CHAPTER 1.1

Assessing Competitiveness in the Arab World: Strategies for Sustaining the Growth Momentum

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The high energy prices of the past few years have brought the Arab world the highest growth rates in nearly three decades. In the oil-exporting countries, the oil boom has gone hand in hand with surging fiscal and external surpluses, shrinking public debts and raising levels of foreign reserves. This windfall has been shared by the non–oil-exporting countries through investment flows, remittances, and trade. These developments appear to have dramatically transformed the economic prospects of the region, bringing a renewed sense of optimism and overshadowing the heightened geopolitical insecurity of the past few years.

As long as energy prices remain at their present high levels, it is safe to suggest that the Arab economies —especially those endowed with substantial oil and gas reserves—could sustain the ongoing prosperity for a while. But therein lies the danger as well. What if oil prices take an unexpected downward dive, as they have done over the past three decades? More worrisome, what if the current prosperity postpones the adoption of structural reforms needed to achieve international competitiveness and sustain the current growth momentum? After all, oil booms have traditionally provided breathing space for governments and delayed the implementation of reform programs.

Such concerns about the long-term prospects of the region and the likely trajectory of reform are shared by international observers and, more importantly, policymakers and the general public in the Arab world. Yet only a few regular assessments of economic developments in the Arab world are produced, notwithstanding the increased relevance of the region's energy resources, financial liquidity, and geopolitics to the stability of the world economy. In addition, the region suffers from serious gaps in the availability of basic economic and financial indicators (see Box 1), not to mention a lack of transparency in policymaking and limited accountability in reviewing outcomes.

This chapter makes a contribution toward closing this gap by assessing the competitiveness of Arab economies. Utilizing the results of the most recent World Economic Forum's Executive Opinion Survey, the chapter benchmarks the competitive performance of Arab countries against selected comparators. The assessment is designed not only to identify present areas of strength and weakness but also to pinpoint areas of reform that should be addressed in the near future.

Methodology

The World Economic Forum defines *competitiveness* as the set of factors, policies, and institutions that determines the level of productivity in a country. *Productivity* describes how efficiently available resources are used and therefore the growth performance of an economy. Thus what is assessed is the potential of an economy to achieve sustained economic growth over the medium to

Box 1: Data (un)availability

Each quantitative assessment of competitiveness or economic performance in the region relies heavily on available data. In the particular case of the GCI, the data we use need to be collected according to international standards in order to enable a meaningful comparison across countries. Unlike for most other regions in the world, obtaining internationally comparable data is difficult for most countries in the region, in particular for Gulf economies. Often countries do not even collect basic data; for example, accurate year-on-year inflation is hard to obtain for the United Arab Emirates and consequently, real GDP cannot be calculated precisely.

Improved data availability would enable policymakers in the region to take more targeted decisions, benchmark their countries against international or regional best performers, and identify best practice in specific areas. It would also aid potential foreign investors in making the strategic choice to take advantage of the growing competitiveness of the region.

In this respect, the data obtained through the Executive Opinion Survey provide a rich source of information on countries of the region and an excellent complement to existing data. However, they are no substitute for hard data on economic performance. Regional governments must take steps to develop and enhance their statistical and data collection capabilities. International cooperation, for example at the level of the Gulf Cooperation Council, could also help alleviate this problem.

long term. The model controls for the starting level of income and thus predicts that countries with lower per capita income will tend to grow faster because they need to catch up with the more advanced economies.

This methodology reflects latest theoretical and empirical research and a long-standing experience with assessing competitiveness. The World Economic Forum conducted the first competitiveness assessment in 1979, and has been continuing this work since then. The methodology has significantly evolved in response to advances in economic research and to the increasing diversity of countries covered by *The Global Competitiveness Report*, including the expansion of coverage of countries from the Arab world.

In particular, three principles that today govern the assessment of competitiveness have emerged. First, competitiveness of countries cannot be determined by a narrow set of factors but is rather the result of multiple sets of variables and processes that span the entire economy. Second, as the global economy evolves, these factors tend to change and so does their impact. For example, advances in technology such as data processing and Internet capacity have altered the way of doing business. As a result, the diverging economic performance of countries on the two sides of the digital divide has underlined the key role played by ICT in growth and competitiveness. By contrast, inflation is no longer the focus of policy in light of the present global environment of low inflation. And, third, different factors matter in different ways across countries, depending on the stage of development. Although an advanced country such as Japan will have to keep innovating in order to remain competitive, more basic factors such as primary education and law and order matter more for countries that lack the basic conditions for growth, such as Mauritania.

Before diving into the structure of the index, it is useful to describe the two types of data that make up its components. Out of the 90 variables that make up the index, 24 are obtained from international organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Monetary Fund (IMF), and the World Bank. By using these sources we ensure that the data and their sources are comparable across countries, a crucial requirement when undertaking international comparisons. We utilized the latest reported figures for each variable.[1] The remaining variables come from the Executive Opinion Survey (Survey), undertaken annually by the World Economic Forum in all countries covered by the *Report*.

This Survey is addressed to business leaders in each of the countries to gauge their perceptions of the national business environment. These data are used mainly for assessing crucial determinants of competitiveness for which comparable data do not exist for the entire set of countries covered by the *Report*. Examples of variables included in the Survey are the quality of public and private institutions and the quality of infrastructure and education, as well as some aspects of market efficiency, business sophistication, and innovation. Although survey data are often criticized for their subjectivity, the use of these data is now widely accepted as it captures perceptions by business leaders of the business environment and, hence, is of great value to policymakers.

The determinants of competitiveness are captured by the structure of the Global Competitiveness Index (GCI). Developed by Professor Xavier Sala-i-Martin in cooperation with the World Economic Forum, the GCI has been used since *The Global Competitiveness Report 2006–2007* for all competitiveness assessments undertaken by the Forum. The detailed structure of the GCI

is presented in Appendix A to this chapter. It groups the factors affecting competitiveness into nine pillars:

1. *Institutions*
   The institutional framework has a strong bearing on competitiveness and growth because it shapes incentives in an economy and affects how business, the political sphere, and the remaining society interact with each other.

2. *Infrastructure*
   Quality infrastructure reduces the cost of communication, transport, and energy. By rendering business operations more efficient it contributes to lowering the cost of doing business and therefore increases competitiveness.

3. *Macroeconomy*
   Macroeconomic stability has come to be recognized as one of the basic preconditions for growth; this has been widely confirmed in theoretical and empirical research. Soaring and volatile prices render the business environment unpredictable, and high interest rates—resulting, for example, from refinancing government debt—increase the cost of credit and investment.

4. *Health and primary education*
   The importance of health for competitiveness becomes clear when one considers some African countries, where the HIV/AIDS epidemic affects one-quarter of the working-age population. Although these are extreme cases, almost all economic activity requires a healthy and literate workforce. Prevalent lack of access to basic health services and education reduces not only the overall growth potential, but also forecloses the benefits of economic growth for significant parts of the population.

5. *Higher education and training*
   The availability of qualified staff is a precondition not only for innovation but also for adopting technologies from abroad and improving business practice. All these aspects, which are reflected in the structure of the Global Competitiveness Index, become even more crucial when a country climbs up the value chain and moves away from low-cost production and resource extraction toward more efficient processes and more sophisticated products.

6. *Market efficiency*
   This pillar assesses how far goods, labor, and financial resources are allocated to the most efficient use in an economy. In order to function efficiently, goods markets need a certain level of competition, which directs goods toward their best use. Three components can contribute to increasing competition in an economy: efficient antitrust regulation, openness to trade, and regulations that keep market distortions to a minimum. For labor markets, flexibility and efficiency are critical for ensuring that businesses can maintain a workforce that suits their needs at all times. Factors such as flexibility of wage determination and hiring and firing are essential in this respect. Finally, given the link between effective financial intermediation and growth, financial markets are vital for making available credit and other financial products at an appropriate cost.

