

Why Some MENA Countries Did Better than Others

While the MENA region as a whole may have focused too much on the engineering of education and too little on incentives and public accountability, this observation does not apply equally to all countries. MENA countries vary among themselves in the reform approach they followed, as well as in the education outcomes they have been able to achieve. The purpose of this chapter is to attempt to explain these variations in outcomes by exploring whether countries that performed well had education systems that exhibit better engineering of education, incentives more aligned with outcomes, and greater public accountability than those that performed less well. We chose to focus on the current features of the education systems as our explanatory variables because these features reflect all past reform efforts. Furthermore, they enable us to avoid the problem of missing or mis-specified information about reform episodes in the past.

Notwithstanding the limitations of a small sample, the bottom line of the analysis is that countries like Jordan, Kuwait, and Lebanon possess education systems that exhibit better engineering, more aligned incentives, and greater public accountability than countries like Djibouti, Iraq, Morocco, and Yemen. Correspondingly, Jordan, Kuwait, and Lebanon are relatively more successful in providing more equitable access and higher-quality education to their population than the latter group of countries. This conclusion holds even when countries vary in the level of per capita income, as the performance of Jordan and Lebanon relative to that of Saudi Arabia illustrates. In addition, while a conflict can have a damaging effect on education, this conclusion is not inevitable, as the experiences of Lebanon and the West Bank and Gaza demonstrate.

To elaborate the above conclusions, the rest of the chapter is organized as follows. The first section assesses education outcomes for a sample of 14 MENA countries, with the objective of ranking their performance in relation to one another. The sample covers, alphabetically, Algeria, Djibouti, Arab Republic of Egypt, the Islamic Republic of Iran,

Iraq, Jordan, Kuwait, Lebanon, Morocco, Saudi Arabia, Syrian Arab Republic, Tunisia, West Bank and Gaza, and Yemen. The second section explores whether the better-performing countries possess education systems that exhibit relatively better engineering, more aligned incentives, and greater public accountability than the least performers. Finally, the chapter concludes with a summary of the main points made.

Variations in Education Outcomes among MENA Countries

The first step in attempting to explain the relative success of MENA countries in achieving education objectives is to measure how much progress they have made in relation to one another. Variations in education outcomes are essentially the dependent variable that we will attempt to explain in the next section, drawing on our 14 case studies.

To this end, we first outline the methodology we use to construct a composite index of the performance of each country. Next we apply this methodology to assess the performance of the education systems in achieving the following objectives: access, equity, quality, and efficiency. Finally, we add it all up to reach an overall relative ranking of the performance of the education systems of the countries in the sample.

Methodology for Ranking Countries

In constructing the composite index of education outcomes by country, we took the following considerations into account:

- The extent to which countries were successful in achieving access, equity, quality, and efficiency in the provision of education to their population. The rationale for including all four objectives is that a country may, for example, do well on expanding access, but only to a small segment of the population. This outcome would be inferior to another, in which a country was able to improve access to most of its population. A similar point can be made if one country was able to provide good quality education, while another was able to provide the same level of education quality but more efficiently.
- The extent to which progress was made at different levels of education, including primary, secondary, and tertiary. After all, we are interested in assessing the overall performance of the education system, because it is progress on all fronts that affects the level, quality, and mix of human capital a country can use to pursue its development objectives.

- The extent to which countries were able to reach high levels of educational attainment today as well as the progress they made over time. This is because not all countries in the sample started from the same level of education attainment. A snapshot of the current standing of countries will not credit some of them for the effort they exerted and the resources they allocated to catch up with today's better performers.

To construct the index, we relied on a number of proxies. The indicators used to assess access are the average of net enrollment rates for primary education and gross enrollment rates for secondary and tertiary education. For quality, we averaged literacy rates and TIMSS scores. For equity, we averaged an index of gender parity (at all three levels of education) and the Gini coefficients of the average years of schooling. For efficiency, we used primary school completion rates as a proxy for internal efficiency.¹ The choice of indicators was dictated in most cases by the availability of information for the entire sample. Even then, it was necessary to estimate some missing data, using extrapolation or similar techniques.

To add up these indicators, we needed two things: a way of adding indicators with different denominators, and a set of weights to reflect the relative importance of achieving each objective now and over time. To make it possible to add indicators with different denominators, we normalized all indicators such that they had values between zero and one. As for weights, we opted for attaching equal weights to the four objectives of education, as well as equal weights for the level of achievements today versus progress made over time. Admittedly, our choice of weights is imperfect, as different countries may legitimately attach different values to achieving different education objectives, and these weights may also change over time. However, any attempt on our part to assign unequal weights to different objectives would have involved differential treatment of countries, with no solid foundations on our part to do so.

Performance Building Blocks

Before presenting the overall performance of each country in the sample relative to the others, we look first at the variations in relative performance with respect to enrollment, equity, efficiency, and quality.

Expanding enrollment. As noted in chapter 1, MENA countries have made tremendous progress in expanding education opportunities to a greater proportion of their citizens. Enrollment rates grew at all levels of education. Today, almost all countries can boast quasi-full enrollment at the primary level and an acceptable level of access at the secondary. Al-

though university enrollment tends to be lower than comparable countries outside the region, these rates have also been growing steadily.

Notwithstanding this success, not all countries in the sample were able to reach the same levels of enrollment or to proceed at the same pace. Indeed, there are large variations among countries, as illustrated in figure 6.1 and discussed below.

With respect to *primary education enrollment*, MENA countries today have an average net enrollment rate (NER) of 83 percent. However, Djibouti scores only 33 percent, whereas Iran scores 99 percent.² Primary NERs grew 29 percentage points since 1970. Half of the countries in our sample (Algeria, Arab Republic of Egypt, Jordan, Lebanon, Morocco, Syria, and West Bank and Gaza) currently have NERs above 90 percent. The NERs for Kuwait and Iraq are around 85 percent and for Yemen and Djibouti, 67 and 33 percent, respectively (see figure 6.1.a for details).

The majority of MENA countries in the sample accelerated access to primary education over a period of one decade, following 1970. However, some countries experienced more erratic growth patterns. Algeria took from 1975 to 1990 to expand access from 77 percent to 97 percent NER. Jordan and Iraq experienced temporary setbacks in enrollment rates before recovering and continuing their paths of growth in 1995. Morocco presents an interesting case, with enrollments reaching 62 percent in 1980, dropping to 52 percent by 1990, and then accelerating to full enrollment by the end of the century. Finally, Kuwait had relatively better-performing education systems until the 1990 Gulf War. Since then, it has slowly tried to recapture its position and currently has a primary NER of 86 percent.

