

IMF Working Paper

Constraints on Growth in the MENA Region

Rina Bhattacharya and Hirut Wolde

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Middle East and Central Asia Department

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Prepared by Rina Bhattacharya and Hirut Wolde¹

Authorized for distribution by Joël Toujas-Bernaté

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Abstract

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In this paper we contribute to the empirical literature on growth in the MENA region by attempting to quantify the impact of the various constraints faced by local businesses highlighted by the World Bank's Business Enterprise surveys. To the best of our knowledge this dataset has not been used in any empirical analysis looking at the main constraints on growth in the MENA region. Our empirical results suggest that the key direct constraints to growth in the MENA region are difficulties in access to finance, labor skill mismatches and shortages, and electricity constraints.

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Author's E-Mail Address: rbhattacharya@imf.org; hwolde@imf.org

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I. INTRODUCTION

1. The growth performance of the Middle East and North Africa (MENA) region over the past two decades or so has been rather disappointing. The region as a whole experienced the weakest real per capita growth performance among all regions in the world, with the possible exception of sub-Saharan Africa, despite the region's immense endowment of natural resources. Another important characteristic of most of the economies of the MENA region has been their high volatility, due only in part to their heavy dependence on oil and other commodities whose prices fluctuate widely in world markets.
2. While the MENA region has been the subject of a large literature on oil, governance, international political relations, economic history and other topics of interest, comprehensive studies of economic growth in the MENA region are few and tend to focus on individual countries rather than on the region as a whole. Existing regional studies also tend to focus on a relatively small number of standard explanatory variables, such as broad measures of institutional quality, corruption, and macroeconomic/external instability.
3. In this paper, we contribute to the empirical literature on growth in the MENA region by attempting to quantify the impact of the various constraints faced by local businesses highlighted by the World Bank's Business Enterprise surveys. To the best of our knowledge, this dataset has not been used in any empirical analysis looking at the main constraints on growth in the MENA region. These surveys question business managers in over 100 countries on the main obstacles they face regarding the current operations of their enterprises. The key obstacles to business performance and growth covered by the survey include labor skills and regulations, access to finance, infrastructure, tax rates and administration, business and customs regulations and licensing procedures, and corruption.
4. A couple of important caveats need to be borne in mind when it comes to exploiting this rich survey dataset. The first is common to all surveys, and is that it is difficult to judge how representative the survey results are of the population as a whole. Moreover, this survey dataset is about perceptions, and these may differ in important respects from reality in some cases. The second caveat has to do with the international dimension of the survey dataset: the openness of respondents to answering the questions may vary considerably from country to country. For example, apart from cultural differences, business managers operating in autocratic or closed regimes may be more reluctant to express openly the problems they face in running their businesses compared with business managers operating in more democratic regimes. Nevertheless, it is still a useful exercise to exploit this database and examine the implications of the key constraints on growth as seen from the perspectives of local business managers.
5. The rest of the paper is organized as follows. Section II reviews the growth record of the MENA region and discusses the key factors that have been put forward in the literature to explain the region's relatively poor growth performance. Section III presents the broad findings on the various constraints to business performance and growth highlighted by the Business Enterprise surveys. Section IV presents the empirical results of cross-country growth regressions, focusing on the impact on growth of the survey constraints, both for the

region as a whole and for individual countries within the region. Section V discusses the conclusions and policy implications of our results.

II. GROWTH IN THE MENA REGION: EVIDENCE AND EMPIRICAL LITERATURE

6. Over the past two decades or so, economic growth in countries in the MENA region has generally lagged behind those of the major emerging market economies in Asia, Latin America and Central and Eastern Europe (Nabli and Véگانзонès-Varoudakis (2004)). Figures 1 and 2 show that real per capita GDP growth rates have picked up in the MENA region over the past decade. However, in the period since 1998, emerging market economies in Asia and in Central and Eastern Europe have continued to perform significantly better, while sub-Saharan Africa has achieved an even more impressive acceleration in real per capita GDP growth.

Figure 1. GDP Per Capita (In Percent)

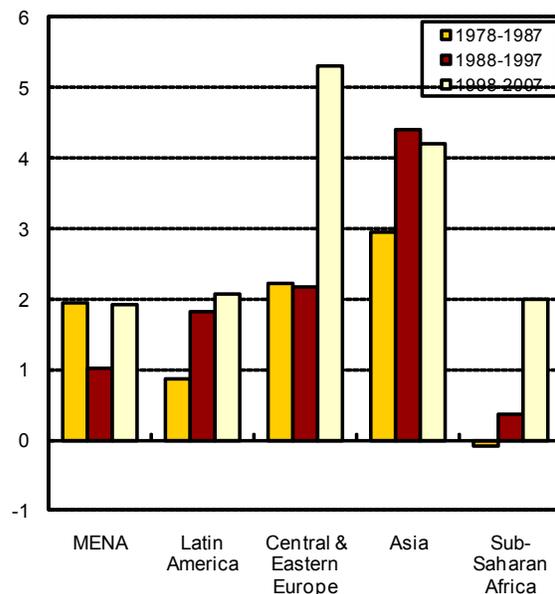
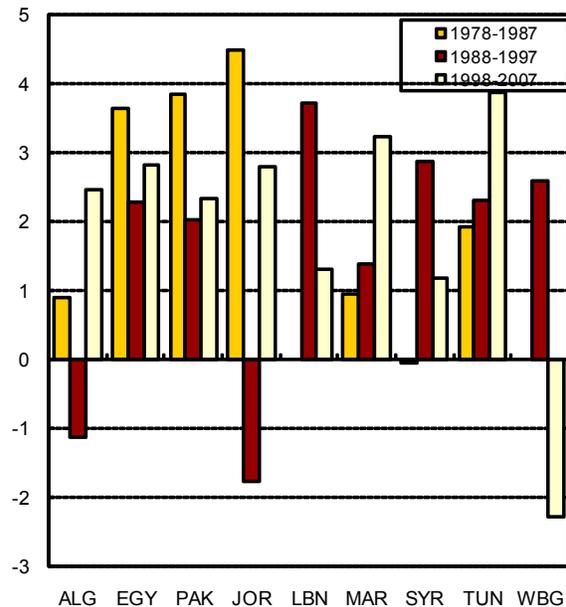