7. *Technological readiness*
   This pillar measures the capacity of an economy to absorb latest technologies and to use them to enhance the productivity of its industries. Consequently, it encompasses the ability to adapt technologies from abroad through technology transfer but also the use and penetration of advanced information and communication technologies, in particular Internet and mobile telephony.

8. *Business sophistication*
   The ability to manage a business efficiently is imperative for increasing productivity, particularly at the top end of the value chain. Significant differences in company performance can be explained by looking at the level of management practice. In this respect, supporting the clustering of firms has proven an important vehicle of public policy to enhance the performance of firms.

9. *Innovation*
   While technological readiness refers to the adoption of technologies from abroad, the innovation pillar measures the extent to which countries are able to develop entirely new products and services. This is particularly important for countries at the most advanced stage of development because innovation is the only self-sustaining driver of growth for countries that have reached the high-tech frontier, while less-advanced countries can still improve their productivity by adopting technologies from abroad.

These nine pillars are grouped into three subindexes. The first subindex, called basic requirements, comprises institutions, infrastructure, macroeconomy, and health and primary education. The second subindex covers *efficiency enhancers* and includes higher education and training, market efficiency, and technological readiness; the third subindex, *innovation factors*, includes business sophistication and innovation. To capture the notion that the set of drivers of competitiveness evolves as a country develops, different weights are given to the subindexes depending on the stage of development of the country.

Countries are categorized according to the following three stages of development: the factor-driven stage, the efficiency-driven stage, and the innovation-driven stage. The factor-driven first stage of development describes an economy that competes on natural resources or the abundance of low-cost labor. As countries develop, wages rise and businesses need to increase their efficiency to remain competitive, as the country moves into the second stage of development. Finally, in high-wage countries such Japan or the United Kingdom, businesses can be competitive only if they develop cutting-edge products and employ sophisticated techniques in producing and selling them. Since data on wage levels are difficult to obtain, we use GDP per capita as a proxy to define the thresholds for each of the stages of development. All countries with a GDP per capita below US$2,000 are considered to be factor-driven; countries with a GDP per capita between US$3,000 and 6,000 are considered to be in the efficiency-driven stage; and innovation-driven countries are those whose GDP per capita lies above US$17,000. Countries that fall in between these thresholds transition smoothly from one stage to the other.

This year's *Arab World Competitiveness Report* features an improvement to the methodology used to assess the competitiveness of oil-producing economies and other countries in the region that rely heavily on resource extraction. To classify the countries into stages of development, we have added a second criterion that measures the extent to which countries are factor-driven. We proxy this by the share of exports of primary goods in total exports (goods and services) and assume that countries that export more than 50 percent of primary exports are to a large extent factor-driven. The stage of development for these countries is adjusted downward depending on the country's exact share of primary exports—the higher the share the stronger the adjustment and the closer the country will move to stage 1. For example, a country that exports 95 percent of primary products and falls into stage 3 based on its income is now placed in the transition phase between stage 1 and 2. Both criteria—per capita income and the share of primary exports—are weighted identically and the stage of development is not adjusted for countries with less than a 50 percent share of primary exports. Table 1, which presents the shares of primary exports as percentage of total exports for Arab countries, shows that a number of countries in the region are to a large extent factor-driven.

Table 1: Primary exports as share of total exports for Arab world countries

Country	Share of total exports (percent)
Algeria	64
Bahrain	2
Egypt	9
Jordan	9
Kuwait	47
Libya	86
Mauritania	56
Morocco	5
Oman	71
Qatar	46
Syria	43
Tunisia	7
United Arab Emirates	31

Source: International Trade Centre, World Bank.

Table 2 provides an overview of the distribution of countries covered by this *Report* into the stages of development. A complete list of all countries can be found in Appendix B. We model the differences between stages of development by giving different weights to the three subindexes. The exact weights are shown in Table 3.

Expanded country coverage

In addition to the ten Arab countries covered by the *GCR 2006–2007*—Algeria, Bahrain, Egypt, Jordan, Kuwait, Qatar, Mauritania, Morocco, Tunisia, and the United Arab Emirates (UAE)—three more—Libya, Oman, and Syria—have been added. With a total of thirteen countries, the geographical coverage of this *Report* has been expanded beyond the AWCR 2005. In the case of Libya, this study is the first comparative assessment of the country's competitiveness.

Highly diverse economies

The economies of the Arab world exhibit great diversity in income and structure. The variety is highlighted by the fact that GDP per capita of the wealthiest country, Qatar, is 73 times higher than that of the poorest country, Mauritania. In addition, the economies are characterized by a multiplicity of structures. Some countries have accumulated significant wealth through the extraction of natural resources while others follow more traditional trajectories of development, starting with lower-end manufacturing and slowly moving up the value chain. These differences affect the competitive performance in many ways, the most important being the availability of resources for public investment. Thus, different policy recommendations apply across countries and the international benchmarks required for comparison vary across countries.

Table 2: Classification of Arab world countries into stages of development

Stage of development	Arab world countries	Other countries in this stage	Important areas for competitiveness
Stage 1 (factor-driven)	Egypt, Mauritania, Syria, Morocco	India, China	Basic requirements (critical) and efficiency enhancers (very important)
Transition from 1 to 2	Algeria, Libya, Oman, Tunisia, Jordan	Colombia, Thailand, Venezuela	Basic requirements (critical) and efficiency enhancers (increasingly important)
Stage 2 (efficiency-driven)		Turkey, Russian Federation	Basic requirements (very important) and efficiency enhancers (critical)
Transition from 2 to 3	Bahrain	Barbados, Czech Republic, Korea	Same as above, but innovation factors become increasingly important
Stage 3 (innovation-driven)	Qatar, United Arab Emirates, Kuwait	United States, United Kingdom, Japan	All three areas important: basic requirements, efficiency enhancers and innovation factors

To take this diversity into account, rankings are presented here divided by these groups of countries.[2] These groups facilitate the benchmarking of countries against other comparable economies along a divide built in the model. As noted above, the groups usually represent different levels of development that are accompanied by distinct production structures and levels of wealth. The detailed rankings for the region in the international context are presented in Tables 4a, b, and c. Whenever relevant, we will refer to the rankings in the entire sample covered by *The Arab World Competitiveness Report*, which comprises 128 countries worldwide. The global rankings of all the countries is provided in Appendix C. As the methodology has been slightly adapted and some of the data updated, we refer to these rankings as the updated Global Competitiveness Index 2007 (GCI 2007). The country profiles at the end of the report provide additional data and information on each of the countries assessed.

The United Arab Emirates (UAE) is the highest-ranked Arab country on the list of the 40 most-advanced innovation-driven economies in the world (country group 3), coming in at 29th place—ahead of Slovenia and Portugal in this group, which comprises some of the most developed and competitive economies in the sample, including Switzerland, the best performer in *The Global Competitiveness Report 2006–2007*. The United Arab Emirates is followed closely by Qatar, ranked 32nd within this group, ahead of European countries such as Hungary and Italy. Kuwait and Bahrain are both included on the list toward the bottom of the group, at place 36 and 39 respectively out of 40 economies.

The second group of countries comprises 40 countries that are categorized as efficiency-driven, or in transition toward this stage of development. This group is headed by Malaysia and Chile and comprises many emerging economies, including Brazil and the Russian Federation. Several Arab nations are included in this list

Table 3: Weighting of subindexes, based on stage of development

Weights	Basic requirements	Efficiency enhancers	Innovation and sophistication factors
Factor-driven stage	50%	40%	10%
Efficiency-driven stage	40%	50%	10%
Innovation-driven stage	30%	40%	30%

Source: World Economic Forum, 2006.

at various levels of rankings. Tunisia is the best performer among the Arab world economies in this group, ranking 3rd overall and coming in ahead of some European countries, such as Poland and Latvia. Within the region, Tunisia outperforms Oman, at rank 8 the second-best performer by a fairly large margin. Jordan follows at 13th place, yet still ranks relatively high considering its income. Toward the lower end of the rankings, we find Libya at 26 and Algeria at 29 out of 40 economies.