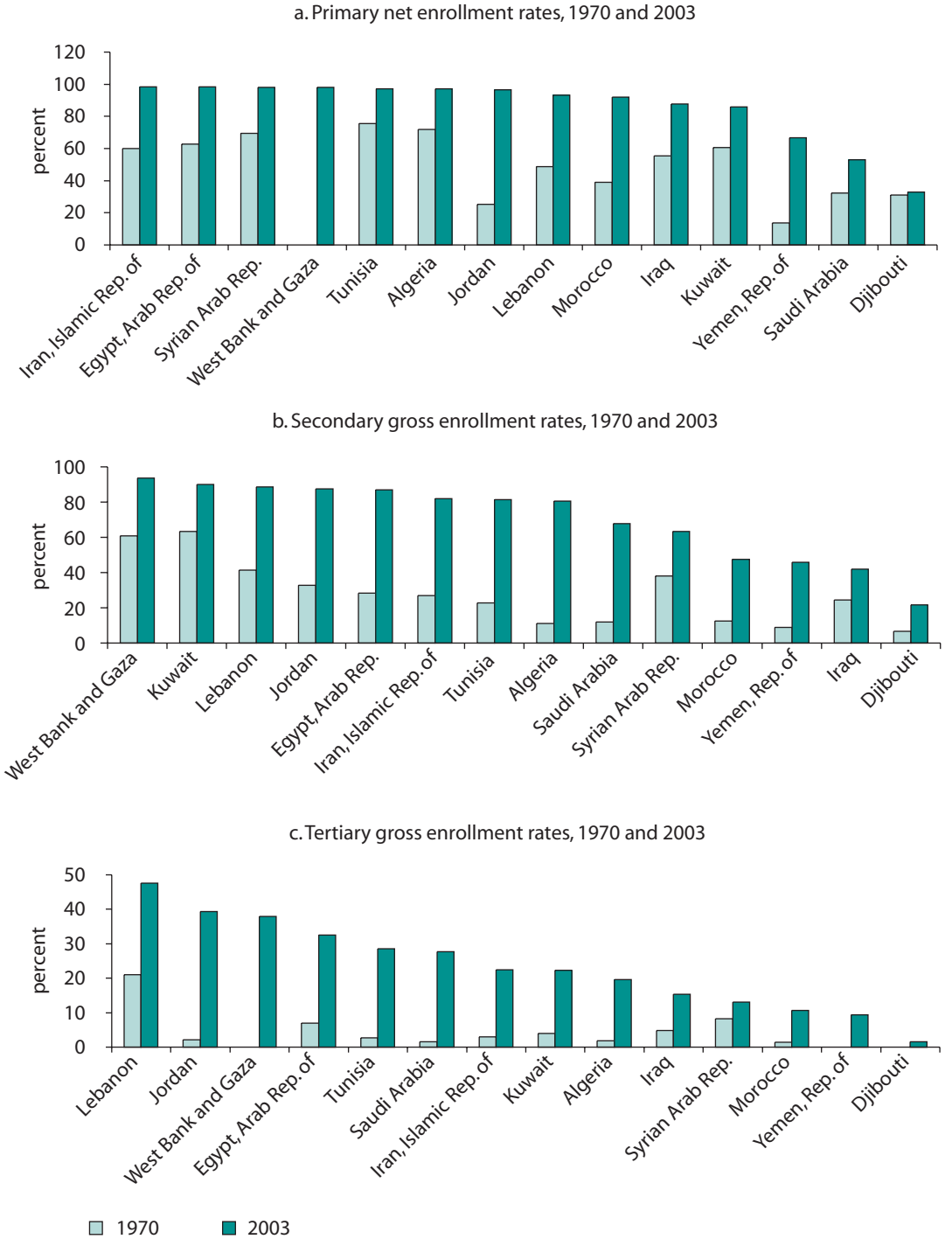
As for *secondary education*, gross enrollment rates today range from 22 percent for Djibouti to 94 percent for West Bank and Gaza (figure 6.1.b).³ On average, these countries' secondary GERs today have reached 2.5 times higher than those in 1970, from approximately 27 percent to 70 percent. Secondary GERs for the Arab Republic of Egypt and Jordan are 85 percent or more. Tunisia and Algeria are next to these top performers, with a rate of about 80 percent. On the other hand, four countries in our sample (Djibouti, Iraq, Morocco, and Yemen) still have secondary enrollment rates below 50 percent.

Most countries experienced a relatively smooth progression for this level of instruction. However, Kuwait experienced an erratic growth of its secondary education: its 90 percent GER in 1985 was halved after the Gulf War and then recovered through the 1990s. Iraq also experienced an unusual trend: its GER went up from 24 in 1970 to 57 in 1980 then went down to 42 in 2003.

Finally, with respect to *higher education*, the GERs span from 2 percent in Djibouti to 48 percent in Lebanon (see figure 6.1.c). The average

FIGURE 6.1

Primary Net Enrollment Rates and Secondary and Tertiary Gross Enrollment Rates, in 1970 and 2003



Source: Statistical Appendix.

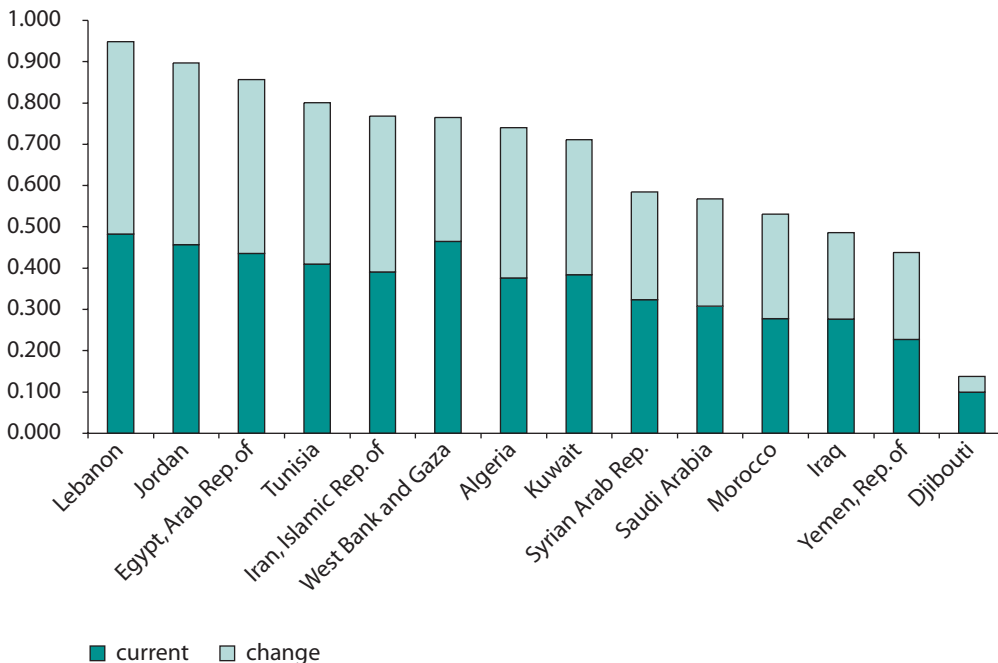
higher education for the region has quintupled from 5 percent in 1970 to 24 percent today. Lebanon was the first country to attain enrollment rates over 15 percent (in 1970), followed by the Arab Republic of Egypt and Syria (in 1980). By 1990, Jordan and Kuwait had surpassed this benchmark. Algeria, Iran, Saudi Arabia, Tunisia, and West Bank and Gaza joined these ranks by 2000. Most of these 14 countries started to accelerate enrollment in universities during the 1990s, almost doubling GERs from approximately 13 percent to 20 percent. Again, Iraq and Syria have recorded the slowest rate growth of higher education in the region.

On access overall, figure 6.2 shows that Lebanon, Jordan, Arab Republic of Egypt, and the West Bank and Gaza did particularly well in comparison with Djibouti, Yemen, Iraq, and Morocco. The rest of the countries fell in the middle. Although the variance is relatively small at the level of basic education, it goes up significantly at higher levels of education.

Equity. For many countries that had invested heavily in ensuring education for all, it became increasingly apparent that reaching the last children out of primary school required special attention. In most countries,

FIGURE 6.2

Integrated Index for Access



Source: Statistical Appendix.

women and the rural poor did not share the benefits of the modern education system to the same degree as men and the urban population. As a consequence, addressing inequitable access for girls and rural populations to the basic education level became a growing priority for most MENA governments. The results show that this is also an area where considerable progress has been made throughout the region, although there are significant variations among countries. These variations are explored below under two headings: gender parity and Gini coefficients of the distribution of the average years of schooling in the adult population.

Starting with *gender parity* (shown in figure 6.3), today, all countries but Algeria, Djibouti, Iraq, Morocco, and Yemen have a gender parity index (GPI)⁴ above 0.95 at the level of *primary education* (figure 6.3.a). On average, gender parity rates were 0.61 in 1970 and began to significantly rise for most countries during the 1990s. Typically, female primary enrollment rates lagged behind male rates, with male rates surpassing 100 percent before the gender gap began to decline. However, in Jordan, gender parity was reached before full primary enrollment. For Kuwait, Syria, and Tunisia, it took more than 15 years for the gender parity rate to surpass 0.95, after the 95 percent primary GER was exceeded.⁵ Iraq's primary education gender gap has remained unchanged since 1985, with an about 0.85 GPI.

