, Malaysia, Thailand.
• **Contributions to growth**

The first column (gdpgr) of Tables A.6 and A.7 indicates the actual growth rate differences of Tunisia and the 5 high-performing countries to their comparator countries. The set of comparators are the 32 countries that excludes Tunisia and the five high-performing countries (Korea, Mauritius, Malaysia, Thailand, Chile). The remaining columns 2-7 indicate the contributions of those economic variables to the actual growth rate differences.

**Table A6: Contributions to growth --Tunisia vs. 32 developing countries (in % per year)**

<table>
<thead>
<tr>
<th>Year</th>
<th>gdpgr</th>
<th>laggdp</th>
<th>ms</th>
<th>sr</th>
<th>priinv</th>
<th>pubinv</th>
<th>hum</th>
<th>Exogenous</th>
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</thead>
<tbody>
<tr>
<td>1970-74</td>
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<td>0.13</td>
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<td>-0.53</td>
<td>0.40</td>
<td>-0.91</td>
<td>2.63</td>
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<tr>
<td>1980-84</td>
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<td>0.68</td>
<td>0.79</td>
<td>2.49</td>
<td>0.70</td>
<td>1.18</td>
</tr>
<tr>
<td>1985-89</td>
<td>0.35</td>
<td>-3.45</td>
<td>0.33</td>
<td>0.64</td>
<td>0.44</td>
<td>1.17</td>
<td>0.69</td>
<td>0.53</td>
</tr>
<tr>
<td>1990-94</td>
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<td>1.89</td>
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<tr>
<td>1995-99</td>
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<td>0.56</td>
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<td>2.16</td>
<td>0.89</td>
<td>3.50</td>
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</table>

**Table A7: Contributions to growth -- High-Performing countries* vs. 32 developing countries (in % per year)**

<table>
<thead>
<tr>
<th>Year</th>
<th>gdpgr</th>
<th>laggdp</th>
<th>ms</th>
<th>sr</th>
<th>priinv</th>
<th>pubinv</th>
<th>hum</th>
<th>Exogenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-74</td>
<td>1.90</td>
<td>-2.96</td>
<td>-0.36</td>
<td>-0.29</td>
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* Chile, Korea, Mauritius, Malaysia, Thailand.
ANNEX 2. METHODOLOGICAL NOTE ON ‘DOING BUSINESS’ INDICATORS

Starting a Business

*Doing Business* compiles a comprehensive list of entry regulations, by recording all the procedures that are officially required for an entrepreneur to obtain all necessary permits, and to notify and file with all requisite authorities, in order to legally operate a business. The current mark of the data refer to January 2003. The survey divides the process of starting up a company into distinct procedures, and then proceeds to calculate the costs and time necessary for the accomplishment of each procedure under normal circumstances. The assumption is that the required information is readily available and that all government and nongovernment entities involved in the process function efficiently and without corruption.

**Cost Measure.** The text of the Company Law, the Commercial Code, or specific regulations are used as a source for the costs associated with starting-up a business. If there are conflicting sources and the laws are not completely clear, the most authoritative source is used. If the sources have the same rank the source indicating the most costly procedure is used, since an entrepreneur never second-guesses a government official. In the absence of express legal fee schedules, a governmental officer’s estimate is taken as an official source. If several sources have different estimates, the median reported value is used. In the absence of government officer's estimates, estimates of incorporation lawyers are used instead. If these differ, the median reported value is computed. In all cases, the cost estimate excludes bribes.

**Time Measure.** Time is recorded in calendar days. For the sake of uniformity, for all countries it is assumed that the minimum time required to fulfill a procedural requirement is one day. Therefore, the shortest procedure lasts one calendar day. The time variable captures the average duration that incorporation lawyers estimate is necessary to complete a procedure. If a procedure can be accelerated at additional cost, the fastest procedure, independent of cost, is chosen. It is assumed that the entrepreneur does not waste time and he commits to the completion of each remaining procedure from the previous day, unless the law stipulates the contrary. When estimating the time needed for complying with entry regulations, the time that the entrepreneur spends in information gathering is ignored. The entrepreneur is aware of all entry regulations and their sequence from the very beginning. Information is collected on the sequence in which the procedures are to be completed, as well as any procedures that lend themselves to being carried out simultaneously.

**Minimum Capital Requirement.** The minimum capital requirement reflects the amount that the entrepreneur needs to deposit in a bank account in order to obtain a business registration number. This amount is typically specified in the Commercial Code or the Company Law.

This methodology is originally developed in Djankov, Simeon, Rafael La Porta, Florencio, Lopez-de-Silanes and Andrei Shleifer, "The Regulation of Entry", *Quarterly Journal of Economics*, 117, 1-37, Feb. 2002 and adopted with minor changes in ‘Doing Business’.