In the group of factor-driven economies (country group 1) headed by India, we find 48 of the less advanced-countries in the world. Apart from Mauritania, which comes in at 38th position, the Arab economies in this group compare rather favorably against the rest of the group and rank in the upper quarter—Egypt ranks 4th, Morocco 7th, and Syria 12th.

The best performers in the Arab world lag behind their peers in terms of competitiveness

The four Arab world countries that fall into the group of 40 most-advanced economies—the United Arab Emirates, Qatar, Kuwait, and Bahrain—rank toward the bottom of their peer group in terms of national competitiveness. Weaknesses in innovation and business sophistication—two areas that are relatively more

Table 4a: Arab world GCI 2007 rankings in international comparison: Country group 3*

Country/Economy	GCR 2007 Rank	GCR 2007 Score
Switzerland	1	5.81
Finland	2	5.74
Sweden	3	5.73
Denmark	4	5.70
Singapore	5	5.62
United States	6	5.62
Japan	7	5.62
Germany	8	5.60
Netherlands	9	5.57
United Kingdom	10	5.53
Norway	11	5.46
Hong Kong SAR	12	5.45
Taiwan, China	13	5.40
Iceland	14	5.40
Israel	15	5.38
Canada	16	5.36
France	17	5.34
Austria	18	5.32
Australia	19	5.30
Belgium	20	5.28
Ireland	21	5.22
New Zealand	22	5.17
Luxembourg	23	5.15
Korea, Rep.	24	5.12
Estonia	25	5.12
Spain	26	4.79
Czech Republic	27	4.72
Barbados	28	4.71
United Arab Emirates	**29**	**4.67**
Slovenia	30	4.64
Portugal	31	4.60
Qatar	**32**	**4.56**
Hungary	33	4.53
Italy	34	4.47
Malta	35	4.44
Kuwait	**36**	**4.42**
Cyprus	37	4.35
Greece	38	4.33
Bahrain	**39**	**4.30**
Trinidad and Tobago	40	4.06

* Group 3 comprises innovation-driven economies (countries in the 3rd stage of development and those transitioning toward it).

Table 4b: Arab world GCI 2007 rankings in international comparison: Country group 2*

Country/Economy	GCR 2007 Rank	GCR 2007 Score
Malaysia	1	5.13
Chile	2	4.85
Tunisia	**3**	**4.72**
Latvia	4	4.60
Thailand	5	4.58
Lithuania	6	4.57
Slovak Republic	7	4.57
Oman	**8**	**4.53**
South Africa	9	4.42
Poland	10	4.33
Costa Rica	11	4.27
Croatia	12	4.27
Jordan	**13**	**4.25**
Mexico	14	4.23
Kazakhstan	15	4.22
Mauritius	16	4.22
Panama	17	4.21
Turkey	18	4.18
Russian Federation	19	4.13
Jamaica	20	4.13
El Salvador	21	4.12
Colombia	22	4.09
Brazil	23	4.08
Argentina	24	4.05
Romania	25	4.04
Libya	**26**	**4.00**
Bulgaria	27	4.00
Peru	28	3.99
Algeria	**29**	**3.98**
Uruguay	30	3.97
Macedonia, FYR	31	3.92
Botswana	32	3.83
Venezuela	33	3.80
Dominican Republic	34	3.78
Namibia	35	3.76
Ecuador	36	3.72
Bosnia and Herzegovina	37	3.72
Serbia and Montenegro	38	3.71
Albania	39	3.49
Suriname	40	3.45

* Group 2 comprises efficiency-driven economies (countries in the 2nd stage of development and those transitioning toward it).

important for competitiveness of high-income economies—explain part of this and outweigh the significant progress with respect to both macroeconomic stability and the intuitional environment.

Boosting innovation capacity will require public and private investment and a structural overhaul of the basic innovation infrastructure. A comparison of the results on innovation indicators with the best performer in this category, Japan, points to areas for improvement (Table 5). Although governments in the region promote innovation by purchasing high-technology products on a priority basis and enforcing intellectual property rights, overall innovation capacity and company spending on research and development (R&D) are significantly behind that of Japan. The quality of their research institutions is far below the world's best and their outputs are not valued commercially as the entities have few links with the private sector.

Another striking result for these for countries is that they have relatively low rankings on indicators related to health and education when benchmarked against the group of advanced economies. Despite their relative wealth all four countries rank toward the bottom of the group on this pillar, particularly on indicators measuring access to primary education. On the positive side, most of these countries have made significant progress over the past three decades with respect to increasing educational enrollments, demonstrating the capacity to make further advances in the future. Aside from quantitative targets, the quality of outcomes in tertiary schooling needs to be enhanced to reverse the low valuation of educational credentials by the private sector.

Table 4c: Arab world GCI 2007 rankings in international comparison: Country group 1*

Country/Economy	GCR 2007 Rank	GCR 2007 Score
India	1	4.47
Indonesia	2	4.28
China	3	4.25
Egypt	**4**	**4.09**
Azerbaijan	5	4.09
Philippines	6	4.02
Morocco	**7**	**4.02**
Guatemala	8	3.94
Vietnam	9	3.93
Ukraine	10	3.91
Sri Lanka	11	3.90
Syria	**12**	**3.81**
Armenia	13	3.78
Georgia	14	3.75
Moldova	15	3.73
Pakistan	16	3.69
Honduras	17	3.62
Mongolia	18	3.61
Kenya	19	3.61
Nicaragua	20	3.55
Tajikistan	21	3.50
Bolivia	22	3.49
Nigeria	23	3.49
Bangladesh	24	3.48
Gambia	25	3.45
Cambodia	26	3.42
Benin	27	3.41
Tanzania	28	3.40
Paraguay	29	3.35
Kyrgyz Republic	30	3.33
Cameroon	31	3.32
Guyana	32	3.29
Madagascar	33	3.29
Nepal	34	3.27
Lesotho	35	3.24
Uganda	36	3.21
Zambia	37	3.21
Mauritania	**38**	**3.18**
Burkina Faso	39	3.10
Malawi	40	3.09
Zimbabwe	41	3.07
Mali	42	3.04
Ethiopia	43	3.00
Mozambique	44	2.97
Timor-Leste	45	2.91
Chad	46	2.64
Burundi	47	2.62
Angola	48	2.50

* Group 1 comprises factor-driven economies (countries in the 1st stage of development).

The United Arab Emirates—strong on macroeconomic indicators and institutions and weak on education and innovation

The United Arab Emirates has undergone a remarkable economic transformation in the past decade. Amid security problems elsewhere in the region, the emirates that make up the country have realized some of the highest growth rates in the Arab world through the persistent pursuit of reforms aimed at economic liberalization and diversification. Dubai pioneered the creation of dynamic free-trade zones in the early 1980s, setting an example in good public management for others to follow. Today the country is focused on developing world-class services in areas including finance, health care, and ICT.

The outlook for the country is positive on account of a number of strengths. The macroeconomic environment is one of them, with the federal government as well as the emirates having exercised sound economic management. Yet rising inflation (a result of the construction and real-estate boom), high financial liquidity, and the fall in the dollar to which the dirham is pegged are increasingly becoming a concern. Besides the macroeconomic environment, other areas of strength include the very modern transport infrastructure and well-functioning public and private institutions. Labor markets are judged to be flexible and efficient by the business community, especially in regard to the expatriate labor force.

One area of concern is the educational system, particularly primary and secondary education. The enrollment rate in primary education ranks 112th in the entire sample, an outcome that could prove detrimental to the country's plans for greater diversification. Although the United Arab Emirates exhibits a very high teacher-pupil ratio, outcomes are not commensurate with the public investment undertaken or the needs and expectations of the business sector. The quality of management schools, ranked 52nd in the complete sample, is perceived as suboptimal.

