2. FIRM PRODUCTIVITY AND THE BUSINESS ENVIRONMENT

INTRODUCTION

Firms' productivity—their effectiveness in producing output from inputs—is the basis for their ability to survive and compete in national and international markets. Rising productivity in the private sector is key for economic growth, and it is a good indicator of a well-functioning private economy. In the absence of market frictions, resources are reallocated toward more productive firms, thereby reinforcing the process of growth and opening opportunities for more productive jobs.

This chapter analyzes firm productivity and the business environment in the MENA ES region. It shows that firms are relatively more productive in terms of labor productivity, but that labor productivity has been declining over time. Furthermore, high labor productivity has been achieved through inefficiently high capital intensity, resulting in lower total factor productivity (TFP). Large firms are generally more productive, but tend to be more capital-intensive and to focus on capital remuneration.

The chapter also presents evidence on the impact of the business environment on firm performance and growth. Firms perceive political instability, unreliable electricity, corruption, and inadequate access to finance as key constraints. Small and medium-sized enterprises (SMEs) tend to experience a more challenging operating environment than larger firms.

FIRM PRODUCTIVITY

Labor productivity is somewhat higher than in peer economies of the MENA ES region, but total factor productivity lags behind

Figure 2.1 shows the distribution of firm-level labor productivity and TFP in the formal private sector for each of the MENA ES economies in comparison with the median productivity level for economies at a similar income level outside the region—its "peer economies."[1] If the distribution of either performance measure in an economy is similar to that in peer economies, roughly half of firms will fall below the comparable median and roughly half will be above this level. Likewise, if a relatively higher proportion of firms are above the income-group median, this indicates generally higher levels of firm performance, with the converse being true if more firms fall below the median.

In most MENA ES economies, firms have labor productivity levels that are somewhat above the comparable income-level median—that is, more than half of firms report higher revenues per worker compared with peer economies. Jordan and the Republic of Yemen, where a majority falls below the median, are the only exceptions.[2]

This higher labor productivity could result from greater efficiency, superior technology, and/or the intensive use of complementary inputs, such as capital or material intermediates. The latter explanation seems to be confirmed by the fact that TFP lags behind peer economies in most MENA ES economies (figure 2.1),[3] the only exceptions being Jordan and Morocco. TFP measures the efficiency of use of all factors of production including not only labor but also capital and intermediates (see box 1.2 for details on TFP computation). The results in figure 2.1 thus suggest that in most MENA ES economies, higher levels of labor productivity are achieved at the expense of an over-reliance on capital and intermediates—and not underlying technological superiority—with a resulting lag in TFP.

BOX 2.1: Estimating total factor productivity with survey data

The use of micro or firm-level data to estimate total factor productivity (TFP)—the portion of output not explained by the amount of inputs utilized—has enabled analysts to explore how the efficiency of production varies with heterogeneous firm characteristics. Most analytical work begins with a Cobb-Douglas production function in the form: $y_i = a_i k_i^{\beta k} l_i^{\beta l} m_i^{\beta m}$ where firm-level output y_i is a function of inputs of capital (k_i), labor (l_i), and other inputs such as materials (m_i); firms' efficiency of production is measured by the term a_i which is the portion of output that cannot be directly attributed to the utilized inputs. Analytically straightforward, estimation can be troublesome. Often only monetary (as opposed to physical) output and inputs are observed, and the resulting productivity measures thus incorporate market dynamics through clearing prices; such revenue-based TFP is often referred to as TFPR.[a] In addition, it has been widely noted that even within narrowly defined industries results exhibit large and persistent differences across firms.[b]

Empirically, TFPR is generally estimated by regressions in the form of: $Y_i = \beta_k K_i + \beta_l L_i + \beta_m M_i + \varepsilon_i$, where capital letters indicate natural logarithm of monetary inputs and outputs. ε_i is the natural logarithm of firm-specific productivity. Capital, K_i, is proxied by the replacement value of machinery and equipment. Labor, L_i, inputs are represented by total wage bill, while materials, M_i, are measured as the cost of raw materials and intermediate goods used in production. TFPR is thus only meaningful for manufacturing firms. It should be noted that since data are cross-sectional (and not time-series), corrections for the endogeneity of inputs (that is when firms have knowledge of their productivity and set their capital and labor inputs simultaneously) is not possible.

Since the above specification assumes a common production technology, TFPR was estimated separately for each industry—grouped by two-digit ISIC codes, s —and pooling economies by income level—grouped by the World Bank classifications, w. To allow for an average economy-level effect, a dummy variable for each economy c is included.[c] The final estimation is then $Y_{isw} = \beta_{ksw} K_{isw} + \beta_{lsw} L_{isw} + \beta_{msw} M_{isw} + \Sigma \beta_c c + \varepsilon_{isw}$. The firm-level TFPR is the sum of the economy-industry-level effect and firm-specific productivity: $TFPR_i = \varepsilon_{isw} + \beta_c$.

For an economy-level measure of productivity, the firm-level TFPR is aggregated by taking into account each firm's share in the economy: $TFPR_c = \Sigma_{i=1}^{N_c} TFPR_i \bullet \left(\frac{s_i}{\Sigma s_i}\right)$, where three different measures of shares (s) were used: (i) sample weights, ω_i, giving each firm a weight equal to the share of firms it represents in the economy; (ii) sales share, $y_i \omega_i$; and (iii) employment share, $e_i \omega_i$ with e_i being the number of permanent employees.

a Foster and others (2008).

b See, e.g., Syverson (2011).

c Halvorsen and Palmquist (1980).

In all economies but Jordan, Morocco, and the Republic of Yemen, higher-than-median labor productivity goes hand in hand with lower-than-median TFP. This is an indication that while labor is used somewhat efficiently, when all factors are taken into consideration, firms are actually less productive. In Jordan, firms tend to be more inefficient in using labor, as reflected by below-median labor productivity, but above-median TFP. The Republic of Yemen stands out: firms are relatively inefficient and characterized by low labor productivity and TFP. By contrast, in Morocco, relatively high labor productivity is also associated with relatively high TFP, indicating a comparatively efficient system.

MENA ES manufacturers tend to have lower labor intensity and higher capital and intermediates intensity

Factor shares have long been used to study the importance of each type of input in the production process. Each ratio—expressed as a proportion of total annual revenues—shows the relative intensity of those input costs to revenue output, and is thus itself a simple measure of productivity. If a firm's ability to command greater revenue is high relative to inputs, it is generally regarded as more productive, a sign of underlying efficiency; if, however, factor shares are high relative to revenues (as well as to each other and vis-à-vis comparators), they may reveal lower underlying productivity—a disproportionate expense on inputs. The latter scenario can be due to inferior technology and/or comparatively expensive costs of production—as would be the case if input costs were high due to inefficiencies or imperfectly competitive markets, or through incentives favoring greater factor intensity than would otherwise be optimal.

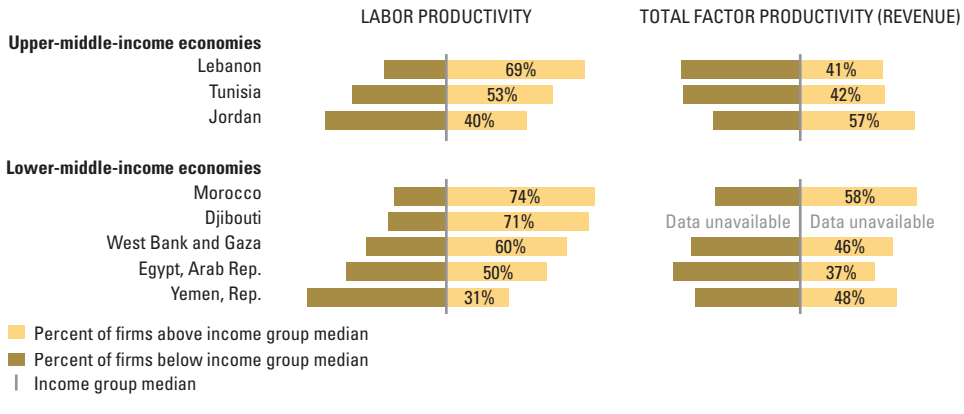
Figure 2.2 shows the median factor shares of three main inputs used by manufacturers—their labor, intermediate inputs, and capital costs respectively. The capital factor share is above the respective peers in Egypt, Jordan, Lebanon, and Tunisia, revealing higher capital intensity. The labor factor share is above the respective peers only in Jordan and Lebanon.