**Hiring and Firing Workers**

The data on hiring and firing workers are based on an assessment of employment laws and regulations as well as specific constitutional provisions governing this area. The employment laws of most countries are available online in the NATLEX database, published by the International Labour Organization. Constitutions are available online on the U.S. Law Library of Congress website. The main secondary sources include the International Encyclopaedia for
Labour Law and Industrial Relations, and Social Security Programs Throughout the World. Data were confirmed with more than one source. In most cases both the actual laws and a secondary source were used to ensure accuracy. All conflicting answers were checked with two additional sources, including a local legal treatise on labor and social security laws. Legal advice from leading local law firms was solicited to confirm accuracy in all cases. The current mark of the data refers to January 2003.

Four indices are constructed: a flexibility-of-hiring index, the conditions-of-employment index, a flexibility-of-firing index and an overall employment regulation index. Each index may take values between 0 and 100, with higher values indicating more rigid regulation. The flexibility of hiring index covers the availability of part-time and fixed-term contracts. Conditions of employment cover working time requirements, including mandatory minimum daily rest, maximum number of hours in a normal workweek, premium for overtime work, restrictions on weekly holiday, mandatory payment for nonworking days, (which includes days of annual leave with pay and paid time off for holidays), and minimum wage legislation. The constitutional principles dealing with the minimum conditions of employment are also coded. Flexibility of firing covers workers’ legal protections against dismissal, including grounds for dismissal, procedures for dismissal (individual and collective), notice period, and severance payment. The constitutional principles dealing with protection against dismissal are also coded. The index of employment regulation is a simple average of the flexibility-of-hiring index, the conditions-of-employment index, and the flexibility-of-firing index.

This methodology is developed in Botero Juan, Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, "The Regulation of Labor", Working Paper 9756, National Bureau of Economic Research, June 2003, and adopted with minor changes here.

Enforcing a Contract

The data on enforcing a contract are derived from questionnaires answered by attorneys at private law firms. The current mark of the data refers to January 2003. The questionnaire covers the step-by-step evolution of a debt recovery case before local courts in the country’s most populous city. The respondent firms were provided with significant detail, including the amount of the claim, the location and main characteristics of the litigants, the presence of city regulations, the nature of the remedy requested by the plaintiff, the merit of the plaintiff’s and the defendant’s claims, and the social implications of the judicial outcomes. These standardized details enabled the respondent law firms to describe the procedures explicitly and in full detail. The study develops three main indicators of the efficiency of the judicial system on the enforcement of commercial contracts. The first indicator is the number of procedures mandated by law or court regulation that demands interaction between the parties or between them and the judge or court officer.

The second indicator of efficiency is an estimate - in calendar days - of the duration of the dispute resolution. Time is measured as the number of days from the moment the plaintiff files the lawsuit in court, until the moment of actual payment. This measure includes both the days where actions take place and waiting periods between actions. The respondents make separate estimates of the average duration until the completion of service of process, the issuance of judgment (duration of trial), and the moment of payment or repossession (duration of enforcement). The third indicator is cost, including court costs and attorney fees, as well as payments to other professionals like accountants and bailiffs. The study also develops an index of the procedural complexity of contact enforcement. This index measures substantive, and procedural statutory intervention in civil cases in the courts, and is formed by averaging the following subindices: use of professionals (intervention of professional judges and attorneys),
nature of action (the written or oral nature of the actions involved in the procedure), legal justification (required in the process of dispute resolution), statutory regulation of evidence; control of superior review; other statutory interventions. The Procedural Complexity Index varies from 0 to 100, with higher values indicating more procedural complexity in enforcing a contract.


Credit Markets

Two sets of measures on getting credit are constructed: indicators on credit information sharing and an indicator of the legal protection of creditor rights. The data on credit information sharing institutions were built starting with a survey of banking supervisors. For countries that confirmed the presence of a public credit registry, a detailed survey on the registry's structure, laws, and associated rules followed. Similar surveys were sent to major private credit bureaus. These surveys were designed as a joint cooperative effort with the "Credit Reporting Systems Project" in the World Bank Group, adapting previous surveys conducted by this project. Input was also received from Professor Marco Pagano of the University of Salerno. Variables assessed include: coverage of the market; scope of information collected; scope of information distributed; accessibility of the data available; quality of information available; legal framework for information sharing and quality of data.

Public Credit Registry Coverage Indicator. A public credit registry is defined as a database managed by the public sector, usually by the Central Bank or Superintendent of Banks, that collects information on the standing of borrowers (persons and/or businesses) in the financial system and makes it available to financial institutions. The coverage indicator reports the number of individuals and/or firms listed in the public credit registry as of January 2003 with current information on repayment history, unpaid debts, or credit outstanding. The number is scaled to country's population (per 1,000 capita). A coverage value of zero indicates that no public registry operates.