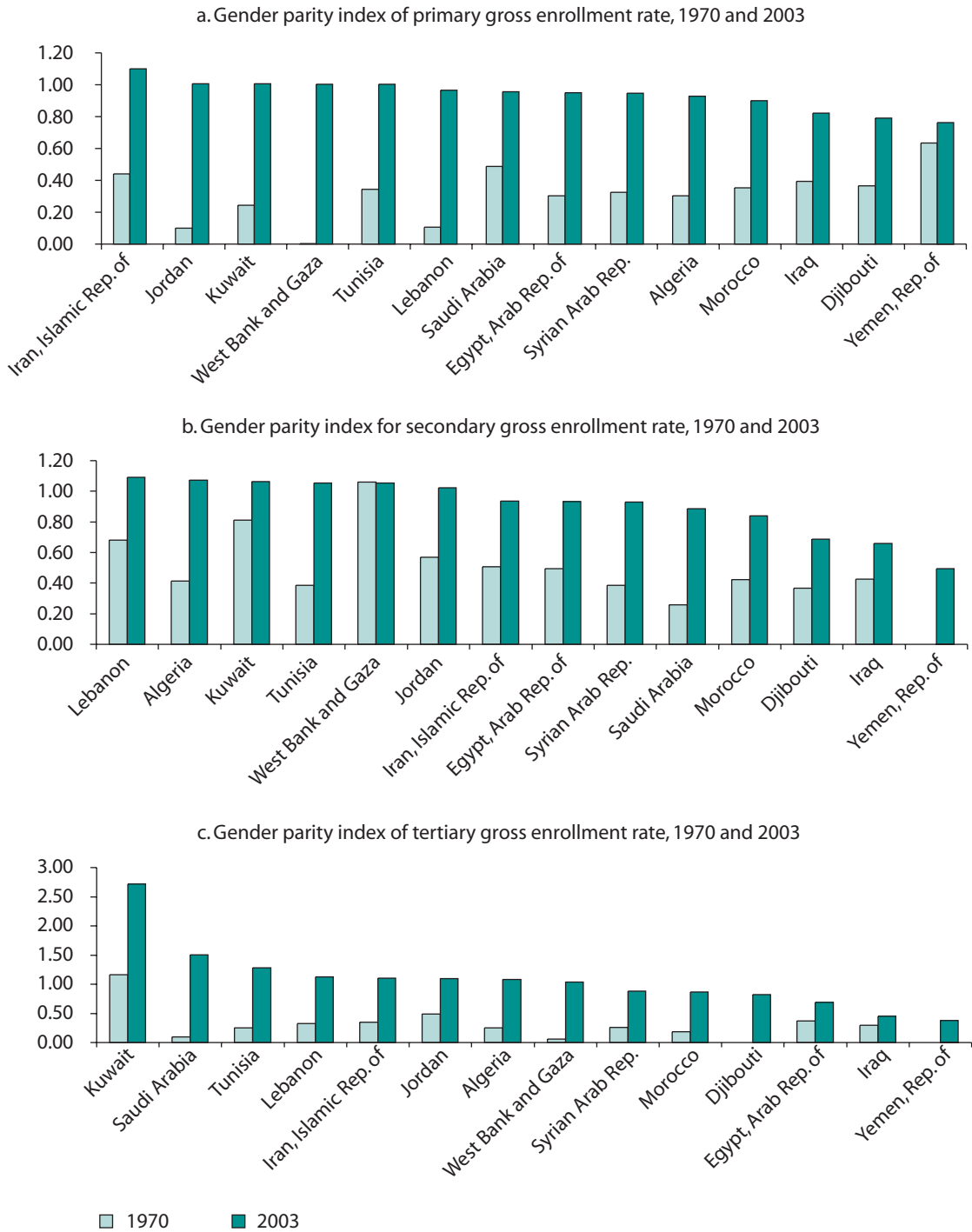
Although few countries have high rates of *secondary enrollment*, most have reached gender parity at this level of instruction (figure 6.3.b). However, Djibouti, Iraq, Morocco, and Yemen have secondary education gender parity rates below 0.95. For Algeria, Egypt, Iran, Kuwait, Lebanon, and Tunisia, the gender gap for secondary education is *smaller* than for primary. On average, these 14 countries have increased their secondary education gender parity from 0.48 in 1970 to 0.91 today. Most countries witnessed a steady increase of gender parity over this period. However, Lebanon achieved secondary education gender parity earlier, in the 1970s. Egypt, Iran, Saudi Arabia, and Tunisia did not close the secondary education gender gap until the late 1990s.

Gender parity rates for *higher education* are even higher than for secondary education in most MENA countries (figure 6.3.c). In fact, only in Djibouti, Iraq, Morocco, and Yemen do the proportions of male students significantly surpass those of females. Most countries had achieved gender parity by 1990. In Iran, Jordan, Lebanon, Saudi Arabia, Tunisia, and West Bank and Gaza, female students outnumber male students by a significant margin.

Turning to the distribution of the average years of schooling in the population, figure 6.4 shows that all the countries substantially improved their education Gini coefficients, going from 0.77 in 1975 to 0.54 in 2000 on average.⁶ Jordan and Syria currently have the most equal edu-

FIGURE 6.3

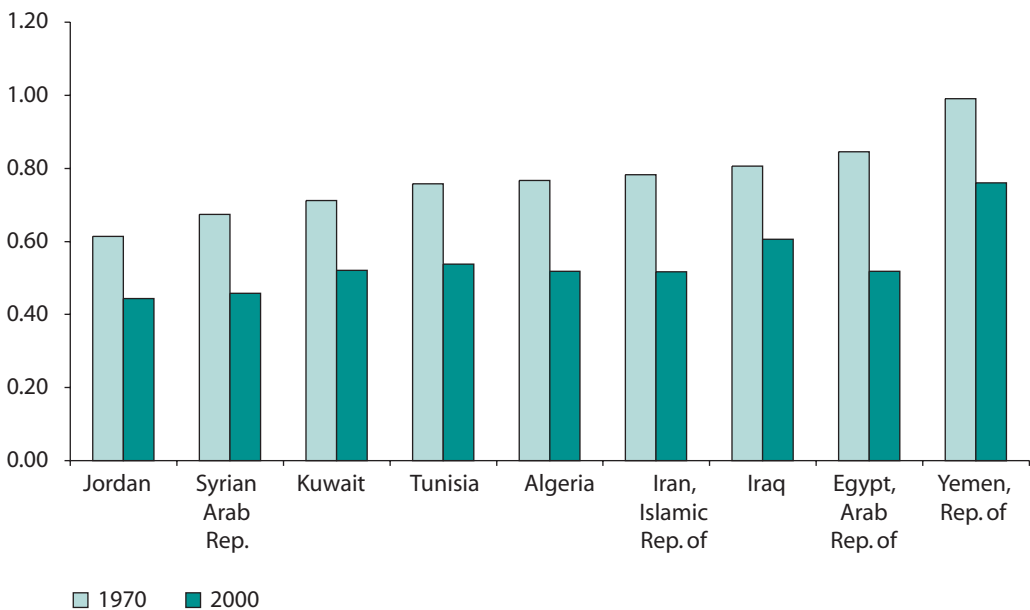
Gender Parity Indices of Primary, Secondary, and Tertiary Gross Enrollment Rates, in 1970 and 2003



Source: Statistical Appendix.

FIGURE 6.4

Gini Coefficients of Average Years of Schooling, 1975 and 2000



Source: Statistical Appendix.