Egypt and Tunisia's story is consistent with a pattern of relative investment in energy-intensive (subsidized) and capital-intensive industries—for example, in metal and cement production.[4] Moreover, the subsidization of energy inputs (and the subsequent favoring of capital-intensive production) renders labor relatively more expensive. This limits the potential of job expansion through greater labor intensity. Furthermore, if labor is relatively more abundant relative to private sector demand, wages will slump. While this will increase employment, it will be at the cost of lower wages rather than a result of more labor-intensive production techniques (chapter 4).

Larger firms have higher levels of productivity in manufacturing but not in services

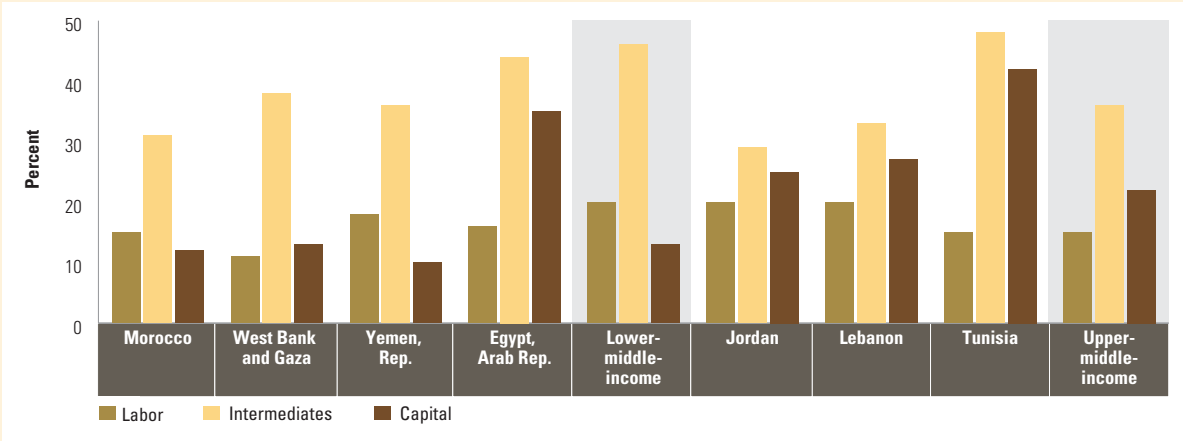
In the MENA ES economies, there is no significant association between firm size and productivity in the services

FIGURE 2.1: Distribution of firm-level labor productivity and total factor productivity



Source: Authors' calculations based on Enterprise Surveys. Economies are ordered within income group by labor productivity distribution.

FIGURE 2.2: Median factor shares



Source: Enterprise Surveys.
Note: Within each income group, economies are ordered by the total sum of factor shares, low to high from left to right.

sector; this is not the case in the manufacturing sector. When only labor is considered as a factor of production, manufacturers in the MENA ES economies show a significant and positive relationship between the number of workers they employ and their revenues per worker—that is, labor productivity (table A2.1, column 2). But when other factors of production are taken into account—namely the costs of capital and intermediate inputs—the addition of more workers reduces labor productivity.

This finding may imply that the positive association between firm size and labor productivity is due to the extensive use of capital by large firms, not necessarily due to the number of employees in the firm. This again points to a strong bias towards capital and intermediates relative to labor: that is, firms with comparably more employees maintain higher labor productivity precisely through their intensive use of other inputs of production.

Relative to revenue, larger firms spend more on capital than on labor inputs

In the MENA ES economies, larger firms allocate relatively fewer resources to labor costs. While this pattern is consistent with lower-middle-income economies elsewhere, it is not consistent with other upper-middle-income economies, in which there is no change in the labor-to-revenue ratio as firms grow (figure 2.3A). More striking is the relatively large amount of resources allocated to capital across the region (figure 2.3C). In both income groups, this allocation increases with firm size.

The analysis above suggests that the higher productivity of larger firms overlies their higher capital intensity. If this is efficiency-enhancing in terms of physical production (and not just in commanding greater revenue), the substitution of labor intensity with capital inputs would expand overall productivity. But the MENA ES economies' relatively poor TFP compared with peers suggests that this relative intensity may be less than optimal, possibly a consequence of distortive incentives pushing toward capital intensity.

Labor productivity is declining

Despite comparatively higher labor productivity, revenues per worker are contracting over time in all MENA ES economies. This may be partly explained by the widespread social and political upheaval. The surveys make use of recall on sales and employment data from fiscal years 2009 and 2012, allowing for indicators of performance before and during the upheaval.[5] Compared with their peer economies, the MENA ES economies tend to lag behind on average in sales, employment, and labor productivity growth rates (figure 2.4). In fact, the annual rate of growth of labor productivity for every economy in the MENA ES region over the period 2009–2012 is negative (figure 2.4). This is the result of steady and positive employment

FIGURE 2.3A: Labor cost factor share by size

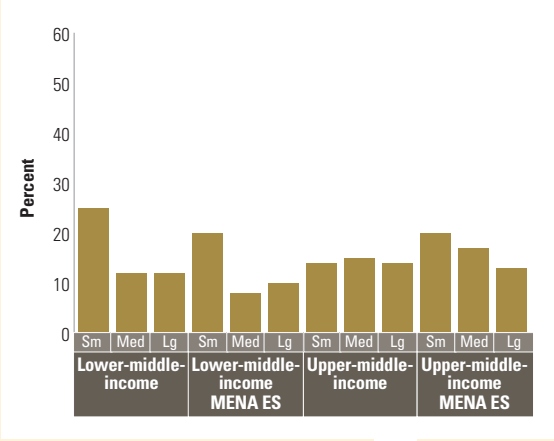


FIGURE 2.3B: Intermediate input cost factor share by size

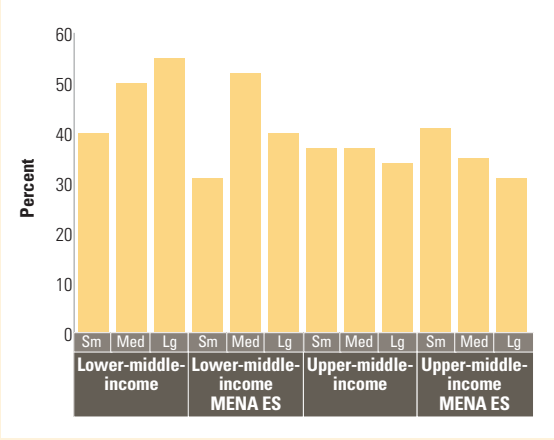
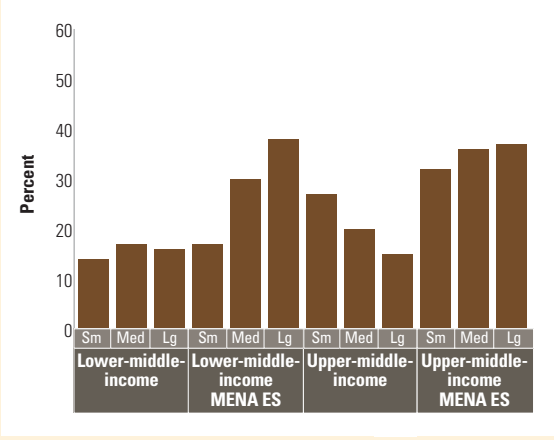


FIGURE 2.3C: Capital replacement cost factor share by size



Source: Enterprise Surveys, all shares shown on the same scale for comparison.

growth, except in Egypt and the Republic of Yemen, accompanied by weaker, and sometimes negative, sales growth.