Table 5: Innovation in selected Arab countries

Country	Quality of scientific research institutions Score (1–7)	Company spending on R&D Score (1–7)	University-industry research collaboration Score (1–7)	Gov't. procurement of advanced tech products Score (1–7)	Intellectual property protection Score (1–7)	Availability of scientists and engineers Score (1–7)	Capacity for innovation Score (1–7)	Utility patents, 2005 No. of utility patents per 1,000 inhabitants	9th pillar: Innovation Score (1–7)
Bahrain	2.55	2.26	1.84	3.83	4.08	3.79	2.36	0.0	2.71
Kuwait	3.86	2.93	2.76	3.23	3.62	4.46	2.47	1.1	3.04
Qatar	4.00	3.40	3.11	4.40	4.84	4.14	3.19	0.0	3.51
United Arab Emirates	3.79	3.40	3.33	4.72	4.80	4.14	2.99	0.7	3.52
Average of Arab countries in stage 3	**3.74**	**3.18**	**2.99**	**4.15**	**4.40**	**4.18**	**3.02**	**0.50**	**3.33**
Japan	5.85	6.06	5.17	4.98	5.88	6.25	6.00	236.9	5.90
Distance to best performer	2.10	2.88	2.19	0.83	1.49	2.07	2.98	236.35	2.57

Although flexible migration policy allows easy access to expatriate workers, an increasing number of jobs will have to be provided for the growing national labor force. This is going to be difficult if universal basic education is not achieved and vocational training and secondary schooling are not improved. A newly launched strategy to improve educational outcomes, along with initiatives taken to facilitate the presence of international universities, signal a commitment to tackling the problem.

GCI results point to weaknesses in market efficiency, in particular with respect to competition for goods and services. Although the United Arab Emirates achieved a good result on the overall issue, entry into markets appears to be constrained by red tape. It still takes 63 days to set up a new business and executives deplore the constraints on foreign ownership. Among 128 countries covered by the entire sample, the United Arab Emirates achieves a low 94th rank in this category.

Last but not least, the results on innovation and R&D call for increased investment both from the public and private sectors. UAE businesses have registered only a few patents, and their innovation capacity is not at par with the country's income level. The survey results point to the reasons behind this, including the low quality of research institutions and a clear shortage of trained scientists and engineers. On the positive side, the government appears ready to prioritize innovation. Intellectual property rights are well protected and the public sector is increasingly promoting innovation through targeted procurement of advanced technology products.

Qatar—excels in macroeconomic outcomes but improvements in infrastructure and business sophistication are needed

Despite intensive diversification efforts, the Qatari economy remains heavily dependant on natural resources, with a rising share of gas exports. The second-best ranked economy in the region, Qatar came in 32nd within the group of advanced countries. A small country rich in natural gas reserves, it achieves the highest per capita income in the region and one of the highest in the world.

Like other oil-producing countries in the region, Qatar's macroeconomic stability has benefited from the increased production and export price of oil and gas. Although the country's fiscal situation has improved markedly, public debt remains high and the dollar's depreciation, in combination with the soaring housing costs, has put significant upward pressures on inflation. Despite these somewhat worrying trends, Qatar ranks an excellent 4th in the entire sample on the macroeconomy pillar.

Rising oil revenues in the past few years have been used to launch large-scale infrastructure projects, including road networks as well as the newly built Doha air- and seaports. Our data show that upgrading the infrastructure is necessary—the country ranks only 36th within its group on this category. Compared with other countries in the region, Qatar shows a relatively good track record with respect to education at all levels. It has reached almost universal primary and secondary enrollment. According to UNESCO data, literacy is rising, with 89 percent of adults and 95.9 percent of young people able to read and write. Yet for the country to move ahead, a higher turnout of university graduates will be necessary. Its ranking among the 128 countries on this category is only 77th.

As a country with high wage levels, Qatari businesses will have to focus on innovation and increasing business sophistication. In terms of innovation, the picture is mixed although relatively good. Government is clearly protecting property rights well and gives priority to procuring advanced technology products. Yet businesses and research institutions lag behind. The quality of the latter is assessed as relatively low (rank 49 out of 128 countries) and the two main players in innovation miss out on collaboration opportunities. At the same time, appropriately trained staff for research activities is scarce (rank 83 out of 128 countries).

Kuwait—excellent macroeconomic environment with weak outcomes on education and innovation

Kuwait occupies 37th place out of 40 countries included in this group. As in other oil-exporting countries in the region, the macroeconomic environment has markedly improved in the past few years and the country is second to none within the group on the macroeconomy pillar, reflecting the steadily growing budget surplus and growing savings.

There is room for improvement with respect to primary education. Although it is already above levels found in most countries in the region, some additional efforts could easily translate into universal education. Similarly, improvements in the quality of higher education would benefit the country's business sector, enabling it to improve the sophistication of business operations and to enhance the innovation capacity of domestic businesses.

One particular aspect highlighted by the Survey is the prevalence of pervasive red tape that negatively affects business operations and makes the entry of new companies difficult. At the same time, businesses find government regulations difficult to comply with, and the country occupies a low 73rd position on the indicator that assesses this category. However, the country boasts very good financial infrastructure with easy access to a wide range of financial services, including loans, equity markets, and risk capital.

More than other economies that fall into this group, Kuwait remains sheltered from the international economy and thus foregoes the benefits of competition. Although formal trade barriers are not identified as obstacles, foreign ownership is considered the most

restricted of the countries covered (rank 128 out of 128 countries). Both the low level of imports and restrictions on entry by foreign firms further reduce competition in the already very small internal market.

Finally, as in most countries discussed here, innovation remains a shortcoming of the Kuwaiti economy. But the assessment of business people stands in contrast to the hard data. Although the business sector provides a very pessimistic assessment of the country's ability to innovate (rank 112 out of 128), the country has registered the highest number of utility patents in the Arab world, which points to relatively more successful research activity.

Bahrain—good macroeconomic performance and socioeconomic indicators with gaps in higher education and training

Within the sample of 40 countries representing this group, Bahrain achieves a relatively weak 39th rank with only Trinidad and Tobago coming in below. Unlike its neighbors, however, the country is not endowed with significant oil and gas reserves—this in part explains the country's ongoing drive to promote economic diversification while maintaining macroeconomic stability.

As a result of targeted investments since the 1970s, health and education indicators as well as the provision of infrastructure have improved considerably. Most notably, Bahrain is the best-performing country in the region with respect to health and primary education (rank 30 out of 128 countries). The country has stable and efficient public institutions and advanced infrastructure.

Bahrain has the highest literacy rate in the region and has made excellent progress with respect to enrollment rates in secondary and tertiary education. Yet business leaders, in their responses to the Survey, indicate that schools could improve the preparation of graduates for positions in the private sector as well as for establishing a strong foundation for innovation.

Efforts to attract foreign direct investment (FDI) into more technology intensive sectors appear promising. The potential for attracting technology-intensive activities is considerable given the relatively high capacity of the Bahraini economy to absorb new technologies (rank 43 out of 128 countries) and the performance of Bahrain in terms of use of high-technology products.

Bahrain has achieved great regional and international success as a result of the sophistication and openness of its financial markets. Even the United Arab Emirates—its main competitor from the region—scores lower with respect to these two aspects, while countries that have placed less weight on developing the financial sector, such as Qatar or Kuwait, clearly stay behind. But for a country with abundant liquidity, access to loans for national companies remains difficult.

Tunisia, Oman, Jordan, Libya, and Algeria show diverging performance with respect to their peers

The second group of countries fall into the efficiency-driven stage of development or are in the process of transitioning to this stage. As noted above, countries in this phase need to focus on higher education and training, market efficiency, and technological readiness to enable businesses to employ labor more productively and pay higher wages. At the same time, the basic enablers—institutions, infrastructure, macroeconomy, and health and primary education are equally important for national competitiveness and should be maintained. And although less important now, innovation and sophistication factors should be kept in mind for the future.

The Arab countries in this group are spread across the entire spectrum of rankings. All do well on macroeconomic indicators and most have relatively good institutions. But as in the first group, educational outcomes are below optimal. Most of these countries have the benefit of young populations, which can easily add to the burden of unemployment if job creation is not accelerated. In light of this, the regulation of labor markets—including government hiring and wage-setting practices as well as rules on hiring and firing workers—is a priority.