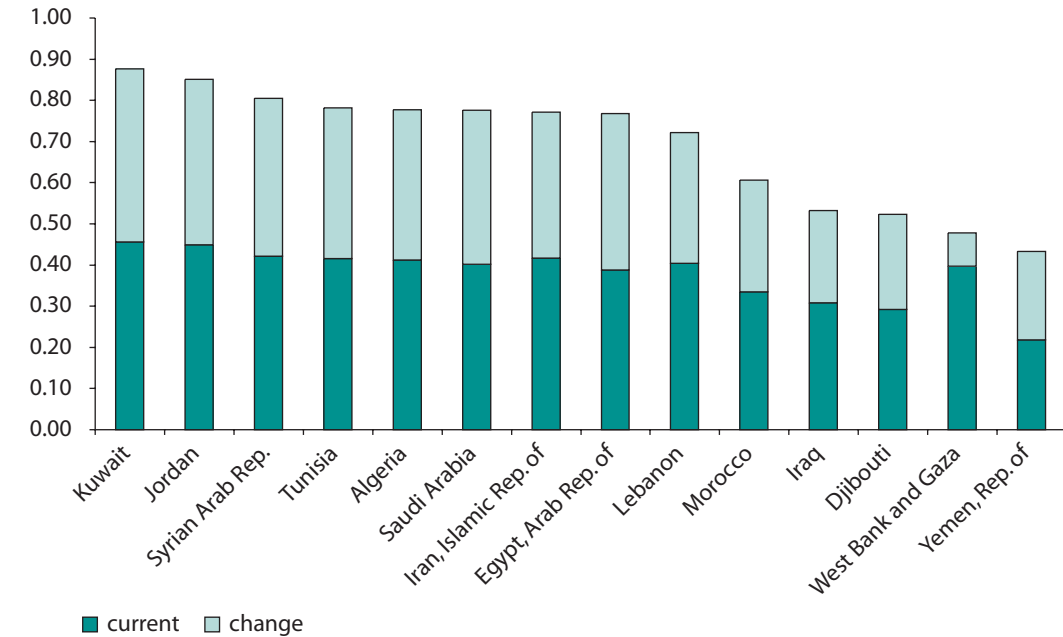
education distribution in the region, with education Gini coefficients of about 0.45. The second-best-performing group includes Algeria, Egypt, Iran, Kuwait, and Tunisia, whose coefficients range from 0.52 to 0.54. In contrast, Iraq and Yemen still have high Gini coefficients of above 0.6.

Averaging the indices for the gender parity and education Gini coefficients, the variations are greatest between the top and bottom performers (see figure 6.5). Jordan, Kuwait, and Syria have the most equitable education systems, while Djibouti, Iraq, West Bank and Gaza, and Yemen have the worst. The difference between middle and top performers is very modest, with the exception of Morocco.

Efficiency. Because of the difficulty in measuring the impact of educational efforts on student learning, sector efficiency is used as a proxy to measure this impact. Within the broad category of efficiency, *internal efficiency* captures the ability of the system to produce graduates of education systems. *External efficiency* reflects the ability of the education system to address human capital needs in society, defined in macro or micro terms.⁷ Of these two measures of efficiency, we focus on internal efficiency. External efficiency will be dealt with in chapters 7 and 8 in the context of addressing the link between education and domestic labor markets and migration.

FIGURE 6.5

Integrated Index for Equity



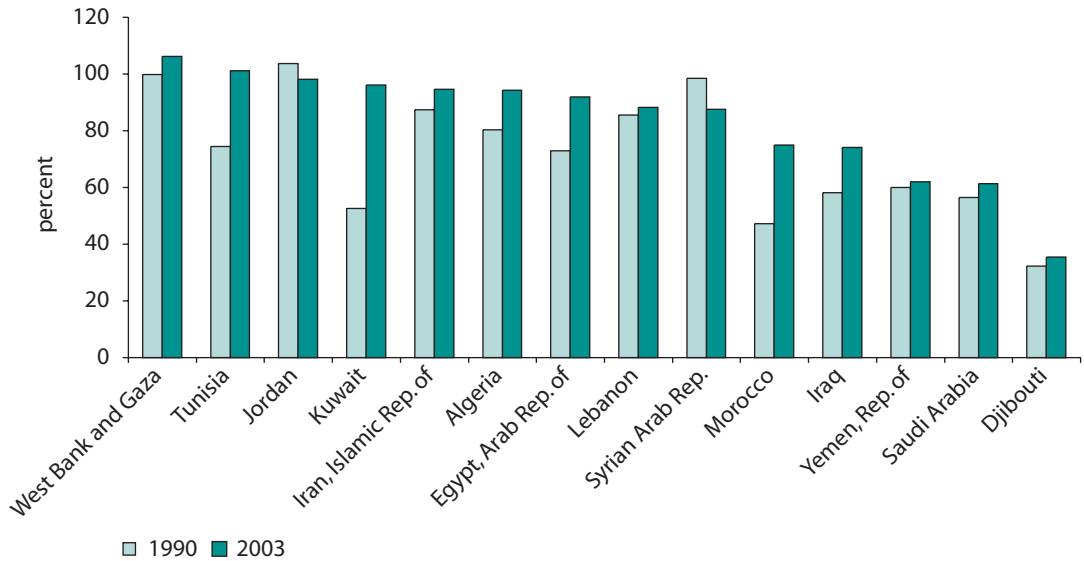
Source: Statistical Appendix.

Our efficiency index is based on *primary completion rates* (PCRs), which measure the number of students who complete primary school divided by the number of children in grade one.⁸ Completion rates in the region range from 36 percent in Djibouti to 106 percent in the West Bank and Gaza.⁹ The MENA 14 countries' average completion rate has grown gradually, from 72 percent in 1990 to 83 percent today (see figure 6.6 for more details).

Beside PCRs, we also had information about primary and secondary repetition rates, which are given in the Statistical Appendix. These rates vary a great deal from one country to another, ranging, for example, from under 1 percent in Jordan to 14 percent in Iraq and Morocco for primary education. Greater variations do exist with respect to repetition rates in secondary education, ranging from 1 percent in Jordan to 27 percent in Algeria in 2000. Notwithstanding the high costs of repetition rates, we decided not to include repetition rates in the index of internal efficiency. This is because these indicators tend to be policy driven rather than based on knowledge acquisition. Countries could change the criteria for repeating a grade or institute automatic promotion between grades simply to increase internal efficiency. Also, while repetition rates tend to be driven by student achievement, countries could change the

FIGURE 6.6

Primary Completion Rate, 1990 and 2003



Source: Statistical Appendix.

Note: PCR in 1990 for Kuwait is actually for 1991.

threshold because of the limited space available at the subsequent grade or education level. In these instances, repetition rates would not capture internal efficiency per se, but, rather, policy decisions.

Quality. Measuring the quality of education can be approached from two perspectives. First, it can be construed as *fundamental quality*: how many students have attained the basic skills (however defined) to successfully complete their courses of instruction and productively participate in the national labor market, polity, society, etc.? Second, it can be taken to reflect an education system's production of *excellence*: how many students from a particular country have entered into "world-class" research universities; or how many national universities produce "world-class" research or technicians/professionals?¹⁰

In chapters 2 and 3, we argued that investing in *fundamental levels of instruction* should be a priority for countries interested in participating in the global knowledge economy; however, *fundamental* quality is not only about basic skills or basic education. At both the compulsory and post-compulsory education levels, the transmission model of pedagogy (e.g., encouraging memorization) is being eclipsed by more focus on communication, analytical, critical, and organizational skills. Furthermore, there are currently no standardized measures of excellence. One of the Arab

Human Development Reports discusses the number of patents, academic prizes, articles written in refereed journals, etc., and these are reasonable proxies for excellence. However, these data are too sparse at national levels and over time to rank countries using this indicator.

Consequently, our analysis here focuses on *fundamental* quality, which we measure using two indicators: literacy rates in the adult population and international test scores for math and science. Literacy rates provide limited insights into the complex understanding of quality discussed above, but they give a broad measure of the learning outcomes of MENA education systems. International test scores, based on sample-based student achievement, are only available for eight MENA countries in recent years, but they present an important insight into the relative capacity of countries to transmit knowledge and skills to students of basic education.

On average, *adult literacy rates* among these countries have doubled since 1970 (from 38 percent to 72 percent).¹¹ Adult literacy rates (shown in figure 6.7.a) today range from 29 percent for Djibouti (estimation) to 93 percent for Kuwait. Algeria, Iran, Saudi Arabia, and Tunisia have made the most progress in raising adult literacy over the last 35 years. Egypt and Morocco have increased their adult literacy rates the least over the same period.¹²

The 2003 TIMSS scores provide a slightly different perspective than the literacy measures on educational quality.¹³ The scores are given in figure 6.7.b for all countries in the region that participated in the most recent TIMSS. The most notable observations are the following: first, the average for MENA countries is far below the world average, and far below a top performer like Singapore. Within the region, Morocco and Saudi Arabia scored particularly low on math tests, while Kuwait, West Bank and Gaza, and Jordan scored the best overall.