In response to the Arab Uprisings, several governments in the region responded by rapidly increasing public spending on food and energy subsidies; between 2009 and 2012, subsidy expenses in real terms more than tripled in Jordan, more than doubled in Tunisia, and increased by over 40 percent in Lebanon. The increase in Egypt was only 4 percent, but it constituted a 1.6 billion expansion in public spending in 2012 U.S. dollars.[6] While making debt levels somewhat untenable, this additional public spending may induce further misallocations in the private sector, biasing firms toward capital and energy intensity and against further employment generation.[7]

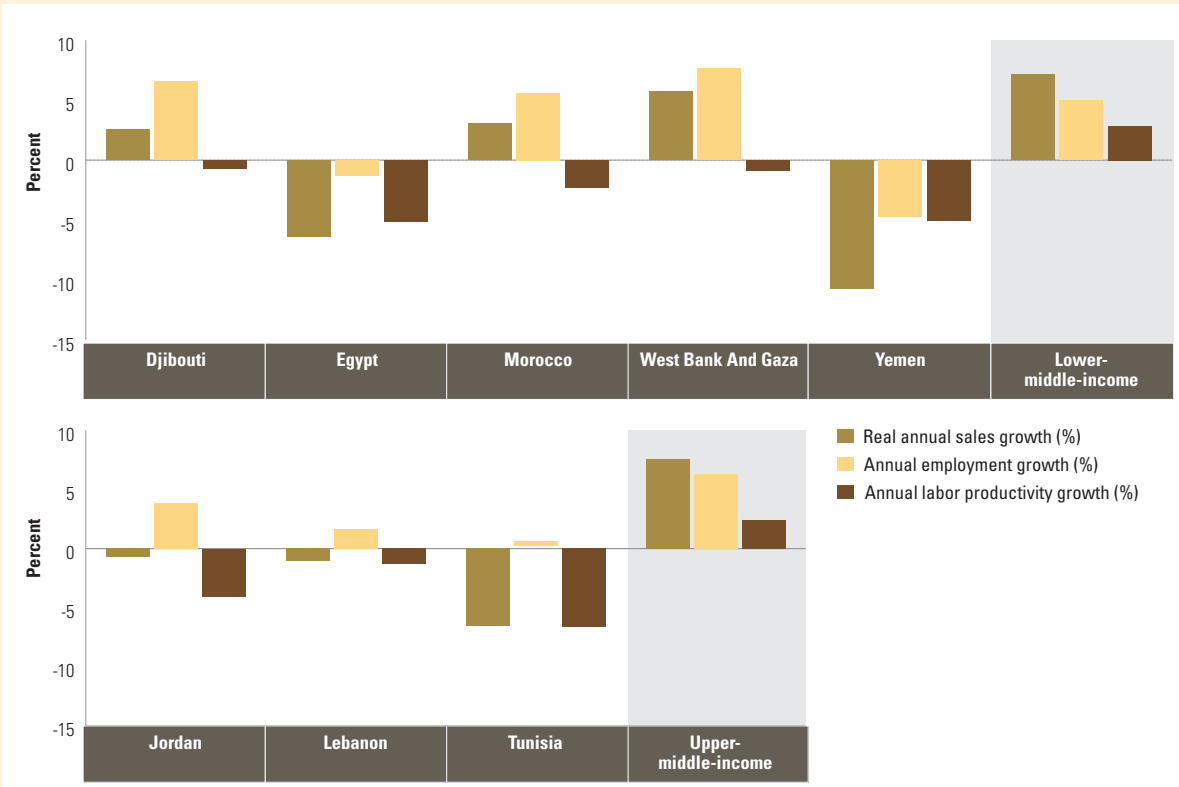
Governments in Egypt, Jordan, Tunisia, and Morocco have announced and begun energy subsidy reforms—allowing gasoline and other fuel prices to rise as well as electricity tariffs.[8] Though initial efforts have proceeded—in 2015, the Egyptian government cut subsidies by nearly a third compared with the previous year—these reforms face persistent political resistance.[9] The starkest example is in the Republic of Yemen, where protests erupted after the Saleh government cut energy subsidies in 2014, and these reforms have been withdrawn further following the conflict.[10]

THE BUSINESS ENVIRONMENT

The business environment includes regulatory compliance, access to finance, infrastructure, and several other contextual elements that affect the day-to-day experiences of firms. Productivity is as much dependent on internal factors, such as technology, research and development (R&D), management practices, and human capital as it is on the external factors of the business environment.[11] But external factors can affect "within" aggregate productivity growth by forcing individual firms to become more efficient; and they can affect "between" aggregate productivity by allowing more efficient firms to grow faster than less efficient ones or by replacing less efficient firms with newer more efficient entrants.

Many studies have established the effect of different dimensions of the business environment on firm performance, particularly in developing economies.[12]

FIGURE 2.4: Labor productivity growth has been negative in all MENA ES economies



Source: Enterprise Surveys.

The business environment can affect firm productivity directly—for example, through the reliability of electricity supply—or indirectly by affecting decisions on the allocation of resources.[13] For example, corruption or burdensome regulation can create incentives for the reallocation of labor or capital resources from productive tasks to less than optimal uses, leading to lower aggregate productivity and output.

Several aggregate measures of the business environment in the MENA ES economies point to substantial differences among them. The World Bank's *Doing Business* Index measures the overall regulatory environment by considering the cost and complexity across 10 common business transactions for a medium-sized limited liability company. According to this measure, in 2013, Tunisia was the 50th business-friendly economy in the world, while Djibouti was 170th. Tunisia, together with Jordan, also ranked relatively high in the Transparency International's Corruption Perceptions Index in 2013, while the Republic of Yemen ranked 167th out of 177 economies worldwide.[14]

The World Economic Forum's Global Competitiveness Index, which covers a broader range of issues from infrastructure to financial markets and innovation-related issues, reveals a similar picture of heterogeneity across the MENA ES economies. While Jordan, Morocco, and Tunisia rank in the middle of the range, Egypt, Lebanon, and the Republic of Yemen rank much lower, with the Republic of Yemen at 145 out of 148 economies.

Similarly, according to the six World Governance Indicators for 2013, on average, Jordan, Tunisia, and Morocco tend to rank just below the middle of the range among 210 economies and the remaining MENA ES economies rank much lower. For example, the Rule of Law index ranks Jordan at 79th, Tunisia at 103rd, and Morocco at 111th; Egypt, Lebanon, and Yemen are ranked much lower at

TABLE 2.1: Selected business environment indicators for the MENA ES economies

Economy	*Doing Business* rank, 2013	Corruption Perception rank, 2013	Global Competitiveness rank, 2013-14
Djibouti	171	94	–
Egypt, Arab Rep.	109	114	118
Jordan	106	66	68
Lebanon	115	127	103
Morocco	97	91	77
Tunisia	50	77	83
West Bank and Gaza	135	N/A	–
Yemen, Rep.	118	167	145

Sources: World Bank Group, Doing Business Index 2013; Transparency International, Corruption Perceptions Index 2013; World Economic Forum, Global Competitiveness Index 2013-2014 edition.
Note: Larger numbers represent worse performance.

140th, 158th, and 185th respectively. Overall, these aggregate measures indicate that even in the more prosperous economies of the region, there is ample room for improvement.

The World Bank's Enterprise Survey also provide a valuable window into an economy's business environment, rooted in the day-to-day experiences of firms. The evaluation can be made from either a perception-based view of the obstacles faced by the firm or by looking at factually-based business environment measures and benchmarking them against other regions of the world.

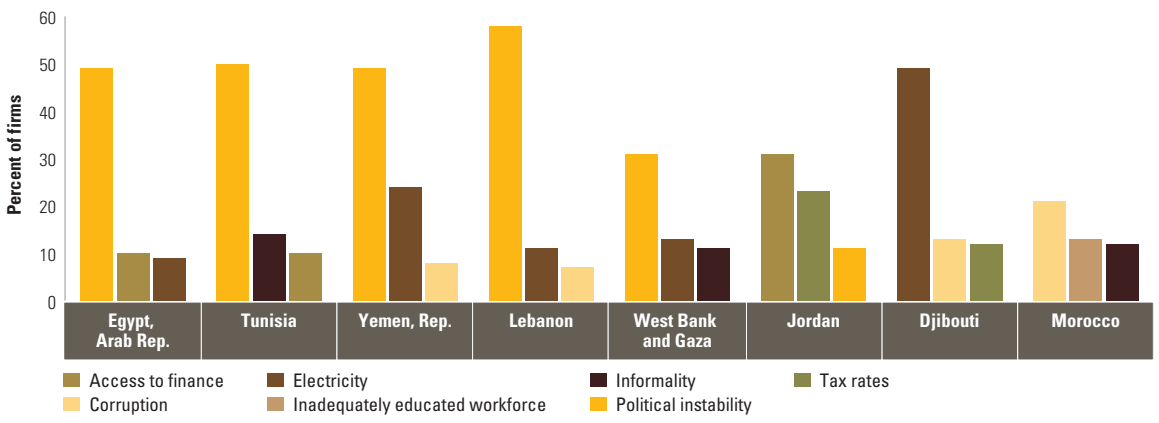
WHAT ARE THE MAIN OBSTACLES PERCEIVED BY FIRMS?