Tunisia—stable institutions and good educational outcomes but weak infrastructure and financial systems

Ranking third, behind Malaysia and Chile, Tunisia leads the Arab economies in the second group, ahead of some European Union (EU) members such as Latvia and Lithuania. Tunisia's excellent performance on the index reflects the country's even performance across most of the indicators and some pronounced competitive strengths, particularly its well-developed public institutions.

Great progress in expanding primary education has been made with the provision of universal primary education. Although higher enrollment rates in secondary and tertiary education would enable the country to benefit more from its human capital, the quality of education is assessed as very good, often ranking the country among the top 20 countries covered by the GCR on education indicators.

In addition, Tunisian businesses benefit from high levels of business sophistication. Although marketing activities could be enhanced and production processes improved, companies tend to operate at the upper end of the value chain. Index results suggest that the government focuses on enhancing the country's innovative capacity. It gives priority to procuring advanced technology products, and the quality of research institutions and their collaboration with businesses are assessed as very positive. Yet the country's capacity in R&D is low, as measured by the number of utility patents.

Tunisia's competitiveness could benefit from increased investment in infrastructure, particularly in air transport and telecommunications facilities, which remain below international standards. Private public-partnerships should be envisaged in light of the need for improved fiscal management. A reduced budget deficit and public debt would also contribute to an improvement in competitiveness and make more funds available for necessary investment in the medium term.

Among the factors that will impede future growth, the low efficiency of financial markets and gaps in technological readiness stand out, as do some aspects related to the efficiency of labor markets. In terms of financial markets, the access to finance for local companies, such as loans and local equity markets, could be improved. There is also a need to develop more sophisticated financial products and services as well as to strengthen the overall stability of the sector.

Oman—well-developed institutions and efficient labor markets, but education and sophistication in need of improvement

Oman occupies the 8th rank among the second group and is the second-most competitive Arab country in this group. The country's solid outcomes on macroeconomic indicators (rank 6 out of 128 countries), including a high budgetary surplus and a declining government debt, are a result of the economic reforms started in the early 1990s and focused on diversification and privatization. Today even inflation—a problem in neighboring countries—is under control. Yet savings remain fairly low and may prove insufficient for providing the country with funds for investment.

Other strengths in Oman include its well-developed institutions (rank 17 out of 128 countries), both in the public and private sectors. Low levels of corruption and favoritism and an excellent security situation contribute to a good business environment. Improvements with respect to judicial independence and reducing burdens for complying with government regulations would contribute to strengthening Oman's competitive position.

Oman's commitment to improving labor market outcomes is reflected in the high level of efficiency in its local labor markets. Yet further reforms aiming at rendering the labor markets more flexible will be necessary to help reduce the high unemployment among Omanis. Another way of improving labor market outcomes is through education reforms. Oman's enrollment rates are not up to international standards at any level of education. In particular, tertiary enrollment rates are lowest in the Gulf region, with only 13 percent of young people of the relevant age group attending universities.

In addition to education, a poor showing in technological readiness, business sophistication, and innovation contribute to weakening the country's position. Efforts to increase the penetration and use of the latest technologies could boost growth in the country. Given Oman's stage of development, the country should focus on enhancing efficiency, with innovation and business sophistication playing only a secondary role. Yet, as the country diversifies, those factors will become increasingly important.

Omani businesses need to prepare to upgrade their business practices and to adopt the latest management models. Marketing remains underdeveloped and production processes do not reach standards in similarly developed economies. To achieve greater diversification, research and development are going to be increasingly important. Research institutions are in urgent need of upgrading, trained human resources are scarce, and because businesses do not experience high returns to R&D they invest relatively little in developing new products and services.

Jordan—efficient markets and accountable institutions but low ICT use and technological transfers

Ranking 13th within the second group of countries, Jordan achieves a relatively good position in the GCI rankings. Its strong performance is linked to low levels of corruption, transparent and accountable public institutions, and business-friendly regulations that are easy to comply with. This is reflected in its 6th rank among the 40 countries on the institutions pillar. A drawback is the country's exposure to insecurity, reflecting the threat of terrorism and its proximity to the Arab-Israeli conflict.

Unlike many other countries in the region, which remain fairly protected, the Jordanian economy is more open to trade and foreign participation. Yet a number of competitive disadvantages need to be addressed if Jordan is to realize its full competitive potential. Its macroeconomic environment remains one of the most fragile in the world, ranking 106th out of 128 countries because of its high budget deficit and public debt. Labor markets are overly regulated with respect to hiring and firing (rank 92 out of 128 countries), contributing to high unemployment and encouraging brain drain.

An area that has recently moved to the center of attention is the country's ICT and technological readiness. The use of advanced technology, such as computers and the Internet, remains low by international and regional standards. At the same time, the capacity to adapt technology and innovation from abroad remains relatively weak. Focusing on enhancing efficiency by encouraging the transfer of technology, be it through FDI or licensing, would be instrumental for Jordan's ability to move up the value chain and export more sophisticated products. Currently, the export structure is characterized by low value added products that rely on unskilled labor inputs, such as textiles.

Libya—excellent macroeconomic indicators but infrastructure is underdeveloped and the quality of education is weak

In the first inclusion of the country in international competitiveness rankings, Libya comes in 26th among 40 countries. Libya has only recently embarked on the process of economic reform and is making efforts to diversify its oil-based economy. Thanks to the recent oil boom, the country excels in macroeconomic indicators, with one of the highest budgetary surpluses and one of the lowest government debts worldwide.

Improvements should be made with respect to regulation, which is considered burdensome (rank 99 out of 128 countries) and property rights, which should be better defined and enforced. With the privatization process under way, corporate governance standards will have to be overhauled to provide a good basis for the operations of the private sector, and auditing and reporting standards will need to be strengthened (rank 116 out of 128). Currently, businesses perceive corporate boards to be of little use (rank 127 out of 128 countries).

Physical infrastructure is underdeveloped, particularly in the transport sector. And although education is widely available, it is judged to be of low quality by the country's business sector (rank 114 out of 128 countries). Labor markets display a large degree of inefficiencies related to overregulation, consistent with the reported high unemployment rates. Given the country's recent history of international isolation, continuing the process of trade and investment liberalization remains a priority.

Equally importantly, there is ample room for improvement in the area of technological readiness, as the country does not appear to be taking full advantage of technology that could be made available through technology transfer or licensing. And although not yet essential in view of Libya's stage of development, innovation and sophistication of business operations are below levels found in countries in a similar stage of development and need to be enhanced.

Algeria—excellent macroeconomic environment in a sheltered and technologically backward economy

Algeria ranks a fairly low 29th among the 40 countries included in this group. Thanks to increasing exports of oil and gas, GDP growth has picked up recently and the macroeconomic environment has improved markedly. The government budget has gone into surplus and the public debt was reduced significantly, from 41 percent of GDP in 2001 to only 16 percent in 2005.

Progress has been achieved with respect to the overall institutional environment. Government spending is considered relatively efficient by the business sector and government officials are neutral in their decisions. Yet some indications show that corruption needs to be tackled. At the same time, corporate governance is underdeveloped, particularly with respect to oversight regulations such as the functioning of boards and auditing and reporting requirements.

Algeria also shows good outcomes on health indicators and has introduced universal primary education, giving it one of the highest enrollment rates in the region. A weak spot remains the low commitment to on-the-job training and the still fairly low quality of the educational system, mainly when it comes to management education.

The country is still fairly sheltered from international competition, which limits the efficiency of its domestic markets. In addition, its labor markets remain highly regulated, especially with respect to the wage-setting process and the brain drain, factors that do not bode well for the country's future. At the same time, a fragile banking system does not fulfill its function of channeling capital into companies efficiently, with access to loans and other financing services limited.

Future challenges for the country include investment in technological readiness, including the better use of advanced technology. As a second-stage country, Algeria should focus more intensely on assimilating technology from abroad. Activities in innovative activity are currently constrained by the low quality of local research institutes that collaborate little with business and by limited spending by businesses on research and development.