Figure 2. GDP Per Capita Growth Rate (In Percent)



ALG = Algeria; EGY= Egypt; PAK= Pakistan; JOR= Jordan; LBN= Lebanon; MAR= Morocco; SYR= Syria; TUN= Tunisia; WBG= West Bank and Gaza.

Source: World Development Indicators database.

7. A number of studies have analyzed the growth pattern of the MENA region in an international context. A recent study by Makdisi, Fattah and Limam (2007) concludes that the overall growth performance of the MENA region over the period 1960-2000 has been both mixed and characterized by a higher degree of volatility relative to other regions of the world. In comparing the growth pattern of the MENA region using cross-country regression analysis, they find that capital is less efficient, trade openness less beneficial to growth, and the impact of adverse external shocks more pronounced relative to other regions of the world. Their empirical results also show the predominance of capital contribution over that of labor and total factor productivity (TFP) growth in explaining growth performance in the MENA

region during the period 1960-97. Indeed, in comparison with other regions of the world, TFP growth was the least important source of growth in the MENA region.² These empirical findings echo those reported in Pamuk (2006).

8. An important constraint to growth that has been highlighted in the literature is the lack of adequate infrastructure, an important exception being the Gulf countries. As Nabli (2007) notes, according to the World Bank's Investment Climate Assessments, almost half of private businesses in the region complain that infrastructure is a moderate to major obstacle to conducting business. Telecommunications and transport, two backbone services, are significantly underdeveloped. Page and Van Gelder (2001) argue that the problem here is both with an institutional framework that does not align prices with costs, and with lack of an enabling environment that would permit and entice provision by the private sector.

9. A number of empirical studies have argued that labor skill shortages are another key constraint on growth in the MENA region. Page and Gelder (2001) and Karshenas (2001) for example argue that a prominent feature of the MENA economies, inherited from the past experience of development, is the low stock of labor skills and human capital compared to other countries with similar levels of per capita income. While countries in both the Mashreq and Maghreb use low labor costs as a selling point to potential investors, many businessmen find this low cost illusory due to a shortage of workers with the appropriate skills.

10. A recent reexamination of the relationship of the labor market and economic growth in the MENA region by Pissarides and Végazonès-Varoudakis (2007) also highlights the problem of labor skill mismatches and shortages. They discuss the important role that labor markets play in economic development through their impact on the acquisition and deployment of skills, and argue that countries in the MENA region continue to fail to deploy human capital efficiently despite high levels of education. This is largely due to the presence of large public sectors which distort incentives, and because of excessive regulations governing the private sector. The authors argue that education systems in the MENA region are geared to the needs of the public sector, with the result that acquired skills do not match those required in growth-enhancing activities in the private sector. Excessive regulation of the private sector further removes the incentives for employers to recruit and train good workers. The authors argue that labor market regulations in the MENA region have historically been stringent and are still too tight compared with most developing countries, although not as high as those prevailing in the formerly planned economies or in Latin America.

11. Ersel and Kandil (2007) consider the interaction of financial development and economic growth in the MENA region. They identify two important channels: the direct channel that operates through mobilizing and allocating financial resources, and the indirect channel that acts through creating an appropriate environment for monetary policy to be effective. The authors analyze the performance of the MENA countries in mobilizing and

² For the eleven MENA countries included in their empirical study only the diversified economies of Egypt, Morocco, Tunisia, and Turkey had positive TFP growth over the period 1960-97. The other seven countries included in the empirical study were Algeria, Iran, Iraq, Jordan, Kuwait, Libya, and Sudan.

allocating financial resources using aggregative indicators. Their findings indicate that countries in the MENA region were quite successful in mobilizing financial resources, but relatively less efficient in allocating them. With public banks dominating the banking system in many countries, and favoring state enterprises, larger industrial firms, and offshore enterprises, small- and medium-sized firms in the MENA region have a hard time getting the startup and operating capital they need.

12. Finally, a number of studies have emphasized the role of governance and institutional factors in explaining MENA's relatively poor growth performance. Page and Van Gelder (2001) provide empirical evidence that institutional capability—measured by international indices of the state's ability to perform critical institutional functions—is strongly correlated with economic growth and its sources (investment and total factor productivity). Moreover, institutional capability affects the capacity of governments in the MENA region to implement policy change. Several researchers such as El-Badawi (1999) and Nabli (2007) have argued that the low efficiency of capital in the MENA region can be attributed to the fact that most countries in the region provide an unfriendly business environment and inadequate institutional support for investment and private sector development. Makdisi, Fattah and Limam (2007) have also highlighted the importance of the quality of institutions (as well as of the stock of human capital) in explaining the low productivity performance of MENA countries in comparison with the high-performing East Asian countries, and with the rest of the world in general.