Political instability, corruption, and electricity are most commonly identified as "top obstacles"

Managers and CEOs who took part in the MENA ES were asked to select the "top obstacle" from a list of 15 potential obstacles. As figure 2.5 shows, political instability is the most commonly chosen top obstacle in five of the eight economies. In the three economies that experienced a change of regime in the Arab Uprisings—Egypt, Tunisia, and the Republic of Yemen—one out of two firms cite political instability as the top obstacle. Similarly, in Lebanon, with a history of political struggle compounded by the effects of the conflict in neighboring Syria, this percentage nears 60 percent. Likewise, in the West Bank and Gaza—which was entering a period of heightened tension with Israel at the time of the survey—political instability is also the top obstacle for the private sector. In Jordan, political instability is still among the top three cited obstacles, primarily due to the spillovers from regional instability.

In five economies, electricity is among the top three cited obstacles. In comparatively stable Djibouti, nearly half of

FIGURE 2.5: Political instability is most commonly chosen as the top obstacle in the MENA ES economies

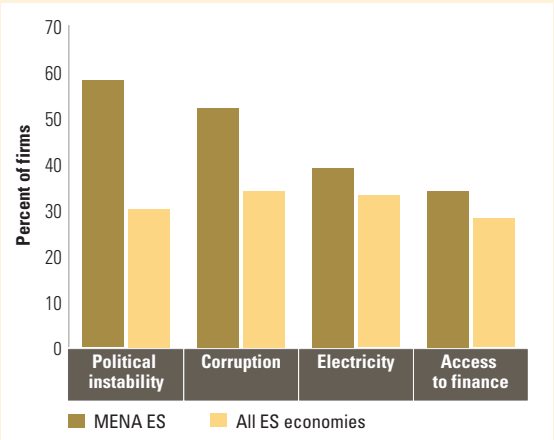


Source: Enterprise Surveys.
Note: For each economy the three obstacles most frequently chosen as the top obstacle by firms are shown.

firms consider electricity to be their top obstacle. Indeed, electricity seems to be a particular problem for firms in three of the lower-middle-income economies in the group—Egypt, the West Bank and Gaza, and the Republic of Yemen—as well as in one upper-middle-income economy, Lebanon. Corruption is among the three most frequently cited top obstacles in four economies, which is largely consistent with the rankings of Transparency International. Access to finance is ranked among the top three obstacles in three economies of the region; in Jordan, it is the top obstacle.

In addition to the top obstacle ranking, respondents were given the opportunity to evaluate individual elements of the business environment to determine whether each element was a major or very severe concern to the operations of the firm. Since this evaluation was done independently of the other elements of the business environment, it can be used to benchmark the extent to which any given obstacle is perceived as severe compared with other economies.[15] Figure 2.6 shows that political instability and corruption stand out: they are considered severe by a much larger share of firms than in all ES economies. Electricity and access to finance are also above the average of all economies with ES data, but the difference is not as large. The future growth of the formal private sector requires reforms aimed at addressing the specific concerns of firms about electricity, corruption, and access to finance, all of which contribute to and are fed by the overarching political instability.

FIGURE 2.6: Political instability, corruption, and unreliable electricity supply are considered severe obstacles more frequently in the MENA ES region



Source: Enterprise Surveys.

Experience-based indicators of the business environment reveal specific areas of concern

The MENA ES data also contain measures of firms' actual day-to-day experience dealing with specific elements of the business environment. These include indicators of regulatory costs, such as the time that senior management spends in dealing with government regulations—the "time tax"; indicators of administrative efficiency, for example, the number of meetings held with tax officials and the waiting times to obtain licenses and permits; indicators of the exposure to crime and bribery; and indicators of the quality of infrastructure and market conditions, such as shipment losses or power outages (table 2.2).

For many of these indicators, the overall average for MENA ES economies is comparable to results elsewhere, though there are a few areas of concern. For example, the time tax for Tunisia is exceptionally high, the highest of any economy with ES data. Respondents there also report three-month delays, on average, in getting an electricity connection. In Lebanon and Tunisia, obtaining an operating license can take over 40 days; in Egypt, this waiting time is substantially longer with nearly a third of applicants reporting that their request was still in process. In Lebanon, Morocco, and the West Bank and Gaza, obtaining an import license may take up to a month, well above the time in the other economies. While overall, the MENA ES economies do not show particularly poor business environments, these specific deficiencies may still be binding and can provide a starting point for policy reforms.

POLITICAL INSTABILITY

Between 2010 and 2013, diverging growth patterns reflected different levels of political stability

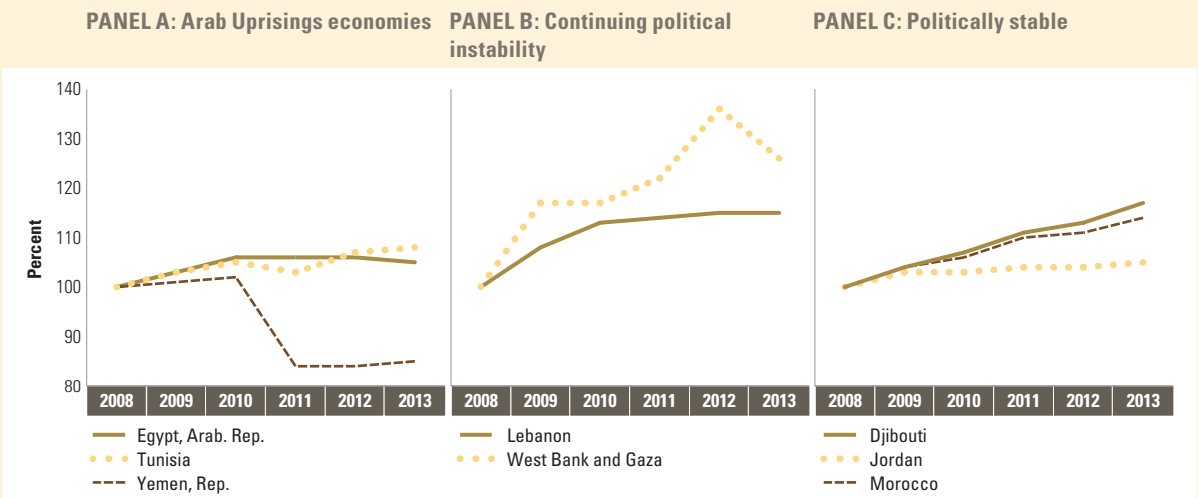
One useful way of viewing the private sector in different economies in the region is to look at relative trends following the period of upheaval around the Arab Uprisings and the onset of the Syrian civil war. While in the lead-up to 2010, all economies in the region showed positive

TABLE 2.2: MENA ES business environment averages mask individual areas of concern

	Senior management time spent in dealing with government regulations	Days to obtain import license	Days to obtain operating license	Average days to clear direct exports through customs	Days to obtain an electrical connection	Days to obtain a water connection	Percentage of firms paying for security	Losses due to theft, robbery, vandalism, and arson (% of sales)	Products exported directly lost due to breakage or spoilage (%)
Djibouti	5.3	7.7	8.8	10.4	34.1	16.1	49.8	0.5	0.1
Egypt, Arab Rep.	3.1	19.8	138.9	7.4	75.7	20.5	20.4	0.6	0.5
Jordan	5.3	2.1	1.4	4.6	13.1	21.0	12.4	0.3	0.4
Lebanon	4.1	28.0	50.0	4.9	56.0	40.2	21.8	0.2	0.2
Morocco	4.6	30.6	24.1	3.5	13.8	49.8	39.5	0.3	0.6
Tunisia	46.5	12.9	39.2	3.0	89.3	17.2	68.7	1.0	0.2
West Bank and Gaza	4.4	35.4	11.5	2.5	42.5	13.4	35.2	1.9	4.2
Yemen, Rep.	1.9	11.6	7.0	11.2	25.6	35.9	27.1	0.6	1.6
MENA ES	9.4	18.5	35.1	5.9	43.8	26.8	34.4	0.7	1.0
Lower-middle-income	10.3	17.3	24.3	9.2	25.5	24.2	57.1	1.3	1.3
Upper-middle-income	10.6	22.7	35.7	7.3	23.7	29.8	55.5	0.7	0.8
All ES economies	9.8	18.4	30.1	7.9	30.0	27.7	57.5	1.0	1.0

Source: Enterprise Surveys.