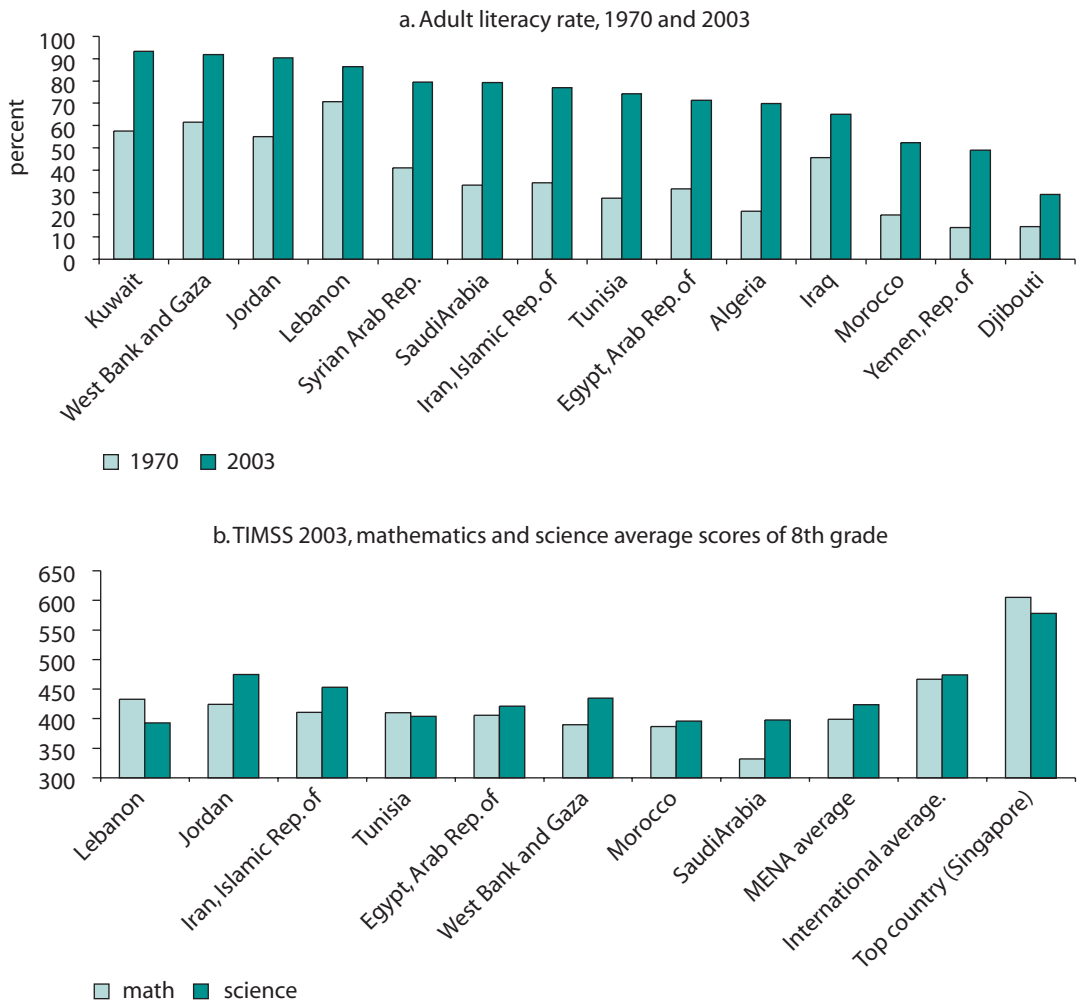
Averaging the scores for the adult literacy rates and TIMSS indices, Kuwait, West Bank and Gaza, and Jordan score particularly high, while Iraq, Morocco, Yemen, and Djibouti score particularly low (figure 6.8). Lebanon and Saudi Arabia rank higher on the literacy measures compared to their relative position on TIMSS. The Arab Republic of Egypt has a relatively modest level of adult literacy rates, but scores above average on TIMSS.

Adding It All Up

It is difficult to ascertain which countries in the sample did better than the others on the basis of achieving a single objective, given that not all countries have made the same progress in meeting all objectives, and given that they started from very different initial positions. Figure 6.9 depicts the results when all partial indices are added together for each

FIGURE 6.7

Adult Literacy Rates and TIMSS 2003 Mathematics and Science Average Scores



Source: Statistical Appendix.

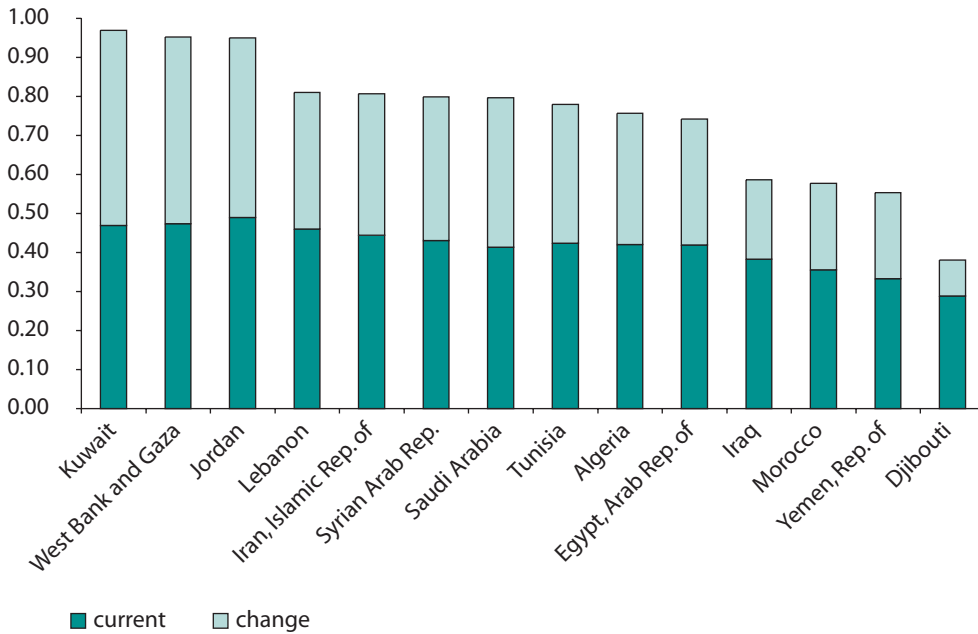
Notes: Adult literacy rates in 1970 were estimated for Djibouti, Iraq, Lebanon, and West Bank and Gaza; adult literacy rate in 2003 was estimated for Djibouti.

country, as well as the contribution of achieving each of the four objectives of education to the overall score. These results are relatively robust, given that we draw on a large number of indicators and apply the same methodology across all countries. In addition, they are not very sensitive to any particular variable.¹⁴

Clearly, the difference in ranking is most visible between the top performers (Jordan and Kuwait) and the least performers (Djibouti, Yemen, Iraq, and Morocco) in the sample. The average performers, especially Tunisia, Lebanon, Iran, Egypt, West Bank and Gaza, and Algeria, tend

FIGURE 6.8

Integrated Index for Quality



Source: Statistical Appendix.