13. In a recent study, Loko and Diouf (2009) look at the main determinants of TFP growth using principal component analysis and a dynamic panel data model for 62 countries over the period 1970-2005. The authors then use the results to discuss key areas where accelerated reforms in the Maghreb countries (Algeria, Morocco, and Tunisia) could boost TFP growth. Their empirical findings confirm the importance of reforms aimed at strengthening human capital, increasing the volume of trade, and improving the business environment for increasing productivity growth. Equally important in the Maghreb region are reforms targeted at attracting foreign direct investment and rationalizing the size of the public sector, shifting resources from low-productivity sectors to higher ones, and encouraging women to enter the work force.

14. In another recent study, Kutan, Douglas, and Judge (2009) look at the impact of corruption and political stability on the level of economic development—that is, the level of per capita real GDP—as opposed to economic growth. The study covers the ten-year period from 1993 to 2003 and includes a sample of countries in MENA and Latin America. The working hypothesis is that corruption may hurt or improve economic development, depending on the relative magnitudes of its effects as an institutional factor that leads to an inefficient allocation of resources and creates distortions in the economy, or as a tool that oils the wheels of economic activity by alleviating the negative effects of red tape and overly restrictive government regulations on private sector activity. Their empirical results suggest that corruption is positively related to the level of per capita income in the MENA countries they consider. Sayan (2009) argues that this finding of a positive relationship between corruption and per capita income levels is less puzzling once it is remembered that most of

the countries in their sample are oil-producing economies where oil-related activities typically controlled by the government constitute a large fraction of the economy.³

15. In sum, part of the explanation for MENA's relatively poor growth performance has to do with the slow pace of factor accumulation over the last two decades or so, as reflected in labor skill shortages, inadequate infrastructure (with the important exception of most of the Gulf countries), and difficulties in accessing capital (particularly for small- and medium-sized enterprises). But another important explanation emphasized in the literature relates to institutional weaknesses that negatively affect the productivity of labor and capital, and limit TFP growth.

III. THE WORLD BANK BUSINESS ENTERPRISE SURVEYS

16. The World Bank's Business Enterprise Survey database is a rich and comprehensive source of data covering 100,000 businesses in over 100 countries on the various constraints to business performance and growth over the period 2002–08.⁴ The key obstacles to business performance and growth covered by the survey include labor skills and regulations, access to finance, infrastructure, tax rates and administration, business and customs regulations and licensing procedures, and corruption. Figures 3 to 8 in Annex 1 present the data from these surveys. These figures compare the MENA average with the averages for the world and for the OECD, and present the survey results for the three MENA countries reporting the highest and lowest constraints in the region.

17. A superficial look at the survey data suggests that corruption, tax rates, and electricity shortages and costs are the key obstacles to the operation and growth of businesses in the MENA region. Around 54 percent of respondents in the MENA region report that they expect to have to make informal payments to public officials to get things done, compared to an average of 35 percent for all countries and 13 percent for the OECD. Around 40–50 percent of respondents also identify tax rates and electricity shortages and costs as major or severe constraints faced by their enterprises. However, to investigate and quantify the impact on the various constraints on growth, a more rigorous cross-country analysis is needed. An attempt at this is made in the following section.

³ The empirical analysis in the study consists of cross-country growth regressions including and excluding Israel and a sample of countries which includes Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Malta, Morocco, Oman, Saudi Arabia, Syria, Tunisia, the United Arab Emirates, and Yemen.

⁴ These surveys are separate from the World Bank's 'Doing Business' Indicators, with a broader coverage of factors affecting businesses operating in the country covered by the survey, and can be accessed through the website <https://www.enterprisesurveys.org>

IV. CROSS-COUNTRY GROWTH REGRESSION RESULTS

18. Our empirical analysis starts by estimating a standard augmented growth model without the survey constraints as a baseline for comparison with a more sophisticated model including the survey constraints. As in Hesse (2008), given that the empirical growth literature has often been criticized for its kitchen-sink approach of throwing in all kinds of possible explanatory factors, the explanatory variables in our regression analysis focus on the predictions of the augmented Solow growth model. In particular, since our emphasis is on structural determinants of long-term growth, we exclude from our model cyclical macroeconomic variables such as inflation, terms-of-trade changes or government fiscal balances as a share of GDP. A regional dummy variable for the MENA region is included to see whether there is evidence that the region has been growing at a slower rate than might have been expected given its structural characteristics.

Growth model and data

More formally, our baseline growth model is given by

$$\text{GROWTH}_{it} = \alpha_0 + \alpha_1 \text{LPCY1995}_i + \alpha_2 \text{POPDIFF}_{it} + \alpha_3 \text{SCHOOL}_{it} + \alpha_4 \text{GFCF}_{it} + \alpha_5 \text{OPENNESS}_{it} + \alpha_6 \text{MENA} + e_{ij} \quad (1)$$

Box 1 provides a summary explanation of the variables that were used to estimate the growth regressions presented in this paper. The subscript (*it*) for the main explanatory variables refers to country and time period, respectively, and e_{ij} is the usual error term.