FIGURE 2.7: In economies with higher political instability, growth stagnated between 2010 and 2013



Source: WDI, authors' calculations.
Note: Figures are indexed to GDP per capita levels in 2008, which is set to 100.

growth, they differed sharply as political events unfolded. In the three Arab Uprisings economies that underwent a regime change—Egypt, Tunisia, and the Republic of Yemen—a distinct pattern is clear (figure 2.7, panel A). In the Republic of Yemen after 2010, GDP per capita dropped precipitously amid tension leading up to the civil conflict. In Egypt, which after the Arab Uprisings saw the removal of the government of Mohamed Morsi in 2012, GDP per capita growth stagnated. In Tunisia, which experienced a relatively smoother political transition, growth initially dropped, though it recovered after 2011.

In the two other economies where political instability was most often ranked as the top obstacle—Lebanon and the

West Bank and Gaza—growth also seems to have been affected by geo-political events. As figure 2.7 shows (panel B), growth flattened in Lebanon after 2010, a period that includes the civil war in neighboring Syria. While GDP per capita in the West Bank and Gaza has grown considerably relative to 2008, this was punctuated by periods of conflict, including in 2008–2009. Djibouti, Jordan, and Morocco (figure 2.7, panel C) can be considered relatively stable. In Djibouti and Morocco, growth seems to have been little affected by instability, either domestic or in the wider region. Growth in Jordan has been relatively flat since 2009, which may partly reflect the economy's exposure to events in neighboring Syria. While the causal effect of this pattern is hard to discern—whether low growth has resulted in instability or the other way around—the association is clear.

The formal private sector is disproportionately affected by political instability

In all of the economies severely affected by political instability, the formal private sector's contribution to GDP growth—as represented by the manufacturing and services categories covered by the MENA ES—seems to have fallen considerably, comparing periods before and after 2010 (figure 2.8). In contrast, over the same period, the contribution to growth of other sectors, including public administration, defense, health, education, the financial sector, and extractive industries (all sectors not covered by the surveys), was less dramatically affected in Egypt, Lebanon and Tunisia, although these trends resulted in explosions in public debt.[16] In the politically stable Djibouti, Jordan, and Morocco, the shares of these sectors in GDP growth have changed comparatively little.

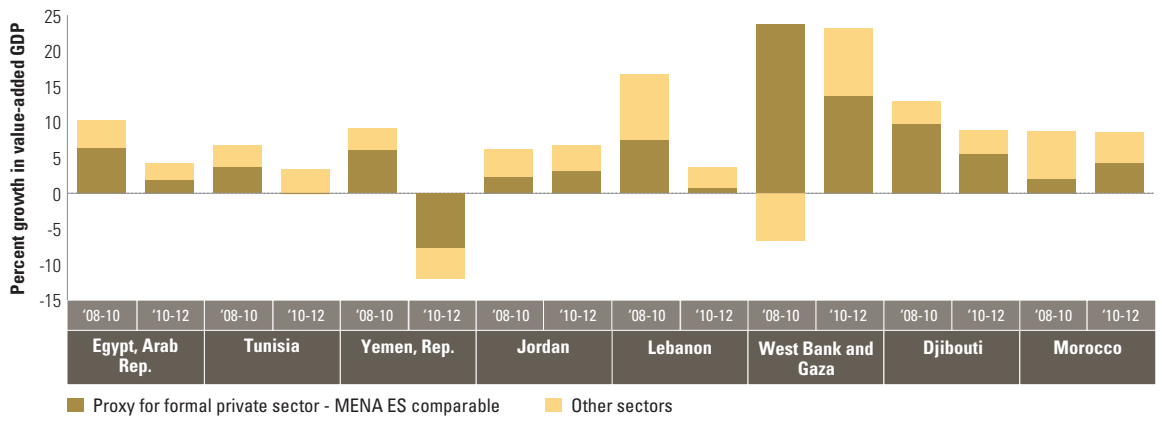
On this basis, it can be suggested that private sector activity has tended to be disproportionately affected by political instability in the region, while other sectors, many associated with the public sector, were bolstered by high—and probably unsustainable—levels of public spending and incurred deficits.

Political instability is associated with negative sales and labor productivity growth

Between 2009 and 2012, the typical firm in the Republic of Yemen, Tunisia, and Egypt saw revenues collapse by a rate of -11, -7, and -6 percent per year respectively (figure 2.4). In contrast, firms in Lebanon and Jordan saw their revenues remain virtually flat (at a rate of -1 percent per year) over the same period. Only in Djibouti, Morocco and the West Bank and Gaza was annual sales growth positive, though these rates lagged behind comparable rates in other upper-middle-income and lower-middle-income economies.

Poor sales growth performance in the Arab Uprisings economies was accompanied by a contraction in employment:

FIGURE 2.8: The role of the private sector in real growth in value-added GDP



Source: UN National Accounts Main Aggregated Database (2005 USD).
Note: 2008–2010 is relative to overall value-added in 2008; 2010–2012 is relative to overall value-added in 2010. The values for the private sector are proxied by manufacturing (ISIC Rev. 3.1 Group D) and selected services (Groups F–I). "Other sectors" include Groups A–C, E and J–P.

the average firm shed jobs in Egypt and the Republic of Yemen, and kept its employment level virtually the same in Tunisia (figure 2.4). In contrast, in Jordan and Lebanon, firms added jobs, showing positive employment growth, but sales did not keep apace, resulting in a contraction of sales per worker (labor productivity). In Djibouti, Morocco, and the West Bank and Gaza, firms both added jobs and increased their sales on average, indicating a potential driving force for current and future growth.

The relatively poor growth performance of firms in economies suffering from greater political instability—coupled with the large number of firms that find political instability a key constraint on their performance—make a strong case for social, political and economic reforms to provide greater political stability in the region.

CORRUPTION

Perceptions of corruption as an obstacle may be driven by factors beyond the scope of individual firms' activity

Corruption can result in a misallocation of resources, both through the allocation of resources to bribery and through the distortions in decision making that it creates. Corruption is the second most frequently rated major obstacle in the survey, after political instability. In addition, the survey collected information on the actual experience of firms dealing with petty corruption when engaging in six different transactions, including applications for utilities (water and electricity), imports, operating licenses, construction permits, and when paying taxes.[17]

As table 2.3 shows, the average share of firms exposed to at least one bribe in the MENA ES economies (bribery incidence) is considerably lower than the percentage of firms that consider corruption as a major obstacle to their operations. On average, the frequency with which firms in the MENA ES region are confronted with bribe requests (bribery depth) is somewhat greater than the average for lower-middle-income and upper-middle-income economies. But there is considerable variation across economies, with Morocco and the Republic of Yemen standing out as having the highest values for bribery incidence and depth.[18]

TABLE 2.3: Perceptions of corruption score much higher than factual indicators of exposure to bribery

Economy	Bribery depth (% of transactions)	Bribery incidence (% of firms)	Identifying corruption as a major obstacle (% of firms)
Djibouti	8	11	39
Egypt, Arab Rep.	16	17	59
Jordan	10	13	21
Lebanon	14	19	61
Morocco	29	37	53
Tunisia	9	10	36
West Bank and Gaza	5	7	49
Yemen, Rep.	61	64	97
MENA ES	19	22	52
Lower-middle-income	16	21	38
Upper-middle-income	9	12	33

Source: Enterprise Surveys.
Note: "Major obstacle" refers to a rating by respondents as "major or "very severe". Bribery depth refers to the frequency with which firms are confronted with bribe requests. Bribery incidence shows the average share of firms exposed to at least one bribe.