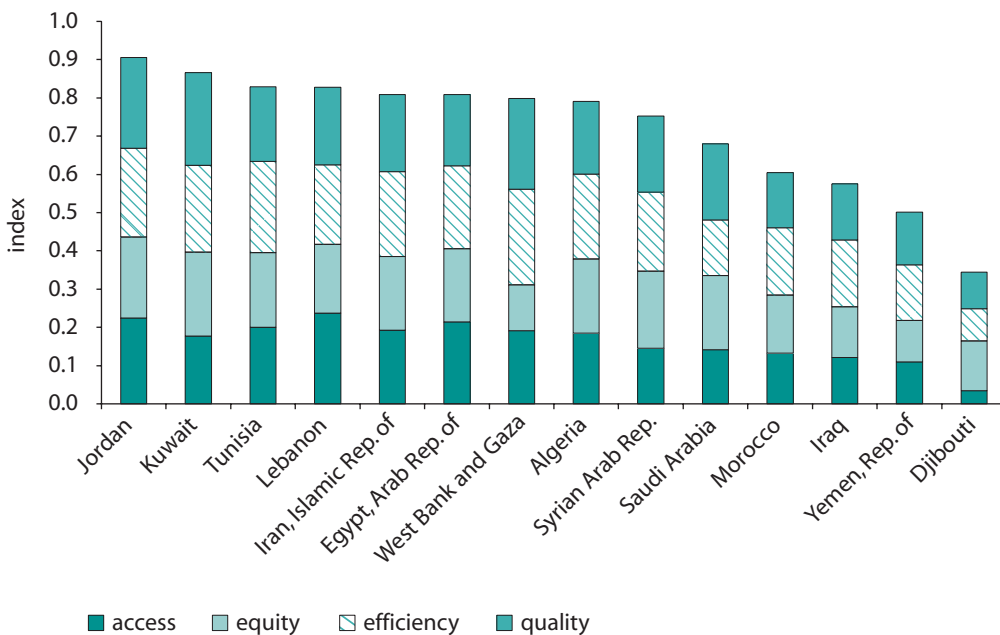
to closely track the top-performing countries. This result suggests that it would be useful to focus the analysis in the next section on contrasting the features of the education systems of the top- and least-performing countries, where most of the variations in performance are observed.

Beyond the simple ranking of countries, three observations can be made on the basis of the analysis thus far: first, each group of countries faces slightly different challenges. The top performers have achieved relatively high levels of equitable access to education. Having reduced adult literacy rates and attained reasonable levels of academic achievement for a large segment of the population, these countries are now poised to engage in strategies to take on a new generation of education reforms. The key challenges they face include retention at higher levels of instruction; greater external efficiency; and higher levels of instructional quality—for all.

The middle performers seem to have their own specific mix of education achievements and challenges. For example, whereas the Arab Republic of Egypt has reached universal primary education and reduced the gender gap at all levels of instruction, literacy levels remain relatively low and the quality of education could be improved. Algeria and Syria are plagued with high dropout rates that limit their ability to develop

FIGURE 6.9

Integrated Index for Access, Equity, Efficiency, and Quality



Source: Statistical Appendix.

post-compulsory levels of instruction. Saudi Arabia presents an unusual mix of relatively high rates of literacy accompanied by low levels of primary enrollment. Thus, this group is in a position to consolidate past achievements and tackle whatever unique problems each country faces.

As for the least performers, they stand out as having relatively low levels of primary completion rates and, consequently, low literacy levels and relatively little access to post-compulsory education. This group of countries is still working to establish the full complement of a mass education system. Djibouti and Yemen need to improve access and gender equity in basic education. Morocco needs to speed up its reform effort—which started in the mid-1990s after a period of slowdown from the mid-1970s—with a special focus on reducing adult literacy and improving access to post-compulsory education. Iraq presents a special case, with all the challenges facing a nation in an intense conflict.

Second, five countries in the sample have experienced large-scale political conflicts since the 1960s. Yet, they have been able to retain their positions as top or middle education performers. Despite the Six-Day War for Jordan, the civil war in Lebanon, the Iran-Iraq War for Iran, and the Gulf War for Kuwait, these countries were able to protect their education systems. For the Palestinians, who have experienced perennial

conflict, reaching some relatively high levels of educational development in the region is a considerable accomplishment. This observation suggests that conflicts cannot be fully blamed for low progress on education reform and low achievements.

Third, success in meeting education objectives does not always correlate with per capita income. Surely, countries with relatively high per capita income such as Kuwait perform relatively better than poor countries like Djibouti or Yemen. However, it is also true that countries like Algeria and Saudi Arabia, with relatively high per capita incomes, perform less well than countries with lower per capita income like Jordan or Tunisia. Thus, financial resources may be necessary for improving education, but the availability of resources is by no means a sufficient condition.

Contrasting Education Outcomes with the Features of Education Systems

Is there a relationship between education reforms and education outcomes in the MENA region? This is a difficult question to answer. Attribution in the education sector has always been difficult to ascertain, particularly at the national level (rather than at a school or classroom level, which also has its problems). Finding a clear link between reform measures and an increase in access, student achievement, the usefulness of what is taught, and the equity with which education is provided is confounded by several factors. First, most reforms take a long time to roll out in the education sector: curriculum changes, teacher upgrading, or promotion of private schools usually takes at least five years to fully implement, let alone produce their full effect on outcomes. Second, countries may introduce reforms, but the quality of these reforms may not necessarily improve the acquisition of knowledge. If, for example, evaluation systems of teachers and schools are introduced without performance-based rewards, these evaluation systems are not likely to be effective. Nor would making information about school performance available to the public be useful if citizens had no mechanisms to express their concerns. Third, education reforms take place in a context, which does not remain constant over time. Thus, education outcomes may improve, but this may have little to do with education reforms; rather, a positive external shock or a political turnover may be the relevant factor. Finally, the business of establishing meaningful correlations, let alone causations, requires a large sample, consistent cross-section or time-series data, and formal techniques to process these data. Unfortunately, our sample is too small and the data on reform measures are too imperfect to permit this kind of analysis.

Notwithstanding these confounding factors, much can be learned from contrasting the education outcomes obtained in the previous section with the current features of the education systems in our sample. The justification for focusing on the features of the education systems today, rather than on education reforms over time, is that past reforms must by definition have impacted the way the education systems function at present. The additional merit is that we avoid the problem of missing information about particular reform elements or reform episodes, either because these reforms were not documented or the information not made public. In addition, by looking at the education systems comprehensively, we are likely to capture how the different components of the system hang together. While the intervening factors cannot be systematically taken into account, this shortcoming is compensated for by the insights that an in-depth analysis of case studies provide. Having said that, we recognize that one cannot use the findings of a few case studies for *prediction* of what is likely to happen elsewhere, but one can certainly use them for *prescription* of what ought to be done going forward.

The rest of this section is structured around answering the following questions: did the top-performing countries in the region engineer their education systems better than the rest of the sample? Do they adopt better incentives to motivate the actors involved in the education process? Did they exhibit more public accountability toward their citizens?

Did the Top-Performing Countries Engineer Their Education Better?

Increasing equitable access to education, improving its quality, and enhancing its efficiency require, as a prerequisite, a well-engineered education system. In exploring whether MENA countries that performed relatively well have engineered their education systems better than the rest of the sample, we were guided by the discussion in chapter 3. For the purpose of the analysis in this section, we focus on four engineering features: pedagogy, teaching capacity, structure of education and flow of students, and resource mobilization. In each case, we make a qualitative judgment about the relative success of each country on the basis of relevant numerical indicators and expert opinion. Countries that meet best practice are given a dark circle, those that do not an empty circle, and countries that have gone halfway or whose reform is too recent are given a half dark circle.

The overall results of this investigation, which are elaborated below, are shown in table 6.1. Suffice it to note at the outset that Jordan and Kuwait seem to have education systems that are judged to possess better engineering than those of Morocco, Iraq, Yemen, and Djibouti. The

TABLE 6.1

Engineering Features of the Education Systems in Selected MENA Countries

Country	Pedagogy	Teaching capacity	Structure and flow	Resource mobilization
Jordan	●	●	●	●
Kuwait	○	●	●	●
Tunisia	●	○	◐	○
Lebanon	●	○	○	●
Iran, Islamic Rep. of	◐	●	●	●
Egypt, Arab Rep. of	◐	○	○	◐
West Bank and Gaza	○*	○	●	●
Algeria	○	●	○	○
Syrian Arab Rep.	○	◐	○	○
Saudi Arabia	○	◐	○	○
Morocco	○*	N/A	●	○
Iraq	○	●	○	○
Yemen, Rep. of	○	○	◐	○
Djibouti	○	◐	●	◐

Source: Education Reform Database.