Box 1. Growth Model: Explanation of variables

GROWTH	Growth rate of GDP per capita, at constant 2000 US\$
LPCY1995	Log of GDP per capita, 1995, at constant 2000 US\$
POPDIFF	Growth rate of working age population - growth rate of total population
SCHOOL	Secondary school gross enrollment rate
OPENNESS	Nonoil Exports + Imports as a share of GDP
GFCF	Gross fixed capital formation (% of GDP)
MENA	Dummy variable taking the value of one if the country is the Middle East or North Africa, zero otherwise
FINACCESS	Percent of Firms Identifying Access to Finance as a Major Constraint
LABSKILL	Percent of Firms Identifying Labor Skill Level as a Major Constraint
ELEC	Percent of Firms Identifying Electricity as a Major Constraint

19. The log of real GDP per capita in 1995 is included as an explanatory variable, as in the standard augmented Barro model, to test for convergence across countries over time towards a common level of real per capita income. The population growth variable and gross investment are proxies for the rates of growth of factor inputs (labor and capital) in the production process, and the secondary school enrollment rate is added as a proxy for the quality of human capital. The openness indicator takes account of the substantial academic

literature, following from Sachs and Warner (1995), arguing that economies that are more open to trade enjoy higher long-term rates of growth of per capita real income.

20. Our dataset consists of 98 countries for which survey results and the macroeconomic data are both available, including 11 countries in the MENA region. The MENA countries in our sample include Algeria, Egypt, Jordan, Lebanon, Mauritania, Morocco, Oman, Pakistan, Syria, Turkey, and the West Bank and Gaza.⁵ The World Bank has conducted more than one Business Enterprise survey for many countries in our sample over the period 2002–08; as a result, there are multiple observations for many of these countries. To smooth out cyclical variations, we calculate five-year averages of all the macroeconomic variables (except for initial real per capita income in 1995) that cover the survey year and the preceding four years. The data source for the macroeconomic variables used in the growth regressions is the World Bank’s World Development Indicators database.

Regression results

21. Table 1 presents the empirical results from estimating the baseline growth model formalized in equation (1). Instrumental variables are used to take account of the likely endogeneity of investment; to allow for this, the lagged values of gross fixed capital formation and credit to the private sector (both as percentages of GDP) over the preceding five-year period are used as instruments. The coefficient on investment is highly statistically insignificant, possibly due to the poor quality of available data on this variable. All of the other coefficients have the ‘right’ sign and conform to what would be expected from economic theory. There is strong evidence of conditional convergence, and both the population variable and the secondary school enrollment rate have statistically significant positive effects on growth. Our openness variable also has a small, but statistically significant, positive impact on growth.

22. From our perspective, the most striking result from the baseline model is that the coefficient on the MENA dummy is negative and statistically significant at the 5 percent significance level. This provides empirical support for the hypothesis that growth in the MENA region has been significantly lower than what would be expected on the basis of the long-term structural characteristics of the countries in the region.

⁵ The choice of MENA countries was based on availability of data. For example, Tunisia was not included among the list of MENA countries because no World Bank Business Enterprise Survey was carried out in Tunisia over the period 2002–08.

Table 1. Growth Regression Results Without Survey Variables

Variable	Instrumental Coeff.	Variable t-stat.	Estimation P-value
Constant	8.182 **	2.613	0.010
LPCY1995	-0.999 *	-2.092	0.038
POPDIFF	1.489 *	2.087	0.039
School	0.043 *	2.388	0.018
GFCF	-0.070	-0.854	0.395
Openness	0.017 **	2.646	0.009
MENA	-1.808 *	-2.478	0.015
Number of countries	94		
Number of observations	139		
R-squared	0.198		
Adjusted R-squared	0.162		
S.E. of regression	2.537		
F- statistic	6.836		
Prob.(F-statistic)	0.000		

Reported t-statistics are corrected for cross-section heteroscedasticity.

* Denotes significance at the 5 percent level.

** Denotes significance at the 1 percent level.

23. The results presented in Table 2 show that adding several constraints from the Business Enterprise surveys helps to explain the underperformance of the MENA region in the area of economic growth. Specifically, the MENA regional dummy loses its statistical significance at the 10 percent level when the survey constraints are added to the model and a general-to-specific approach is used in narrowing down the key constraints to growth. The coefficient on the investment variable also continues to be statistically insignificant at the standard significance levels. Our empirical results from the streamlined model suggest that, among all the constraints identified in the surveys, three of them have a significant negative impact on growth in the MENA region. These are access to finance, labor skill shortages, and electricity.

Table 2. Growth Regression Results with Survey Variables

Variable	Instrumental variables			OLS		
	Coeff.	t-stat.	P-value	Coeff.	t-stat.	P-value
Constant	11.295 ***	3.713	0.000	9.782 ***	3.883	0.000
LPCY1995	-1.008 **	-2.396	0.018	-0.807 **	-2.159	0.033
POPDIFF	0.956 *	1.795	0.075	0.869 *	1.840	0.068
School	0.025	1.584	0.116	0.019	1.283	0.202
GFCF	-0.012	-0.161	0.873			
Openness	0.010	1.564	0.120	0.010 *	1.785	0.077
MENA	0.750	0.635	0.526			
FINACCESS	-0.052 ***	-3.832	0.000	-0.051 ***	-3.960	0.000
LABSKILL	-0.039 **	-2.228	0.028	-0.036 **	-2.153	0.033
MENA*ELEC	-0.051	-1.391	0.167	-0.033 *	-1.672	0.097
Number of countries	94			98		
Number of observations	139			145		
R-squared	0.339			0.332		
Adjusted R-squared	0.293			0.297		
S.E. of regression	2.330			2.283		
F- statistic	7.477			9.707		
Prob.(F-statistic)	0.000			0.000		

Reported t-statistics are corrected for cross-section heteroscedasticity.

* Denotes significance at the 10 percent level.