The share of firms recognizing corruption as a serious impediment is above 50 percent in Egypt, Lebanon, Morocco, and the Republic of Yemen. The higher incidence of corruption in the perception indicator compared with the transaction-based bribery indicators seems to indicate that firms may be perceiving corruption in elements of the business environment that are not related to their day-to-day operations. Some of these elements could include corruption at high political levels and/or state capture by particular interest groups or elites. Furthermore, respondents may be reticent and not report an interaction where a bribe was requested.[19] Each of these could be a possible explanation for higher perceptions of corruption that are not reflected in the experience-based information in the MENA ES.

Corruption perceptions may deter firms from interactions with public authorities

In the MENA ES economies, firms engage in transactions with public officials at a considerably lower rate than in other regions (table 2.4). Excluding visits by tax officials—a transaction that is rarely voluntary—only a third of firms in the MENA ES economies engage in a public transaction, which is well below the average for peer economies.

TABLE 2.4: Firms in the MENA ES economies engage in public transactions less frequently

Percent of firms	Engaging in transaction*	Engaging in transaction excluding visits by tax officials
Djibouti	72	53
Egypt, Arab Rep.	78	16
Jordan	75	47
Lebanon	50	24
Morocco	44	35
Tunisia	48	31
West Bank and Gaza	69	43
Yemen, Rep.	89	26
MENA ES	66	34
Lower-middle-income	80	54
Upper-middle-income	72	41

Source: Enterprise Surveys.
Note: *Transactions include applications for: an import license, an operating license, water connection, electrical connection, a construction permit, or visits by tax officials.

Assuming this is partly driven by the demand for transactions by firms, this may be an indication of the effects of economic uncertainty and the investment environment on firms' willingness to undertake activities that require applications for licenses and permits. Firms' expectations of bribe requests and poor service may also be a significant factor deterring such interactions with public administrators.

High perceived corruption is associated with lower sales and employment growth and lower labor productivity

The difference between perception-based and transaction-based measures of corruption also matters for the relationship between corruption and firm performance, even after taking several firm characteristics into account. The survey results suggest that bribery incidence and depth are not related to firm performance, whereas firms that perceive corruption as a severe obstacle tend to experience lower growth rates of sales and employment, and a lower level of labor productivity (table A.2.1).[20]

Together, these results suggest that while petty corruption may not limit firms' performance, more widespread corruption is problematic. Firms that see corruption as an important constraint perform more poorly. Add to this the fact that firms in the MENA ES economies are less likely to engage in transactions with public officials, and the case for reforms that go beyond petty corruption is strengthened.

UNRELIABLE ELECTRICITY SUPPLY

The quality of electricity provision varies greatly among the MENA ES economies

Electricity is the third most frequently cited major obstacle in the MENA ES economies. This measure, based on the perceptions of managers and CEOs, can be compared to a number of experience-based measures of power supply

TABLE 2.5: Electricity provision in the MENA ES economies

	Number of electrical outages in a typical month	Average total time of power outages per month (hours)	Value lost due to electrical outages (% of sales)	Firms owning or sharing a generator (%)	Electricity from generator (%)
Djibouti	1.6	2.3	2.8	69.1	13.3
Egypt, Arab Rep.	16.3	28.8	5.6	5.9	1.0
Jordan	0.2	0.7	0.2	8.1	2.0
Lebanon	50.5	211.0	5.7	84.6	40.1
Morocco	0.6	1.0	0.2	11.2	2.3
Tunisia	0.3	4.1	0.2	4.3	1.8
West Bank and Gaza	8.7	66.5	6.4	21.4	6.3
Yemen, Rep.	38.8	158.4	16.1	80.5	38.5
MENA ES	14.6	59.1	4.7	35.6	13.2
Lower-middle-income	6.7	32.3	3.3	35.4	9.3
Upper-middle-income	2.1	7.6	1.1	25.8	3.4

Source: Enterprise Surveys.

quality in the survey. These include the number of power outages in a typical month, the total duration of power outages in a typical month, and the total losses due to power outages as a percentage of the firm's annual sales (table 2.5). On each of these indicators, the MENA ES economies perform worse than peer economies with available data. For example, for a typical firm in the MENA ES economies, losses due to power outages equal 5 percent of annual sales, while the corresponding figures for peer economies are 3.3 and 1.1 percent.

This picture is somewhat misleading, however, as the economies in the survey should really be split into two groups in relation to power supply. In Egypt,[21] Lebanon, the Republic of Yemen, and the West Bank and Gaza, the quality of power supply as measured by the three objective indicators is much worse than in Djibouti, Jordan, Morocco, and Tunisia. On all three power supply indicators, the first group of economies performs significantly worse than peer economies, while the second group performs better than peer economies within and outside the region.

The poor quality of power supply in the first group of economies can be attributed to a number of factors. These include the rapid expansion of demand for electricity, distorting energy subsidies that lead to inefficiently high use of electricity, inefficiencies resulting from state control of the power supply, and a lack of adequate investment in the power sector (see box 2.2). In the case of Egypt, however, there is evidence that the situation has improved since the time of the survey, with considerable investment in bolstering electricity supply.

The need for policy measures to improve the quality of power supply in some of the MENA ES economies is evident. In the meantime, use of generators has helped to reduce the impact of the failure in electricity provision. For example, while power cuts in Lebanon last on average 7 times as long as those in Egypt, firms in both economies lose an equivalent percentage of sales to these outages. This may be largely explained by the fact that 85 percent of firms in Lebanon own generators, which together provide 40 percent of the supply, while in Egypt, only 6 percent of firms own or share generators, which produce only 1 percent of the supply. In Djibouti, where reported disruptions due to outages are low but electricity is frequently cited as a major constraint, firms are also heavily reliant on generators: 7 in 10 firms own or share a generator, and firms using those generators draw over a fifth of their electricity from those sources.

Poor quality electricity provision is associated with lower labor productivity

The observed high losses due to power outages suggest that improvements in the quality of power supply could result in a substantial increase in firms' output and productivity. Indeed, it turns out that there is a significant and negative relationship between poorer supply of electricity and labor productivity (table A2.3).[22]

The relevance of electricity access as a constraint for firms' growth in the region should be read in the context of the overall institutional framework characterizing the local energy sector. Economies in the MENA ES have traditionally used energy subsidies as a safety net, in the context of ineffective systems of social welfare. This generated high associated costs and inefficiencies. By distorting prices, there has been a systematic lack of incentives for investment in critical infrastructure, while creating room for vested interests. The distorted prices have also led to inefficiently high usage of electricity.

As part of the reform program in recent years, various international institutions, including the IMF and the World Bank, have been vocal in calling for a comprehensive reform of subsidies, to open the way to a more efficient energy sector.

THE BUSINESS ENVIRONMENT EXPERIENCES OF LARGE AND SMALL FIRMS

As discussed at the beginning of the chapter, large firms in the MENA ES are generally more productive. Chapter 4 also shows that relative to SMEs, large firms are the major employers in the private sector but they are also comparatively static. It has been shown elsewhere that this dynamic may be due to the privileged positions enjoyed by large firms, both directly and indirectly. If this holds true, it may also be the case that SMEs experience poorer conditions in the business environment more broadly.

BOX 2.2: Political instability and electricity supply

While political and civil conflict can have a pervasive impact on economic activity and the private sector, one specific and tangible consequence can be the deterioration of electricity supply. The conflict in the Republic of Yemen has had stark effects on the electricity supply: entire cities have been without power for months at a time, exacerbated by bombing campaigns damaging existing electricity networks.[a] According to one estimate in 2012, 90 percent of firms reported that the conflict had resulted in power-related losses to their business, a figure that has certainly not improved in the middle of upheaval.[b]

Such conflict can have persistent and lasting effects. Lebanon's 1975–1990 civil war (as well as its later war with Israel) seriously damaged the economy's power infrastructure: even today Lebanese consumers often face outages lasting up to 12 hours.[c] As of December 2012, total electricity production in Lebanon stood at 1500 MW while the demand exceeded 2400 MW at peak times.[d] The state electricity company, Electricite du Liban (EDL), accounts for about 75 percent of power generation. The company is beset with inadequate capacity, inefficient production and distribution, subscriber delinquency, and corruption. Half of EDL's existing capacity was installed in the 1970s and 1980s, making it extremely inefficient and unreliable. According to a government study, EDL's cost of production was 22.7 cents per KWh, one of the highest in the world.[e] EDL is highly subsidized as well. At the end of 2014, the total accumulated deficit of EDL stood at 27 billion U.S. dollars or about 40 percent of the total Lebanese public debt and 55 percent of the economy's GNP. The annual payout by the state to cover EDL's losses stood at US$2.1 billion in 2014.[f] Recent influxes of refugees from the civil war in neighboring Syria threatens to put further stress on the limited capacity of the Lebanese electricity supply. One recent estimate put the cost of providing electricity to refugees at US$393 million in 2014.[g]

Further investment in electricity capacity may be required for several economies with politically uncertain environments. In Egypt, for example, demand has surged past capacity, due to a growing population and energy-intensive investments. Near the time of the survey, the World Bank estimated that demand was growing at 6 percent per annum, overwhelming capacity and resulting in recurring outages.[h] New investments in both traditional and alternative energy sources have been developed, with several sources due to come online in the next few years.[i] These include a gas-powered Helwan South Power Plant, which will produce 1950 MW.