The performance of Egypt, Morocco, Syria, and Mauritania confirms the diversity of these countries

The third group of countries comprises the 48 economies with the lowest income in the entire sample. All of them are in the factor-driven stage of development. The ranking is headed by India, Indonesia, and China. Egypt, Morocco, Syria, and Mauritania are the four Arab world countries that fall into this group. With the exception of Mauritania, they perform well with respect to their peers and place in the upper quarter of the group. On average they perform well on infrastructure and, with the exception of Morocco, also on health and primary education. In all countries but Syria, the macroeconomic environment—in particular fiscal and debt management—requires particular attention by policymakers in future.

Although attention in the first stage of development should focus on the basic requirements, also very important are higher education and training, market efficiency, and technological readiness. The competitiveness performance is hampered in this group by the low attainment of higher education and low levels of market efficiency. Among the three markets assessed, the labor and financial markets stand out as particularly affected. Rigid regulations limit the scope of job creation by the private sector, while the lack of depth in the financial system constrains company growth.

Egypt—good institutions and infrastructure but one of the highest budget deficits in the world

Among countries in the low-income group Egypt leads the Arab economies, ranking 4th out of 48 countries after China and ahead of the Philippines. The country's performance shows some pronounced strengths and weaknesses. Public and private institutions are overall in good shape, benefiting from a more technocratic and less corrupt bureaucracy. Yet the country's businesses, especially in the tourism sector, suffer from the threat of terrorism (rank 105 out of 128 countries).

Transport, energy, and communications infrastructure serves the economy well, and good progress has been achieved on primary education with near universal enrollment attained. Yet the quality of education remains low and hardly meets the needs of a growing and dynamic business sector. Although Egypt is one of the most protected economies in the Arab world, competition is relatively intense thanks to the large domestic market. Greater openness through multilateral or bilateral trade agreements would benefit the economy.

The country's competitive potential remains underutilized. Despite the clear strengths outlined, a number of fundamental challenges have to be addressed to boost growth and job creation. A major shift in macroeconomic management could contribute to enhancing growth, including prudent public spending to rein in one of the highest budget deficits in the world (rank 127 out of 128 countries) and limit the soaring government debt (rank 104 out of 128 countries). Inflation is also surprisingly high given the worldwide trend toward increased price stability.

The efficiency of all three markets assessed—goods, labor, and financial—remains low. In addition to protectionism, rigid labor regulations contribute to high unemployment. Financial markets are equally in need of enhancement, as they are ill equipped to channel financial resources into the most profitable investments in the business sector. Growth of companies is hampered by limited financial products such as loans and venture capital, and there is ample room to bring greater stability and soundness to the banking sector.

Last but not least, the potential of technology and innovation to boost growth remains underutilized. Although in the case of Egypt some technology is acquired through FDI, increased use of advanced general purpose technologies, such as the Internet, mobile telephones, and personal computers could benefit businesses and boost growth, as has been seen in other countries.

Morocco—good infrastructure and efficient markets although human capital needs urgent improvements

Morocco occupies the 7th place among 48 economies in this group. The country's strengths include the relatively solid institutions with low distortions (rank 48 out of 128 countries) and efficient government spending. Business is little concerned by security issues (rank 47 out of 128 countries), although terrorism is considered a significant threat. There is room for improvement in corporate governance, particularly in the role of corporate boards and auditing and reporting requirements.

The quality of infrastructure is good apart from the telecommunications sector, which is brought down by the low penetration of fixed telephone lines. Morocco does well on indicators of technological readiness, but penetration rates of advanced technologies—including mobile telephones—remain low. Moroccan firms, however, are aggressive in absorbing technology from abroad. Although local firms are sheltered from international competition, there are few barriers to entry facing foreign and domestic firms, and antitrust regulation effectively prevents monopolies.

Morocco has embarked recently on an extensive program for enhancing competitiveness by intensifying trade links and promoting sectors with high value added. Such efforts, however, will be frustrated if the development of human capital is not advanced. The country has not achieved universal primary education and secondary schools and universities are not widely accessible. Although only about 11 percent of the relevant age group is enrolled in institutions of higher education, Morocco does well on the quality of educational outcomes especially in math, science, and management training. And at the same time, the low tertiary enrollment does not appear to constrain business activity, as can be seen from the good assessment of the availability of scientists and engineers by businesses.

Equally important, a more sophisticated and deeper financial sector could play an important role in closing the financing gap businesses faced by businesses and help accelerate economic development. Access to loans and other forms of finance such as equity markets and venture capital remain very limited.

Syria—low levels of corruption and good socioeconomic outcomes against a weak macroeconomic environment and high levels of protection

Syria is the 12th most competitive economy among countries in the lowest stage of development. With a growing population and difficult geopolitical environment, the country is facing many challenges to improving competitiveness. Awareness, since the early 1990s, of the need to diversify the economy has resulted in the launch of many initiatives aimed at reform.

The country displays a number of notable strengths. Levels of corruption remain fairly low (rank 43 out of 128 countries) and, in international comparisons, businesses have trust in their political leaders (rank 63 out of 128 countries). The threat of terrorism and organized crime is perceived to be weak (rank 23 out of 128 countries). Infrastructure facilities for telecommunications, energy, and transport are seen as working efficiently with the exception of air- and seaports, which are

state owned and subject to cumbersome procedures and regulations and insufficient capacities.

Syria displays inferior results on macroeconomic indicators. Despite the current economic boom, the country has a significant deficit and has accumulated considerable public debt, amounting to almost 60 percent of GDP. In addition, inflation peaked in 2005 mainly because of a wage increase in the public sector, inflows of liquidity from Gulf countries, and an appreciation of the currency.

Over the past few years, Syria has made great efforts to improve the basic education and health of its population. Infant mortality is lower than in other countries at the same stage of development, and universal enrollment in primary education has been achieved.

Enhancing competitiveness has moved to the center of the economic policy agenda in the country, and the GCI results point to a number of challenges in this respect. In particular, secondary schooling and higher education are not widespread and the quality of the educational system is assessed to be below the level necessary to support a growing business sector.

In addition, weaknesses persist in market efficiency. High levels of protectionism in goods markets and rigid hiring and firing practices restrict competition in those markets and contribute to the high level of unemployment. The financial sector is in urgent need of upgrading as it currently is unable channel funds into the business sector. It is characterized by an unstable banking system and difficulty in accessing loans and other instruments of corporate financing.

Furthermore, much of the potential with respect to using technology to boost growth remains untapped. FDI does not lead to technological transfers and companies' capacity to adopt technology is limited. This—together with the rather low use of advanced technologies within the business sector and the general population—prevents Syria from taking better advantage of the benefits new technologies offer. Internet use remains very limited (rank 89 out of 128), since the country only recently opened up to this technology.

Mauritania—institutions are a comparative strength against an overall weak performance, in particular high macroeconomic imbalances

As the country with the lowest per capita income in the Arab world, at 38th place out of 48 Mauritania occupies the lowest ranking among the countries within the region. The recent discovery of off-shore petroleum fields will bring strong growth over the next years and make funds available for investment in competitiveness-enhancing activities.

Not surprisingly, Mauritania suffers from a low assessment on virtually all the pillars of the GCI. Still, a few areas of strength emerge. The country has a relatively independent judicial system (rank 60 out of 128 countries), government officials are not likely to give in to favoritism (rank 36 out of 128 countries), and regulation is among the least distorting in the world (rank 6 out of 128 countries). Overall, public and private institutions are assessed as functioning fairly well given the country's level of development.

Two more areas stand out for their positive assessment. The first is in labor markets: Mauritania has fairly flexible labor markets with little intervention in business decisions on hiring and firing (rank 3 out of 128 countries), although companies are not entirely free to set wages (rank 99 out of 128 countries). At the same time, there is room for improvement in strengthening the link between pay and productivity and providing incentives, in particular for educated people, to remain in the country (rank 85 and 93, respectively, both out of 128 countries) or to return from abroad.