** Denotes significance at the 5 percent level.

*** Denotes significance at the 1 percent level.

24. Our empirical results suggest that the key constraint to growth in the MENA region is the shortage of labor skills, consistent with the academic literature discussed earlier. The coefficient on this variable is negative and significant at the 5 percent significance level. The coefficients from our estimated model suggest that reducing this constraint from the average for the MENA region to the world average could add more than 0.4 percent to the real per capita GDP growth annually, *ceteris paribus*.

25. The access to finance constraint also has a coefficient that is negative and statistically significant at the 1 percent significance level. Applying these results suggest that reducing this constraint from the average for the MENA region to the world average could have an appreciable impact on real per capita income growth, adding about 0.1 percent to the growth rate annually, *ceteris paribus*.

26. In the MENA region, the electricity constraint also has a statistically significant negative impact on growth at the 10 percent significance level, but only when included interactively with the MENA regional dummy. There is a large dispersion across regions in the percentage of respondents identifying electricity as a major or severe constraint to the operation of their enterprises, from 6 percent in OECD countries and 16 percent in Eastern Europe and Central Asia to over 50 percent in sub-Saharan Africa. The significance of this interactive variable most probably reflects a highly non-linear relationship between the electricity constraint and growth—most likely there is a threshold above which the constraint becomes binding. Our estimates suggest that reducing this constraint to the average for all countries could raise real per capita GDP growth in the MENA region by around 0.2 percent per annum.

27. As mentioned earlier, there are significant differences across countries in the MENA region. Thus, some countries in the MENA region could benefit even further from the relaxation of these constraints. For example, reducing the access to finance constraint to the world average could raise real per capita growth in Algeria by as much as 1.0 percent per annum, and in Mauritania and Lebanon by around 0.6-0.7 percent (Table 3). Relaxing the labor skill shortage constraint is likely to benefit Lebanon, Algeria, and Syria the most among our sample of MENA countries, adding around 0.5-0.6 percentage points to their real per capita growth rates (Table 4). The electricity constraint appears to be particularly binding in Algeria, Lebanon, Syria, and the West Bank and Gaza. Our estimates suggest that reducing this constraint to the average for all countries could increase real per capita GDP growth by around 0.9–1.0 percent per annum in the West Bank and Gaza and in Lebanon, by 0.8 percent per annum in Algeria, and by almost 0.5 percent per annum in Syria (Table 5).

28. Our empirical findings are consistent with those of other cross-country studies using different measures of human and physical capital. For example, Nabli and Véگانзонès-Varoudakis (2004, 2007) in their empirical analysis find that both human capital (as measured by the number of years of primary schooling of the population, and the infant mortality rate) and physical infrastructure (as measured by the density of the road network and the number of telephone lines per 1000 people) have a strong positive impact on economic growth in cross-country regressions.

29. It is interesting to note that the corruption, regulations, and transport constraints are statistically insignificant in explaining growth performance. With regard to corruption and regulatory burdens, one explanation could be that economies develop informal mechanisms over time to deal with these constraints so that they become less binding over the long run. And on transport, an accompanying IMF working paper by the same authors looks at the key constraints to trade in the MENA region and finds that transport constraints are significant in limiting trade volumes in the MENA region (see Bhattacharya and Wolde (2009)). Furthermore, there is considerable evidence in the academic literature that greater openness to trade has a positive impact on economic growth, and our empirical results from the augmented growth model show that openness has a statistically significant positive impact on growth. Thus, we can conclude that, indirectly, transport constraints in the MENA region have an important negative impact on real per capita GDP growth through the trade channel.

Table 3. Impact of Access to Finance Constraint on Real Per Capita GDP Growth
(In percent)

	Algeria 2007	Mauritania 2006	Lebanon 2006	Pakistan 2002	West Bank and Gaza 2006
Percent of firms identifying access to finance as a major constraint:	50.1	43.6	42.4	37.6	36.7
Estimated impact on growth rate if the access to finance constraint were reduced to:					
Average for MENA (32.9)	0.88	0.55	0.49	0.24	0.20
Average for all countries (30.7)	1.00	0.66	0.60	0.35	0.31
Average for OECD (13.0)	1.90	1.57	1.51	1.26	1.22

Source: IMF staff estimates.

Table 4. Impact of Labor Skill Shortage on Real Per Capita GDP Growth
(in percent)

	Lebanon 2006	Algeria 2007	Syria 2003
Percent of firms identifying labor skill shortage as a major constraint:	38.0	36.8	36.3
Estimated impact on growth rate if the labor skill shortage constraint were reduced to:			
Average for MENA (33.1)	0.18	0.13	0.11
Average for all countries (21.4)	0.59	0.55	0.53
Average for OECD (10.7)	0.98	0.93	0.91

Source: IMF staff estimates

Table 5. Impact of Electricity Constraint on Real Per Capita GDP Growth
(in percent)

	West Bank and Gaza 2006	Lebanon 2006	Algeria 2007	Syria 2003
Percent of firms identifying electricity as a major constraint:	63.6	61.4	57.5	48.1
Estimated impact on growth rate if the electricity constraint were reduced to:				
Average for MENA (40.1)	0.78	0.71	0.58	0.27
Average for all countries (34.1)	0.99	0.91	0.78	0.47
Average for OECD (6.1)	1.92	1.85	1.72	1.40

Source: IMF staff estimates

V. CONCLUSIONS AND POLICY IMPLICATIONS

30. The empirical results presented in this paper support the widely held hypothesis that growth in the MENA region has been significantly lower than would be expected on the basis of the long-term structural characteristics of the countries in the region. Notably in the model without the survey constraints, the coefficient on the MENA regional dummy variable is negative and statistically significant at the 5 percent level. Adding the survey constraints makes the regional dummy variable statistically insignificant, while three survey variables are found to have an important negative impact on growth in the MENA region: difficulties in access to finance, labor skill mismatches and shortages, and electricity constraints.