Extensiveness-of-Public-Credit-Registries Index. Scores can range from 0 to 100, where higher values indicate that the rules of the public credit registry are better designed to support credit transactions. The overall index of the extensiveness of public credit registries is a simple average of collection, distribution, access, and quality indices.

Private Credit Bureau Coverage Indicator. A private credit bureau is defined as a private firm or a non-profit organization that maintains a database on the standing of borrowers (persons or businesses) in the financial system, and its primary role is to facilitate exchange of credit information amongst banks and financial institutions. Credit investigative bureaus and credit reporting firms that do not directly facilitate exchange of information between financial institutions exist in many countries, but are not considered here. The coverage indicator reports the number of individuals and/or firms listed in the private credit bureau as of January 2003 with current information on repayment history, unpaid debts, or credit outstanding. The number is scaled to country's population (per 1,000 capita). A coverage value of 0 indicates that no private credit bureau operates.

Creditor-Rights Index. Doing Business reports an indicator of creditor rights in insolvency, based on the methodology of La Porta and others (1998). The indicator measures four powers of
secured lenders in liquidation and reorganization: restrictions on entering reorganization; no automatic stay; secured creditors are paid first; and management does not stay in reorganization. A value of 1 is assigned for each variable when a country's laws and regulations provide these powers for secured creditors. The aggregate creditor rights index sums the total score across all four variables. A minimum score of 0 represents weak creditor rights and the maximum score of four represents strong creditor rights.


Closing a Business

Members of the International Bar Association's Committee on Insolvency were asked to fill out a questionnaire relating to a hypothetical corporate bankruptcy. A first draft of the survey was prepared with scholars from Harvard University, and with advice from practicing attorneys in Argentina, Bulgaria, Germany, Italy, the Netherlands, Nigeria, the United Kingdom, and the United States. This survey was then piloted in the Czech Republic, Italy, Latvia, the Russian Federation, Spain, and Uzbekistan. Responses from these countries were used to revise the initial questionnaire. Next, participating law firms or bankruptcy judges from around the world were sent a final questionnaire to fill out. Answers were provided by a senior partner at each firm, in cooperation with one or two junior associates. In all cases, respondents were contacted for additional information following focus group presentations at the International Bar Association's Committee on Insolvency meetings in Dublin, Ireland, Durban, South Africa, and Rome, Italy. This helped the accurate interpretation of answers, to complete missing information, and to clarify possible inconsistencies. After this second round, a file was completed for each country and sent back to the respondents for final clearance.

Cost Measure. The answers of practicing insolvency lawyers are used as a source for the costs associated with resolving insolvency in the courts. If several respondents report different estimates, the median reported value is used. Cost is defined as the cost of the entire bankruptcy process, including court costs, insolvency practitioners' costs, the cost of independent assessors, lawyers, accountants, etc. In all cases, the cost estimate excludes bribes. The cost figures are averages of the estimates in a multiple-choice question, where the respondents choose among the following options: 0-2 percent, 3-5 percent, 6-10 percent, 11-25 percent, 26-50 percent, and more than 50 percent of the insolvency estate value.

Time Measure. Time is recorded in calendar years. The time measure captures the average duration that insolvency lawyers estimate is necessary to complete a procedure. If a procedure can be accelerated at additional cost, the fastest procedure, independent of cost, is chosen. The legal team of the party filing for insolvency is aware of all procedures and their sequence from the very beginning. The study collects information on the sequence in which the insolvency procedures are to be completed, as well as any procedures that can be carried out simultaneously. The time measure includes all delays due to legal derailment tactics that parties to the insolvency may use. In particular, it includes delays due to extension of response periods or to appeals, if these are allowed under the law. As such, the measure represents the actual time of the insolvency proceedings, not the time that the law may mandate.

Goals-of-Insolvency Index. The measure documents the success in reaching the three goals of insolvency, as stated in Hart (1999). It is calculated as the simple average of the cost of
insolvency (rescaled from 0 to 100, where higher scores indicate less cost), time of insolvency (rescaled from 0 to 100, where higher scores indicate less time), the observance of absolute priority of claims, and the efficient outcome achieved. The total Goals-of-Insolvency Index ranges from 0 to 100; a score 100 on the index means perfect efficiency (Finland, Norway, and Singapore have 99), a 0 means that the insolvency system does not function at all.

**Court-Powers Index.** The measure documents the degree to which the court drives insolvency proceedings. It is an average of three indicators: whether the court appoints and replaces the insolvency administrator with no restrictions imposed by law, whether the reports of the administrator are accessible only to the court and not creditors, and whether the court decides on the adoption of the rehabilitation plan. The index is scaled from 0 to 100, where higher values indicate more court involvement in the insolvency process.

This methodology is developed in Djankov, Simeon, Oliver Hart, Tatiana Nenova, and Andrei Shleifer, "Efficiency in Bankruptcy", working paper, Department of Economics, Harvard University, July 2003.
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