Note: ● = high, ◐ = medium, ○ = low, * administered since 2003, N/A = not available.

countries in the middle tend to exhibit mixed features. This conclusion suggests that better-engineered education systems are capable of producing relatively better education outcomes.

Pedagogy. The recent pedagogical approach in primary and secondary schools emphasizes: (i) *inquiry-based learning*, privileging skills acquisition to rote memorization; (ii) *student-based learning*, ensuring greater success for all students enrolled, with greater individualized instruction; (iii) *multiple-chance learning*, allowing students to continue to pursue their education, with possibilities of transferring between programs; and (iv) *emphasis on technology, science, and foreign languages*. The question is whether the better performers in our sample of MENA countries adopted these recommended practices, while the least performers did not.

On the basis of available information, the answer seems to be yes. Jordan, Tunisia, and Lebanon have gone the furthest in student-centered pedagogy, while Morocco, Iraq, Yemen, and Djibouti have not even begun the process. The better-performing countries have officially engaged in a pedagogical reform effort that was inspired by recent international trends. They have adopted pedagogical innovations in their curriculum and textbooks; in their in-service teacher training; and in equipping schools with Internet connections and computers. Some countries in the middle also initiated similar pedagogical reforms, such as Iran and the Arab Republic of Egypt, as illustrated in box 6.1.

BOX 6.1**Summary of Pedagogical Reforms in Tunisia, Jordan, Iran, and Egypt**

Tunisian pedagogical reform is inspired by the Competency Based Approach that has been popular in many OECD countries. Consequently, it is attempting to shift away from the topic/information-based curriculum it had adopted for years to a new curriculum that focuses on knowledge (*savoir*), skills (*savoir faire*), and attitudes (*savoir être*) with specific emphasis on the core skills of reading, writing, and numeracy. Each unit of the curriculum embodies learner-centered activities that integrate these three types of competencies. The new curriculum is also characterized by the introduction of English at the eighth grade of basic education to expand the multilingual skills of the Tunisian students. The adoption of the new curriculum has been followed by the design and production of a new generation of textbooks, assessment handbooks, and subject guides that embody the objectives of the curricula and its implementation in specific subject matter. The new competency-based curriculum has been generalized at the primary level and is being adopted in upper basic and secondary education.

Jordan is another MENA country that has been at the forefront of curriculum reform in the region. These reforms have targeted core subject areas such as Arabic, math, science, and English. Jordan also introduced a new subject stream—Information Management—to prepare secondary students for positions in e-commerce, information management, computer-based accounting, etc. The emphasis in the new curricula is both on subject-matter skills and other transferable skills that are necessary for success in the private sector, including communication, team work, analysis and synthesis of information, self-directed learning, etc. The preparation of students for the knowledge economy represents the key strategic lens through which the reforms of the curricula and textbooks have been undertaken in Jordan. In addition, Jordan stands as one of the first MENA countries to have put the investments in information and communication technologies in schools as an integral component of its plans to transform into a knowledge-based economy: equipping all public schools with computers and Internet connections. Jordan's Ministry of Education (MoE) is expected to become the single largest user of information technology (IT) in the country—larger than all other users combined (World Economic Forum 2002).

Iran's education system has recently undergone pedagogical reforms. Since the 1990s, active and cooperative methods of teaching and learning have been introduced in Iranian schools. This concept was further developed since 2004 when the MoE declared its intention to advance pedagogical reform by adopting *student-centered approaches* in teaching and learning and *active methods* of learning in groups. Similar to other countries, the

(Box continues on the following page.)

BOX 6.1 (CONTINUED)

pedagogical reform agenda includes changes in school curricula and textbooks, the evaluation system, the syllabus, the development of education standards, and the introduction of IT in the classrooms.

Egypt has also been active in implementing pedagogical reforms. Egypt has embarked on a grand mission to redesign the curriculum so that the learning objectives revolve around competencies and skills that promote problem solving and lifelong learning. In addition, the use of IT is a large agenda both in teacher training and usage as a pedagogical tool in classrooms. Revision and further development of curriculum is also an important intervention. A common curriculum in selected core subjects for both technical and general schools was implemented in addition to new electives to promote flexibility in school curriculum and to foster student-centered learning.

Source: Zafeirakou 2006.

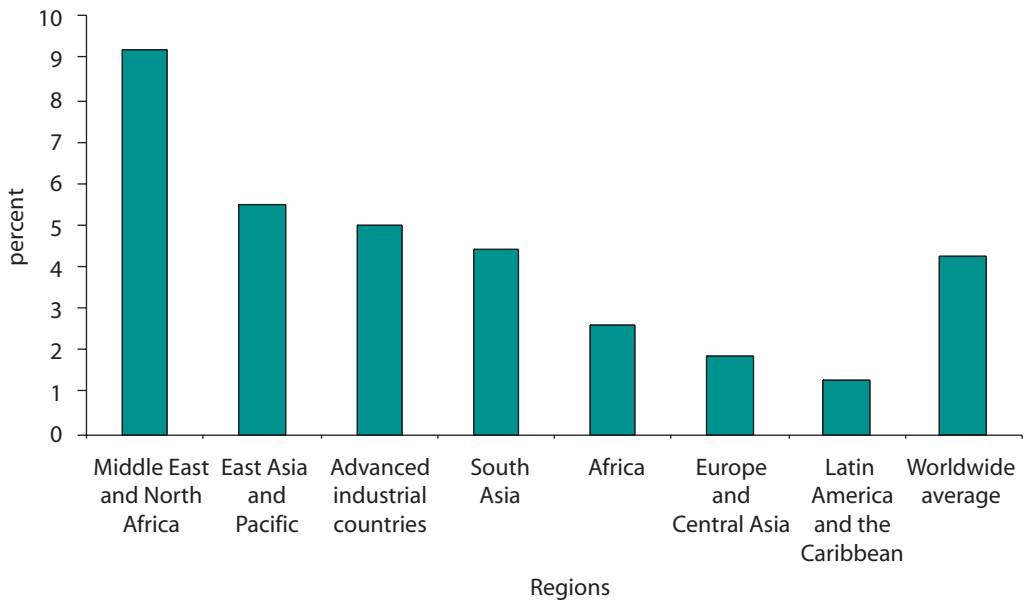
In contrast to these pedagogical innovations, the remaining countries continue to adopt an outdated pedagogy. Typically, curricula and textbooks are centrally developed to ensure that they are the same for all students of each grade. There is a predominance of Arabic language, history, and religion subjects in the curriculum over math, sciences, and technology. As noted in figure 6.10, the average percentage of total instructional time allocated to religious education in Grades 7 and 8 is much higher in MENA than in other regions of the world. The philosophy of the curricula and syllabi in nonreforming MENA countries emphasize memorization and standardization.

As for the use of information and communication technology (ICT) in education, progress internationally has been impressive. ICT has increasingly been employed in the management of the education systems, in distance learning, and as a pedagogical device. Large investments have been made in these activities with generally positive results, as explained in box 6.2.

In the MENA region, the introduction of ICT into the education sector has not generally been accompanied by a clear strategy to ensure optimal impact and usage. The emphasis has been on investment in hardware and software with little attention being given to ancillary support services (such as training, maintenance, and monitoring). Other preconditions for success, along the lines of those listed in box 6.2, are rarely met. Jordan, Tunisia, and Algeria represent exceptions in some respects. For example, Jordan and Tunisia declared ICT a key pillar in their development strategy. Algeria created a national center in 2003 to facilitate

FIGURE 6.10

Average Percentage of Total Instructional Time Allocated to Religious Education and Morals in Grades 7 and 8, by World Regions, 2000



Source: Adapted from Benavot paper (2004).

the study, research, and consultation to diffuse pedagogical innovations of the usage of ICT in education. However, it is not evident that any country in the region has put in place all it takes to maximize the use of ICT in education.

Teaching capacity. Teachers play a prominent role in the education system. Their capacity to transmit knowledge to students in the classroom is fundamental to the success or failure of the entire system. This capacity is basically derived from teachers' skills in pedagogical methods and competency in particular subject matter. These skills presumably correlate with education, training, and experience. Thus, in the recruitment of new teachers, policy makers tend to rely on such indicators as: (i) minimum level of education needed to teach in academic institutions and schools; and (ii) pre-service and in-service education (continuous education). Once hired, policy makers make decisions that influence teaching capacity in the classroom, including the deployment of teachers at different levels of education and teaching locations.