31. Among the constraints highlighted by the World Bank's Business Enterprise surveys, labor skills appear to have the largest negative impact on growth in the MENA region. Our empirical results suggest that reducing the labor skill shortage constraint from the average of the MENA region to the world average could increase real per capita GDP growth by over 0.4 percent per annum. Our regression results also suggest that reducing the access to finance constraint from the average of the MENA region to the world average could increase real per capita GDP growth by over 0.1 percent per annum in the region. Finally, the electricity constraint also appears to have an appreciable negative impact on growth in the MENA region, but only when included interactively with the MENA regional dummy. According to our estimates, reducing the electricity constraint from the average of the MENA region to the world average could increase real per capita GDP growth by around 0.2 percent per annum in the region.

32. Reducing the labor skill shortage would require major changes in national strategies on education to cater more to the needs of the private sector, perhaps with greater private sector participation in both the provision and financing of education. Many countries may also find it useful to pursue more active labor market policies to raise skills and improve job matching through, for example, labor market training, youth employment measures, temporary subsidies for private sector employment for targeted segments of the labor force, and vocational retraining programs.

33. Short-term measures to improve access to finance could include establishing, or increasing the resources of, specialized agencies or funds geared towards providing finance and credit guarantees to small- and medium-sized enterprises (SMEs). Longer-term measures to increase access to finance could include establishing public credit information registries, or preferably pro-active government promotion of private credit registries or bureaus (Miller (2003)). In many countries establishing a complete and reliable land cadastre and a mechanism to ensure clear titles to land and property, expanding the pool of assets to be used as collateral, and strengthening lender's property rights and enforcement could also help to significantly reduce the access to finance constraint over the long-term.

34. Relaxing the electricity constraint would require not only more public investment in the electricity network, but also greater private sector participation in the generation, transmission and distribution of electricity, perhaps through greater use of public-private partnerships, and especially in countries facing fiscal pressures.

35. There is considerable empirical evidence that greater openness to trade has a positive impact on economic growth, and openness is statistically significant in our augmented growth model. In a recent study, Bhattacharya and Wolde (2009) look at the key constraints to trade in the MENA region, making use of the World Bank Business Enterprise Survey database. The study finds that transport constraints and inefficiencies in customs clearance are the key factors limiting trade volumes in the MENA region, and thereby indirectly constraining the region's growth potential. Improving the efficiency of customs clearance procedures is something that national governments can probably tackle over the short- to medium-term, for example, by streamlining the number of documents required for clearance of exports and imports through customs. Resolving the transport constraint is a more long-term problem and will probably require the active participation of the private sector, both in the financing and in the provision of transport services.

36. As mentioned in the introduction, our empirical results using the survey data should be interpreted with caution. Apart from the usual caveats with survey data, an additional complication in using cross-country survey data is that the openness of survey respondents may vary considerably from country to country, depending on culture and the nature of the political regime in which they operate. Nevertheless, our results strongly suggest that tackling the constraints on access to finance and on labor skill and electricity shortages could have an appreciable impact on real per capita GDP growth rates in the MENA region.