Even with expanded capacity through further investment, chronic under-provision may present further challenges for securing a well-integrated electricity system. In the West Bank and Gaza, there have been recent efforts to develop and support local electricity production, which has been lacking: nearly 90 percent of the economy's electricity supply is imported. As of 2014, with support from both the World Bank and the EIB, the Palestinian Authority started the Electric Utility Management Project, to improve and streamline electricity distribution into four substations. While this promises improved capacity and lower costs, one challenge going forward will be the integration of non-payers into this network. Currently, nearly 60 percent of the cost of electricity provision is lost due to non-payment, up from 37 percent in 2013.[j]

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a Al-Harazi (2015).

b Stone and others (2012).

c http://www.businessweek.com/ap/financialnews/D9H029MG0.htm

d http://www.georgessassine.com/lebanon-electricity-regulation/

e http://www.al-monitor.com/pulse/originals/2015/01/lebanon-electricity-supply-debt-disaster.html#

f *Ibid.*

g World Bank (2013a).

h World Bank (2013b).

i *Ibid.*

j World Bank (2014c).

In fact, SMEs do report different experiences and perceptions in their day-to-day operations. SMEs are more likely to indicate that political instability is a major obstacle. They are also more likely to experience longer periods without power and less likely to use a generator to offset those disruptions. It is thus not surprising that SMEs also more frequently report unreliable electricity supply as a major obstacle in their daily work. Similar results hold for access to finance, which is explored more fully in chapter 3: SMEs are more likely to be credit-constrained and to report access to finance as a major obstacle. For the four most frequently cited top obstacles by MENA ES firms, only in the area of corruption are there no significant differences between SMEs and large firms (table A2.4).

POLICY CONCLUSIONS

A supportive business environment is a critical factor underpinning the ability of firms to survive, invest, create jobs, and innovate, which in turn raises productivity and competitiveness. Overall, the level of productivity of firms in the region is not too different from firms in economies with similar income levels—labor productivity is somewhat higher in the region, but TFP lags behind, possibly due to inefficiently high capital intensity, particularly in larger firms. Yet labor productivity is declining as revenues are also falling, notably in politically unstable economies.

Understanding the factors that may be impeding the growth of private firms, as well as addressing these constraints through policy reforms, remains a top priority for policy makers. The MENA ES data point to political instability as the most commonly cited impediment to private sector development, reflecting the impact of the Arab Uprisings and their aftermath, as well as unresolved social tensions and conflicts in the region.

In Egypt, Lebanon, Tunisia, the West Bank and Gaza, the Republic of Yemen, and, to some extent, Jordan, political instability seems to have negatively affected firms' sales, employment, and labor productivity growth. The impact of political instability goes beyond the obvious disruptive impact of political turmoil and armed conflict. It needs to be seen as creating a general environment of uncertainty with regard to economic policy and the regulatory environment that may reach across national boundaries.

This broad undercurrent is impossible to separate from various aspects of the business environment. Corruption stands out as a key concern of managers and CEOs. High perceived corruption is associated with lower sales and employment growth, as well as lower labor productivity. There is also evidence that it may deter interactions with public authorities, preventing firms from making full use of the opportunities available to them.

Firms' experiences with petty corruption affecting day-to-day operations do not seem to account for the severity of corruption perceptions, suggesting the influence of wider problems of corruption and state capture in the societies concerned. Hence, policies aimed at reducing corruption in the region must look beyond petty corruption and at the broader institutional environment that governs public-private interactions. Such a general perception of corruption as a constraint and an unwillingness to engage the state can have wide impacts. Indeed, it was the harassment and attempted bribe extraction from a street vendor, and his subsequent self-immolation, that led to the start of Tunisia's uprising.

Electricity is frequently cited as a major constraint—notably in Egypt, Lebanon, the West Bank and Gaza, and the Republic of Yemen. Each of these economies has been characterized by political instability as well as difficulties in the provision of electricity, accounting for a significant direct loss of sales and associated with lower sales and labor productivity growth at the firm level.

This relationship may be self-reinforcing: the inadequate provision of services such as electricity supply may feed broad discontent, just as political upheaval may allow infrastructure to deteriorate through lack of investment or to be destroyed by violent conflict. Reform agendas to improve energy-sector efficiency and investment, including through the streamlining or removal of distorting subsidies, should be seen through where they have begun and taken up again where they have stalled. As subsidies can lead to a sub-optimal use of resources, such reforms may also lead to increased TFP.

Another key business environment constraint in the region, not discussed in this chapter, is access to finance. This is the most frequently named top obstacle by firms in Jordan, and also features prominently in the results for two other economies. Indeed, access to finance might

appear as more of a concern, were it not for the influence of factors such as political instability that are likely to deter investment by firms, reducing their demand for capital, and encouraging a level of disconnectedness from the formal financial sector. These issues are discussed in the next chapter.

Finally, addressing constraints related to the business environment might also support competition and overall efficiency in the economy. As indicated above, large firms are more productive but inefficiently capital-intensive. At the same time, SMEs are disproportionately affected by inefficiencies in the business environment. Ameliorating these constraints, carefully assessing distorting incentives, removing privileges and more generally enhancing competition, can be effective policies toward a more inclusive growth.

Endnotes

1 Note that total factor productivity estimate is available only for manufacturing firms.

2 The comparison income group includes either 36 upper-middle-income or 38 lower-middle-income economies (according to the World Bank income classification, as of 2012) for which Enterprise Survey data are available, excluding MENA economies. Survey years for the comparators can run from 2009 to 2014.

3 The pattern shown in figure 2.1 remains when labor productivity and TFP are restricted to the same sub-sample of only manufacturing firms with TFP estimates available.

4 Schiffbauer and others (2015).

5 While this is the case, several caveats should be noted. First, the use of recall data is subject to potential bias, as is the fact that the ES necessarily can only gather information on surviving firms. Yet while the nature of such upheaval in these economies is not necessarily easily confined to this period, the two periods do offer useful indicators of firm performance.

6 Based on authors' calculations from IMF Government Finance Statistics; see also Mottaghi (2014).

7 Mottaghi (2014).

8 Sdralevich and others (2014).

9 Coats (2015).

10 Devarajan and others (2014).

11 Syverson (2011).

12 See Kinda and others (2015), Xu (2011), Ayyagari and others (2015).

13 Restuccia and Rogerson (2008).

14 The Corruption Perceptions Index scores the degree of public sector corruption in an economy based on a series of broad perception questions.

15 For each element of the business environment respondents are asked to assess its degree of difficulty on scale from 0 to 4, with 0 indicating no obstacle and 4 very severe obstacle. The graph provides the percentage of firms that chose major or very severe, 3 or 4, for each obstacle.

16 Calculations based on IMF Government Finance Statistics show changes of near 400 percent increases in debt (negative gross operating balance) of Tunisia and Egypt, in real terms. In Lebanon, public deficits grew by 30 percent. See also Mottaghi (2014).

17 Two indicators are derived to measure the degree of a firm's exposure to corruption. Bribery depth captures the percentage of these six transactions in which a gift or informal payment was requested. Bribery incidence is the percentage of firms experiencing at least one bribery request in any of the six transactions.