The second positive area is in technological readiness, where adoption of latest technologies is a relative competitive advantage of the country, in particular when seen in light of its level of development. Firms are assessed to be one of the best worldwide with respect to absorption of technology (rank 16 out of 128 countries) and FDI leads to technology transfer (rank 6 out of 128 countries). Most certainly, both indicators have to be interpreted in light of the growing imports of equipment for the extraction of petroleum over the recent years.

Against these few positive aspects, the list of relative disadvantages is long. Mauritania is among the worst performers worldwide with respect to the quality of infrastructure and macroeconomic stability. Yet, with targeted investment in new transport, energy, and telecommunications facilities and continued privatization, infrastructure is likely to improve over the next few years. For the macroeconomic imbalances to be corrected, improved fiscal and debt management and prudent use of oil revenues is critical given the country's limited experience in managing large inflows of funds.

Investment in primary education is equally a priority if the country is to maintain competitiveness over the longer term. Although compulsory, primary schooling is below levels that would be necessary for a growing economy, resulting in high illiteracy rates. The population also exhibits one of the worst health profiles in the world, reflected in the low life expectancy (rank 105 out of 128 countries) and high infant mortality (rank 108 out of 128 countries). Fortunately, the country is less affected by the HIV/AIDS epidemic than its sub-Saharan African neighbors.

Any future reform program should include a significant but carefully sequenced liberalization of international trade. Mauritania has the most restrictive trade barriers in the entire sample (rank 128 out of 128 countries) and trade has proven in many instances a powerful means of boosting growth and job creation.

Conclusions

This chapter has assessed the competitiveness of 13 Arab countries benchmarked against economies in the same stage of development. The results confirm the diversity of the Arab world and highlight a number of strengths and weaknesses that can inform policy decisions and provide a foundation for enhanced dialogue between the public and private sector.

The present findings, along with previous assessments, indicate that many countries show a respectable track record for maintaining and improving competitiveness. Yet, when benchmarked against peers in other parts of the world, many Arab economies fall behind. This applies to a larger extent to the wealthier and more advanced economies; most of the remaining Arab world compares rather favorably when benchmarked against other countries in similar stages of development. In today's globalizing world economy, the pace of reform will need to be accelerated to avoid the region falling further behind the most dynamic economies in the world, such as Singapore, Malaysia, India, and China.

We have identified a number of challenges that need to be addressed to improve the competitive performance and maintain the growth momentum in the region. Given the high unemployment and the need for diversification in many countries, education reform is a high priority. Educational outputs remain mismatched with the needs of the business sector, depriving the economies of the trained talent needed to raise productivity and move up the value chain. Because innovation is the key enabler of future growth, investment in research institutions as well as incentives for the private sector to increase R&D spending will be necessary.

High unemployment and rapid labor force growth are putting pressure on governments in the region to thoroughly overhaul the organization and regulation of labor markets that rely heavily on the public sector and migrant workers. More flexibility in employment regulations and increased focus on meritocracy and professional management are steps in the right direction. Although many of these reforms are politically sensitive, the current growth cycle may prove opportune for initiating labor market reforms. Similar considerations apply to goods markets in several countries that remain protected from internal and external competition.

When it comes to addressing the challenges outlined in this chapter, the current oil boom is a double-edged sword. Although periods of prosperity provide a window of opportunity for introducing politically challenging reform, they also diminish the pressure for such reforms. Some of the most impressive success stories in the region, including that of the United Arab Emirates, have demonstrated the possibility of sustained and aggressive reforms irrespective of conditions in oil markets. This, however, has often required the participation of the business community and society at large in supporting measures aimed at long-term economic prosperity.

Notes

1 In the case of this *Report*, we have updated the ICT-related variables as well as data from the *Doing Business* database of the World Bank, taking into account the latest developments in these two areas. These data were not yet available at the time the *GCR 2006–2007* was produced.

2 Countries in transition between stages have been attributed to the next highest stage of development. By doing so, we stress the areas they need to focus on in order to prepare for the future.

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Appendix A: Composition of the Global Competitiveness Index

This appendix provides details on how the Global Competitiveness Index is constructed. All of the Survey and hard data variables used in this index can be found in the data tables section of this *Report* with more detailed descriptions.

1st Pillar: Institutions

A. Public institutions

1. Property rights
   - 1.01 Property rights
2. Ethics and corruption
   - 1.02 Diversion of publics funds
   - 1.03 Public trust of politicians
3. Undue influence
   - 1.04 Judicial independence
   - 1.05 Favoritism in decisions of government officials
4. Government inefficiency (red tape, bureaucracy and waste)
   - 1.06 Wastefulness of government spending
   - 1.07 Burden of government regulation
5. Security
   - 1.08 Business costs of terrorism
   - 1.09 Reliability of police services
   - 1.10 Business costs of crime and violence
   - 1.11 Organized crime

B. Private institutions

1. Corporate ethics
   - 1.12 Ethical behavior of firms
2. Accountability
   - 1.13 Efficacy of corporate boards
   - 1.14 Protection of minority shareholders' interests
   - 1.15 Strength of auditing and accounting standards

2nd Pillar: Infrastructure

- 2.01 Overall infrastructure quality
- 2.02 Railroad infrastructure development
- 2.03 Quality of port infrastructure
- 2.04 Quality of air transport infrastructure
- 2.05 Quality of electricity supply
- 2.06 Telephone lines (hard data)

3rd Pillar: Macroeconomy

- 3.01 Government surplus/deficit (hard data)
- 3.02 National savings rate (hard data)
- 3.03 Inflation (hard data)
- 3.04 Interest rate spread (hard data)
- 3.05 Government debt (hard data)
- 3.06 Real effective exchange rate (hard data)

4th Pillar: Health and primary education

A. Health

- 4.01 Medium-term business impact of malaria
- 4.02 Medium-term business impact of tuberculosis
- 4.03 Medium-term business impact of HIV/AIDS
- 4.04 Infant mortality (hard data)
- 4.05 Life expectancy (hard data)
- 4.06 Tuberculosis prevalence (hard data)
- 4.07 Malaria prevalence (hard data)
- 4.08 HIV prevalence (hard data)

B. Primary education

- 4.09 Primary enrollment (hard data)

5th Pillar: Higher education and training

A. Quantity of education

- 5.01 Secondary enrollment ratio (hard data)
- 5.02 Tertiary enrollment ratio (hard data)

B. Quality of education

- 5.03 Quality of the educational system
- 5.04 Quality of math and science education
- 5.05 Quality of management schools

C. On-the-job training

- 5.06 Local availability of specialized research and training services
- 5.07 Extent of staff training

6th Pillar: Market efficiency

A. Good markets: Distortions, competition, and size

1. Distortions
   - 6.01 Agricultural policy costs
   - 6.02 Efficiency of legal framework
   - 6.03 Extent and effect of taxation
   - 6.04 Number of procedures required to start a business (hard data)
   - 6.05 Time required to start a business (hard data)
2. Competition
   - 6.06 Intensity of local competition
   - 6.07 Effectiveness of antitrust policy
   - 6.08 Imports (hard data)
   - 6.09 Prevalence of trade barriers
   - 6.10 Foreign ownership restrictions
3. Size
   - 0.00 GDP – exports + imports (hard data)
   - 6.11 Exports (hard data)

(cont'd.)