Figure 3. Labor Constraints

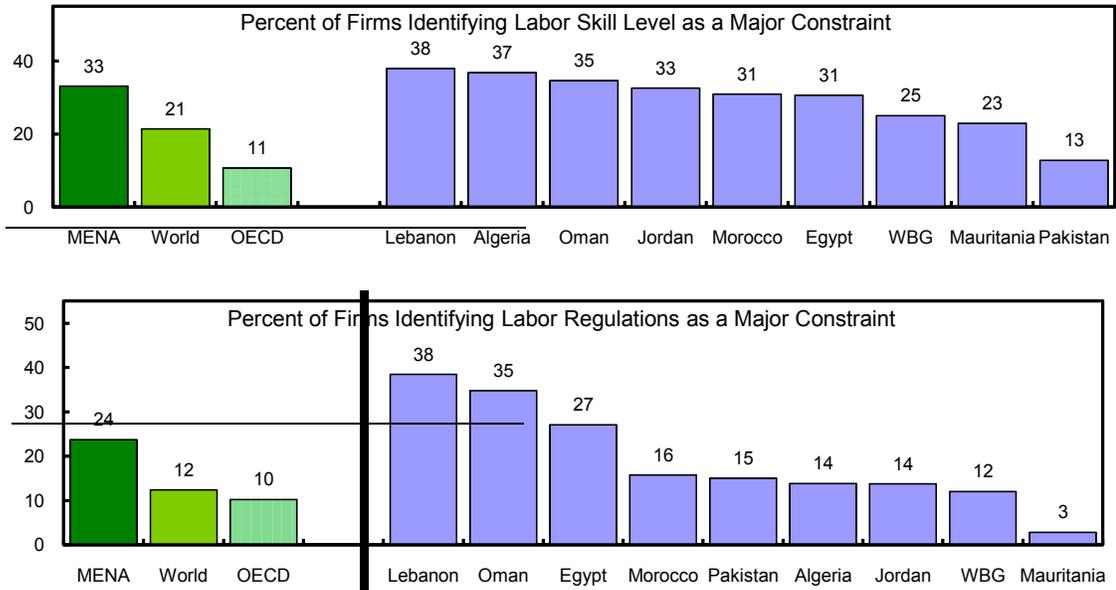
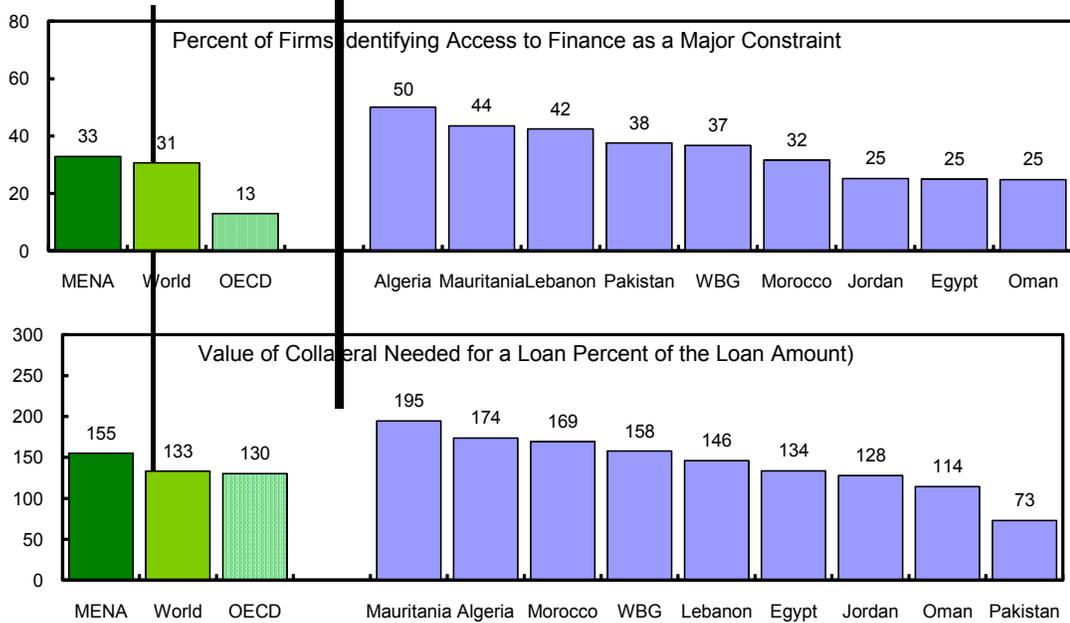


Figure 4. Finance Constraints



Source: World Bank Business Enterprise Survey Database.

Figure 5. Infrastructure Constraints

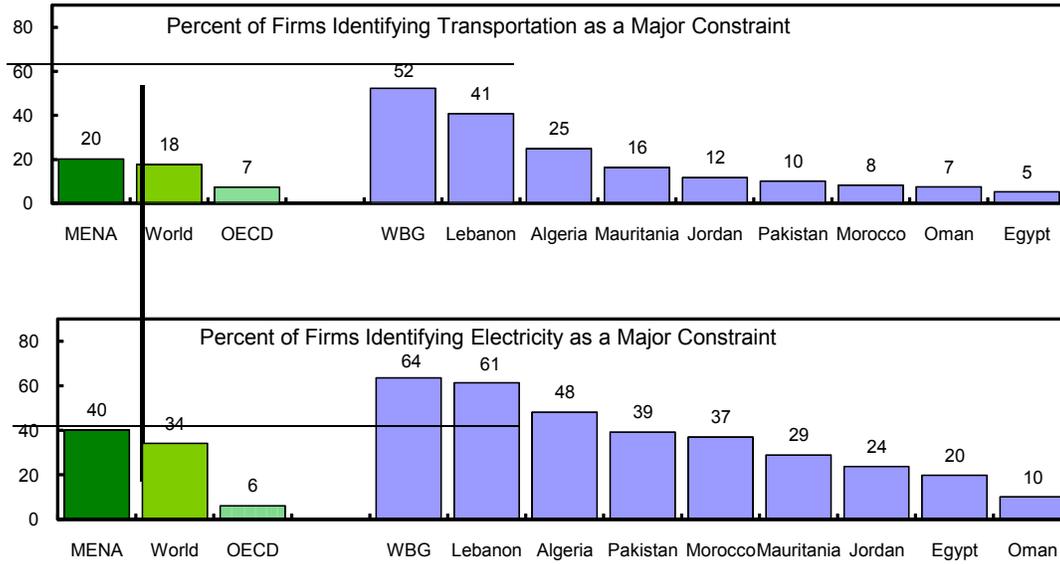
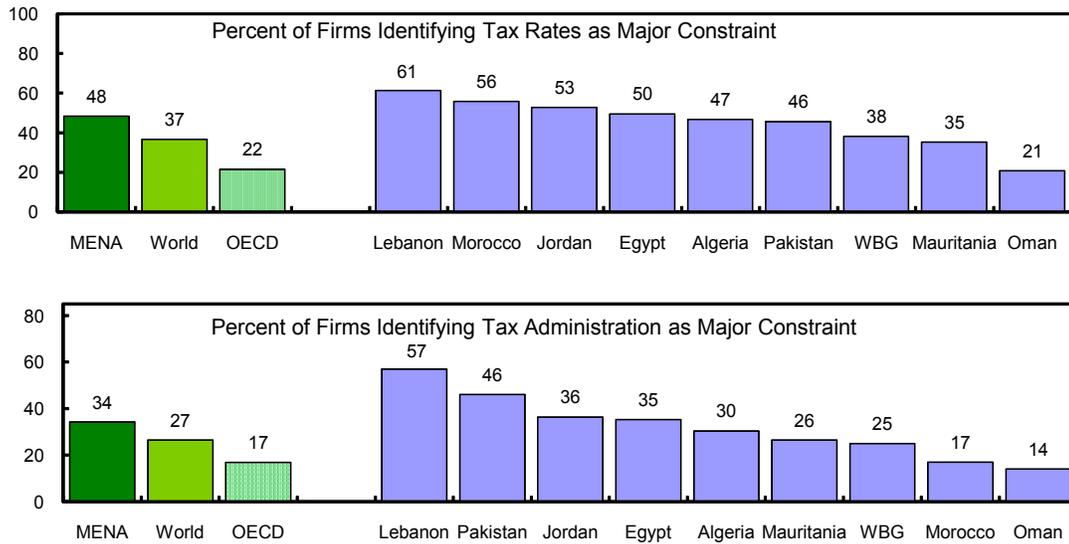