18 It should also be noted that the bribery depth and incidence indicators are based on questions that are only asked to firms that engage in at least one of the six transactions. Therefore, results across economies may not be fully comparable if there are systematic differences in the way firms engage in these transactions across economies.

19 Kraay and Murrell (2013).

20 A firm-level regression model including all the usual firm characteristics is used to assess the relationship between several measures of firm performance (sales growth, employment growth, and labor productivity levels) with the three measures of corruption (whether corruption is perceived as a severe obstacle, and the bribery depth and incidence indicators). As noted above, the bribery indicators are only available for firms that engage in at least one of the transactions. To make sure that the result on the perception indicator is not driven by the larger sample, an alternative specification was used by excluding firms for which the bribery indicators are not available. Results for the perception-based indicator still hold although at a lower significance level.

21 Egypt experienced a major deterioration in electricity supply reliability in 2012, the reference year for the survey. The situation has since improved.

22 But there is no significant relationship for manufacturing between total factor productivity and poor quality of power supply as defined in table A2.3.

APPENDIX A2

TABLE A2.1: Firm performance and firm size

	Services	Manufacturing		
	Labor productivity	Labor productivity		TFP
	(1)	(2)	(3)	(4)
Log of size	0.01	0.12**	-0.58***	0.18***
	(0.085)	(0.057)	(0.066)	(0.067)
Log of cost of capital			0.10***	
			(0.040)	
Log of cost of intermediate goods			0.50***	
			(0.053)	
Foreign ownership (Y/N)	0.11	-0.08	0.01	0.27
	(0.242)	(0.170)	(0.144)	(0.220)
Exports 10% or more of sales (Y/N)	0.22	-0.16	0.08	-0.01
	(0.168)	(0.166)	(0.105)	(0.247)
Firm is part of a larger firm (Y/N)	0.09	-0.19	-0.18	-0.14
	(0.221)	(0.255)	(0.258)	(0.316)
Constant	9.26***	8.97***	4.111***	1.67***
	(0.580)	(0.305)	(0.479)	(0.384)
Number of observations	2,201	2,218	2,218	2,218
R-squared	0.208	0.181	0.600	0.088

Source: Enterprise Surveys.
Note: Simple OLS using survey-weighted observations (using Stata's svy prefix). Linearized Taylor standard errors that account for survey stratification are indicated in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels respectively. Economy and locality fixed effects not shown. Columns 2, 3, and 4 are run over the sub-sample of manufacturing firms for which TFPR is available.

TABLE A2.2: Association of perceptions of the severity of corruption with performance measures

Dependent variable	Real annual sales growth (%) (1)	Annual employment growth (%) (2)	Log labor productivity (sales per worker, USD) (3)
Corruption as major/ severe obstacle (Y/N)	-3.18**	-2.25***	-0.14*
	(1.239)	(0.851)	(0.085)
Log of size	1.55***		-0.040
	(0.500)		(0.051)
Log of size, 3 FY ago		-4.00***	
		(0.534)	
Young firms (5 years or less) (Y/N)	3.21	5.29***	-0.03
	(2.621)	(1.838)	(0.119)
Firm is part of a larger firm (Y/N)	-3.31	2.19*	0.07
	(3.556)	(1.184)	(0.189)
Manager has university education (Y/N)	0.33	1.86	0.50***
	(1.802)	(1.210)	(0.105)
Manager experience in sector (years)	-0.18***	-0.11***	0.00
	(0.057)	(0.036)	(0.004)
Exports 10% or more of sales (Y/N)	0.67	1.46	0.09
	(1.397)	(1.061)	(0.113)
Foreign ownership (Y/N)	-0.78	2.36*	0.03
	(2.695)	(1.408)	(0.161)
Retail firms (Y/N)	-2.52	-2.34*	0.32**
	(1.719)	(1.229)	(0.124)
Other services firms (Y/N)	-2.20	-0.30	-0.004
	(2.018)	(0.978)	(0.113)
Constant	-8.60*	13.62***	9.33***
	(4.815)	(2.476)	(0.311)
Number of observations	4,019	4,848	4,908
R-squared	0.128	0.191	0.216

Source: Enterprise Surveys.
Note: Simple OLS using survey-weighted observations (using Stata's svy prefix command). Linearized Taylor standard errors that account for survey stratification are indicated in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. All regressions include economy fixed effects.

TABLE A2.3: Deficiencies in the provision of electricity and labor productivity

	Log labor productivity (sales per worker, USD)	
	(1)	(2)
Number of electrical outages in a typical month	-0.01*	
	(0.003)	
Duration of electrical outages (hours)		-0.02**
		(0.009)
Log of size	-0.04	-0.03
	(0.050)	(0.051)
Young firms (5 years or less) (Y/N)	-0.03	-0.05
	(0.116)	(0.116)
Firm is part of a larger firm (Y/N)	0.09	0.07
	(0.164)	(0.188)
Manager has university education (Y/N)	0.49***	0.49***
	(0.100)	(0.104)
Manager experience in sector (years)	0.004	0.003
	(0.004)	(0.004)
Exports 10% or more of sales (Y/N)	0.14	0.10
	(0.109)	(0.114)
Foreign ownership (Y/N)	0.02	0.02
	(0.161)	(0.163)
Retail firms (Y/N)	0.28**	0.29**
	(0.120)	(0.119)
Other services firms (Y/N)	-0.01	-0.03
	(0.111)	(0.111)
Constant	9.36***	9.29***
	(0.258)	(0.306)
Number of observations	4,912	4,890
R-squared	0.220	0.212

Source: Enterprise Surveys.
Note: Simple OLS using survey-weighted observations (using Stata's svy prefix command). Linearized Taylor standard errors that account for survey stratification are indicated in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. All regressions include economy fixed effects.

TABLE A2.4: The experiences of SMEs and large firms with the business environment

	Electricity				Corruption		Access to finance		Political instability
	OLS	Probit	OLS	Probit	OLS	Probit	Probit	Probit	Probit
	(1)[a]	(2)[a]	(3)[a]	(4)	(5)	(6)	(7)[a]	(8)[a]	(9)
	Typical power outage (hrs)	Uses power generator (Y/N)	Proportion of electricity from generator (%)	Electricity major obstacle (Y/N)	Bribery depth	Bribery incidence	Credit-constrained - (Y/N)	Finance major obstacle (Y/N)	Political instability major obstacle (Y/N)
SME (Y/N) (<100 employees)	0.42**	-0.73***	-3.61**	0.26*	0.27	0.01	0.65***	0.30**	0.26**
	(0.192)	(0.139)	(1.590)	(0.155)	(3.766)	(0.155)	(0.165)	(0.125)	(0.111)
Foreign ownership (Y/N)	-0.16	0.24	2.58	0.01	1.47	0.13	-0.07	-0.26*	0.05
	(0.219)	(0.163)	(2.458)	(0.177)	(3.876)	(0.221)	(0.168)	(0.150)	(0.127)
Exports 10% or more of sales (Y/N)	-0.56**	0.38***	3.29**	-0.04	4.96	0.19	-0.12	0.12	0.26**
	(0.285)	(0.118)	(1.503)	(0.165)	(4.801)	(0.184)	(0.137)	(0.135)	(0.108)
Firm is part of a larger firm (Y/N)	0.11	0.16	0.68	0.28***	1.43	0.04	0.13	-0.14	-0.14
	(0.311)	(0.142)	(2.354)	(0.103)	(4.823)	(0.171)	(0.105)	(0.146)	(0.170)
Constant	1.26***	-1.10***	9.67***	-0.31*	13.80**	-1.01***	-0.95***	-0.58***	0.70***
	(0.342)	(0.194)	(2.059)	(0.185)	(5.723)	(0.237)	(0.202)	(0.175)	(0.166)
Number of observations	5,690	5,903	5,765	5,894	4,258	4,258	5,565	5,865	5,850
R-squared	0.215		0.470		0.272				

Source: Enterprise Surveys.
Note: Using Stata's svy prefix command. Linearized Taylor standard errors that account for survey stratification are indicated in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. All regressions include economy, sector, and location fixed effects. Bribery depth is the number of transactions that were subject to a bribe request. Bribery incidence is a dummy variable if a firm was subjected to such a request in any transaction.
a. Indicates that the log of size is also statistically significant with an opposite sign from SME dummy variable.

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