Appendix A: Composition of the Global Competitiveness Index *(cont'd.)*

B. Labor markets: Flexibility and efficiency

1. Flexibility
   - 6.12 Hiring and firing practices
   - 6.13 Flexibility of wage determination
   - 6.14 Cooperation in labor-employer relations
2. Efficiency
   - 6.15 Reliance on professional management
   - 6.16 Pay and productivity
   - 6.17 Brain drain
   - 6.18 Private sector employment of women

C. Financial markets: Sophistication and openness

- 6.19 Financial market sophistication
- 6.20 Ease of access to loans
- 6.21 Venture capital availability
- 6.22 Soundness of banks
- 6.23 Local equity market access

7th Pillar: Technological readiness

- 7.01 Technological readiness
- 7.02 Firm-level technology absorption
- 7.03 Laws relating to ICT
- 7.04 FDI and technology transfer
- 7.05 Cellular telephones (hard data)
- 7.06 Internet users (hard data)
- 7.07 Personal computers (hard data)

8th Pillar: Business sophistication

A. Networks and supporting industries

- 8.01 Local supplier quantity
- 8.02 Local supplier quality

B. Sophistication of firms' operations and strategy

- 8.03 Production process sophistication
- 8.04 Extent of marketing
- 8.05 Control of international distribution
- 8.06 Willingness to delegate authority
- 8.07 Nature of competitive advantage
- 8.08 Value-chain presence

9th Pillar: Innovation

- 9.01 Quality of scientific research institutions
- 9.02 Company spending on research and development
- 9.03 University/industry research collaboration
- 9.04 Government procurement of advanced technology products
- 9.05 Availability of scientists and engineers
- 9.06 Utility patents (hard data)
- 9.07 Intellectual property protection
- 9.08 Capacity for innovation

Appendix B: List of countries/economies in each stage of development

Stage 1	Transition from 1 to 2	Stage 2	Transition from 2 to 3	Stage 3
Angola	Albania	Argentina	Bahrain	Australia
Armenia	Algeria	Brazil	Barbados	Austria
Azerbaijan	Bosnia and Herzegovina	Bulgaria	Czech Republic	Belgium
Bangladesh	Botswana	Chile	Estonia	Canada
Benin	Colombia	Costa Rica	Hungary	Cyprus
Bolivia	Ecuador	Croatia	Korea, Rep.	Denmark
Burkina Faso	El Salvador	Dominican Republic	Malta	Finland
Burundi	Jordan	Jamaica	Taiwan, China	France
Cambodia	Libya	Kazakhstan	Trinidad and Tobago	Germany
Cameroon	Macedonia, FYR	Latvia		Greece
Chad	Namibia	Lithuania		Hong Kong SAR
China	Oman	Malaysia		Iceland
Egypt	Peru	Mauritius		Ireland
Ethiopia	Suriname	Mexico		Israel
Gambia	Thailand	Panama		Italy
Georgia	Tunisia	Poland		Japan
Guatemala	Venezuela	Romania		Kuwait
Guyana		Russian Federation		Luxembourg
Honduras		Serbia and Montenegro		Netherlands
India		Slovak Republic		New Zealand
Indonesia		South Africa		Norway
Kenya		Turkey		Portugal
Kyrgyz Republic		Uruguay		Qatar
Lesotho				Singapore
Madagascar				Slovenia
Malawi				Spain
Mali				Sweden
Mauritania				Switzerland
Moldova				United Arab Emirates
Mongolia				United Kingdom
Morocco				United States
Mozambique				
Nepal				
Nicaragua				
Nigeria				
Pakistan				
Paraguay				
Philippines				
Sri Lanka				
Syria				
Tajikistan				
Tanzania				
Timor-Leste				
Uganda				
Ukraine				
Vietnam				
Zambia				
Zimbabwe				

Appendix C: Global Competitiveness Index rankings 2007 and 2005*

Country	GCI 2007 rank	GCI 2007 score	GCI 2005–06 rank
Switzerland	1	5.81	4
Finland	2	5.74	2
Sweden	3	5.73	7
Denmark	4	5.70	3
Singapore	5	5.62	5
United States	6	5.62	1
Japan	7	5.62	10
Germany	8	5.60	6
Netherlands	9	5.57	11
United Kingdom	10	5.53	9
Norway	11	5.46	17
Hong Kong SAR	12	5.45	14
Taiwan, China	13	5.40	8
Iceland	14	5.40	16
Israel	15	5.38	23
Canada	16	5.36	13
France	17	5.34	12
Austria	18	5.32	15
Australia	19	5.30	18
Belgium	20	5.28	20
Ireland	21	5.22	21
New Zealand	22	5.17	22
Luxembourg	23	5.15	24
Malaysia	24	5.13	25
Korea, Rep.	25	5.12	19
Estonia	26	5.12	26
Chile	27	4.85	27
Spain	28	4.79	28
Tunisia	**29**	**4.72**	**37**
Czech Republic	30	4.72	29
Barbados	31	4.71	n/a
United Arab Emirates	**32**	**4.67**	**32**
Slovenia	33	4.64	30
Portugal	34	4.60	31
Latvia	35	4.60	39
Thailand	36	4.58	33
Lithuania	37	4.57	34
Slovak Republic	38	4.57	36
Qatar	**39**	**4.56**	**46**
Hungary	40	4.53	35
India	41	4.47	45
Italy	42	4.47	38
Malta	43	4.44	44
Oman	**44**	**4.44**	**n/a**
Kuwait	**45**	**4.42**	**49**
South Africa	46	4.42	40
Cyprus	47	4.35	41
Greece	48	4.33	47
Poland	49	4.33	43
Bahrain	**50**	**4.30**	**50**
Indonesia	51	4.28	69
Costa Rica	52	4.27	56
Croatia	53	4.27	64
Jordan	**54**	**4.25**	**42**
China	55	4.25	48
Mexico	56	4.23	59
Kazakhstan	57	4.22	51
Mauritius	58	4.22	55
Panama	59	4.21	65
Turkey	60	4.18	71
Russian Federation	61	4.13	53
Jamaica	62	4.13	63
El Salvador	63	4.12	60
Colombia	64	4.09	58
Egypt	**65**	**4.09**	**52**
Azerbaijan	66	4.09	62
Brazil	67	4.08	57
Trinidad and Tobago	68	4.06	66
Argentina	69	4.05	54
Romania	70	4.04	67
Philippines	71	4.02	73
Morocco	**72**	**4.02**	**76**
Bulgaria	73	4.00	61
Peru	74	3.99	77
Uruguay	75	3.97	70
Guatemala	76	3.94	95
Vietnam	77	3.93	74
Algeria	**78**	**3.93**	**82**
Macedonia, FYR	79	3.92	75
Ukraine	80	3.91	68
Sri Lanka	81	3.90	80
Libya	**82**	**3.89**	**n/a**
Syria	**83**	**3.81**	**n/a**
Botswana	84	3.80	72
Armenia	85	3.78	81
Dominican Republic	86	3.78	91
Namibia	87	3.76	79
Georgia	88	3.75	86
Venezuela	89	3.74	84
Moldova	90	3.73	89
Ecuador	91	3.72	87
Bosnia and Herzegovina	92	3.72	88
Serbia and Montenegro	93	3.71	85
Pakistan	94	3.69	94
Honduras	95	3.62	97
Mongolia	96	3.61	90
Kenya	97	3.61	93
Nicaragua	98	3.55	96
Tajikistan	99	3.50	92
Albania	100	3.49	100
Bolivia	101	3.49	101
Nigeria	102	3.49	83
Bangladesh	103	3.48	98
Gambia	104	3.45	n/a
Suriname	105	3.45	n/a
Cambodia	106	3.42	111
Benin	107	3.41	106
Tanzania	108	3.40	105
Paraguay	109	3.35	102
Kyrgyz Republic	110	3.33	104
Cameroon	111	3.32	99
Guyana	112	3.29	108
Madagascar	113	3.29	107
Nepal	114	3.27	n/a
Lesotho	115	3.24	n/a
Uganda	116	3.21	103
Zambia	117	3.21	n/a
Mauritania	**118**	**3.18**	**n/a**
Burkina Faso	119	3.10	n/a
Malawi	120	3.09	114
Zimbabwe	121	3.07	110
Mali	122	3.04	115
Ethiopia	123	3.00	116
Mozambique	124	2.97	112
Timor-Leste	125	2.91	n/a
Chad	126	2.64	117
Burundi	127	2.62	n/a
Angola	128	2.50	n/a

(cont'd.)

* The 2007 rankings, which are based on the *Global Competitiveness Report 2006–2007*, are compared with previous year's data from the *Global Competitiveness Report 2005–2006*.