Figure 6. Taxes Rates and Administration Constraints



Source: World Bank Business Enterprise Survey Database.

Figure 7. Regulations Constraints

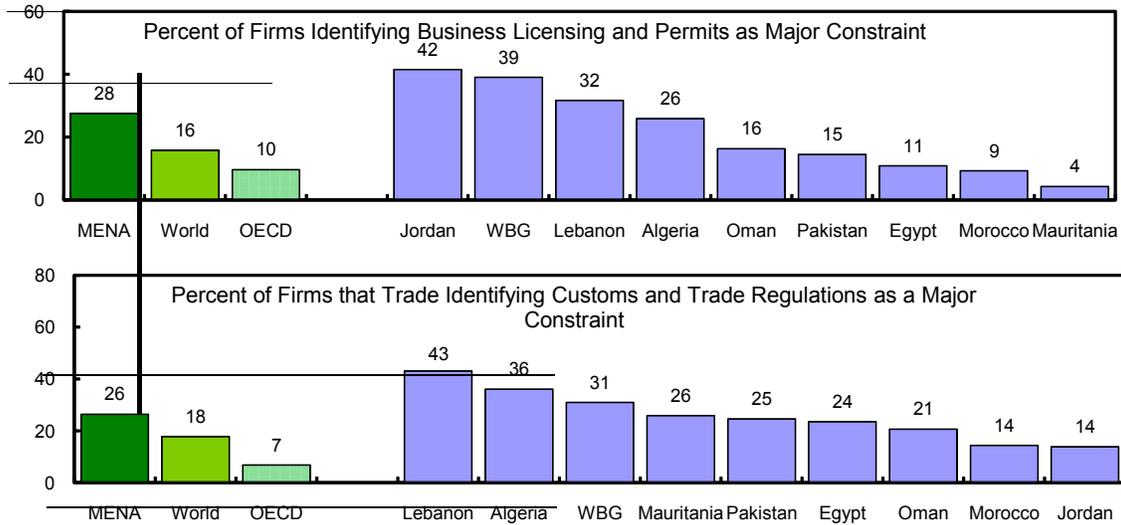
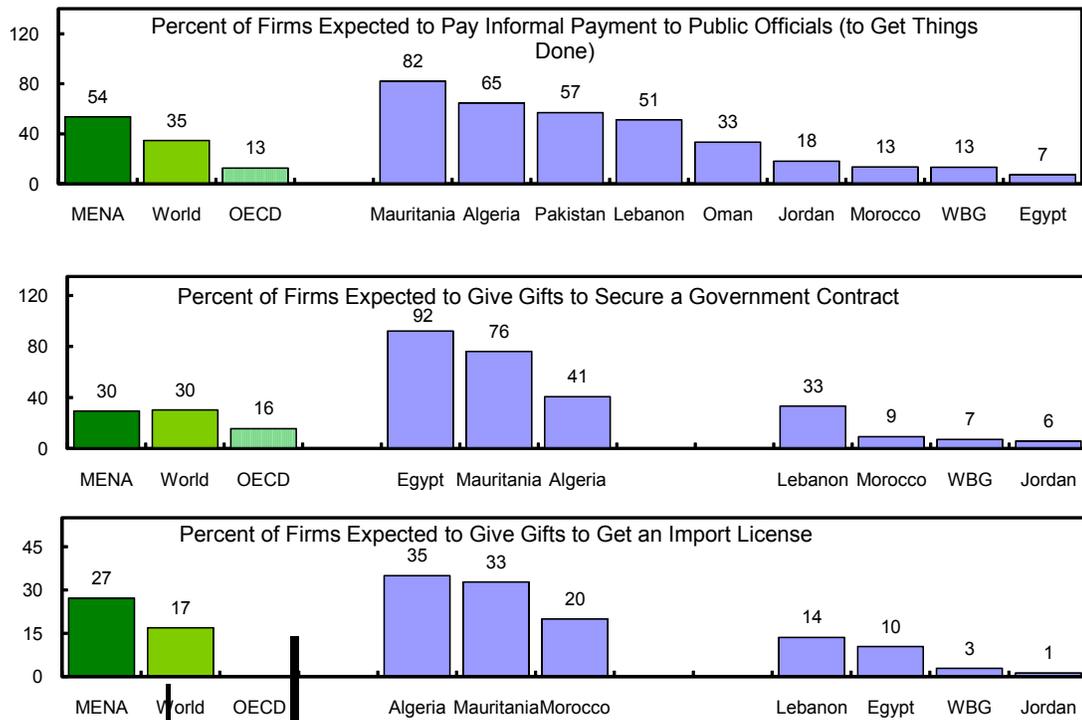


Figure 8. Corruption Constraints



Source: World Bank Business Enterprise Survey Database.

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