So, is it true that better-performing countries have more qualified teachers than the rest of the sample? This question turned out to be difficult to answer. The only systematic data on teacher qualifications were

BOX 6.2**Information and Communication Technologies and Education**

Countries around the world have invested heavily in equipping schools and faculties with computers, labs, networks, and software to ensure that students have “hands-on” opportunities to master ICT. Also, computer sciences, information technology, programming, etc. have become typical additions to course offerings at every level of instruction.

The use of ICT to improve education is observed in three areas. First is in the management of education systems to improve the quality of administrative activities and processes, including human resource management, student registration, monitoring of student enrollment and achievement, and planning. Although research is scant, the introduction of technology in these areas appears to have had a positive impact, permitting more school autonomy, better monitoring, more efficient resource allocation, and greater transparency.

Second, ICT has been used in distance education. Education through correspondence is a well-established tradition. With the new technologies, however, the avenues for learning from home have multiplied exponentially, making education an international commodity. Quality control, certification, and equivalency have become hot-button issues as more education opportunities are made available online.

Third, ICT has been harnessed as a pedagogical device. Sometimes this has been through a melding of distance and traditional education (e.g., instruction in the classroom via television, radio, the Internet, or through the use of presentational equipment and software), as a passive means of conveying information. Sometimes it serves as a hands-on tool used directly by students through interactive software, etc. The impact of these experiments has been mixed. While some studies show little improvement in

compiled by UNESCO, but each country’s definition of qualified teachers differs. No systematic information was available on pre-service or in-service training for most MENA countries. It also turned out that all countries in the sample have a high percent of qualified teachers (above 90 percent) in primary education. More variations were observed for the qualification of teachers in secondary schools. For this reason, we ended up characterizing the teaching capacity of the countries in our sample using the latter indicator.

By this measure, two top-performing countries, Jordan and Kuwait, have more than 90 percent of the teaching force equipped with the qualifications necessary to teach in high school. However, Tunisia and Lebanon do not.¹⁵ At the other end of the spectrum, Iraq, and to a lesser degree, Djibouti have a relatively high percentage of qualified teachers in secondary schools. Among the middle performers, Iran and Algeria do well,

student learning (Sakellariou and Patrinos 2004), others show positive learning outcomes (Kothari 2004).

Global expenditure on ICT in education is also increasing faster than other categories of educational spending (OECD 2001). To make this expenditure effective, the literature suggests that:

- Information and communication technology should be explicitly incorporated into national policies and school curricula, reflecting a thorough analysis of its costs and benefits.
- Teachers require appropriate training and support to effectively assimilate computer technology into the teaching and learning processes and in their administrative duties.
- The organization of instruction time and teaching and learning strategies must be sufficiently flexible to allow for the most effective use of ICT in the classroom.
- The cost and sustainability of ICT need to be carefully calculated, and such analysis must include adequate technical support.
- The introduction of ICT needs to be accompanied by a change of school culture that encourages information sharing among students, schools, and other educational institutions and organizations, both nationally and internationally.
- ICT and distance education cannot be a substitute for good-quality and teacher-led education.

while Egypt, Syria, and Saudi Arabia have about 80 percent of their teaching force in secondary education with minimum qualifications. Overall then, it is difficult to discern any pattern for the relationship between teachers' qualification and education outcomes, although this may rather be a matter of definition of who is considered qualified in a given context.

What is more apparent, though, is that the region is likely to meet an acute shortage of qualified teachers in the future. According to the UNESCO, the majority of countries in our sample will face a challenge recruiting the number of qualified teachers they will need to meet demand in 2015 (table 6.2). The challenge is more visible for Egypt, Saudi Arabia, Iraq, and Morocco. Given that Egypt was historically able to export teachers to neighboring countries like Saudi Arabia, the expected shortage in both countries indicates that a serious effort is needed to ensure that the region does not face major bottlenecks in the future.

TABLE 6.2

Primary Teacher Stocks, Flows, and Additional Teachers Needed to Reach UPE by 2015

(in 000)

Country	Primary teacher stocks			Primary teacher flows, 2004–15	
				Teachers to fill vacancies due to attrition (6.5%)	Total number of teachers needed for UPE and attrition
	2004	2015	Difference		
Jordan	39**#	44	4.9	29.9	34.8
Kuwait	12	17	4.4	10.2	14.6
Tunisia	59#	47	–12	27.1	27.1
Lebanon	32	29	–3.4	18.3	18.3
Egypt, Arab Rep. of	355**#	424	68.9	277.6	346.5
West Bank and Gaza	14	20	5.8	12.1	17.9
Algeria	170	157	–13	104.2	104.2
Syrian Arab Rep.	125**	125	–0.1	88.9	88.9
Saudi Arabia	204	341	137	186.6	323.6
Iraq	211	265	53.4	167.6	221.1
Morocco	148	158	10.4	109.0	119.3

Source: UNESCO Institute for statistics.

Note: The projected teacher stock for 2015 is based upon the estimated primary school–age population in 2015 plus 10% or half the current rate of repetition all together divided by a pupil–teacher ratio (PTR) of 40:1 (or the current PTR if it is below the benchmark).

Data refer to 2003.

**UIS estimates.

Structure and flow. The structure of education and flow of students refer to the rules governing how the system is organized, how students move from one level of education to another, what choices they have, what subjects they study, and the timetable of schooling. Thus, it refers to the number of years in a particular cycle of education, for example, five or six years of primary education, two or three years of lower-secondary education, and three or four years of upper-secondary education. It also refers to the rules concerning the administration of exit or admission exams. Finally, it refers to decisions about increasing or decreasing school days and hours, the introduction of new academic subjects and fields of study (for example, information technology), or the creation of an academic department in higher education that did not exist before.

Among these elements of the structure and flow, the global trend is one of eliminating exit examinations in basic education and increasing transferability between academic fields and diversification of choices in post-compulsory education. With respect to exit examinations at the end of basic education, the problem is that such exams tend to cause bottlenecks and prevent a sizable number of students from entering secondary education, limiting advanced studies to a privileged few. It also encourages teaching to the test and the proliferation of private tutoring. Initially these exams were believed to provide opportunities for social mo-

bility so that all could be part of the country's elite in the process of state building. However, very soon urban upper-class students gained an edge because they were supported by families and private tutors (Massialas and Jarrar 1991). Thus, many countries have eased their promotion policies by abolishing this exam system.

Transferability between academic fields and diversification of choices in post-compulsory education are also on the rise. Students are increasingly allowed to pursue various subject areas and still remain competitive and flexible in their areas of interest. They are allowed to transfer between different types of institutions, whether from secondary education to vocational or technical education to higher education. Transferability is believed to expand the opportunities for students to gain various skill sets for future employment. In short, it is increasingly recognized that rigid systems are costly both to the individuals and to society.

In contrast to these trends, several MENA countries continue to retain exit exams in basic education, permit very limited transferability of students between fields of knowledge, and offer very limited choices in post-compulsory education. Egypt, Algeria, Syria, and Saudi Arabia continue to administer exit examinations at the level of basic education, limiting student enrollment in secondary education and promoting private tutoring. (The proliferation of private tutoring and its adverse impact on the poor are illustrated by the example of Egypt in box 6.3.) Among the better-performing countries, Jordan, Kuwait, and Tunisia abolished the exam system in basic education, but so did Morocco, Djibouti, and Yemen. It is interesting to note that, in the latter three cases, easing the promotion policy has not increased the transitional rate to secondary education, which suggests that expanding enrollment at this level of instruction takes more than abolishing exit exams.

Although student choices at the level of post-compulsory education may have increased in MENA in recent years, transferability between different types of academic institutions remains limited in the majority of cases. Very few students have the option of pursuing higher education at the university level after pursuing vocational and technical education, with some exceptions. Jordan and Tunisia, for example, developed non-formal vocational training programs that are more responsive to employers' training needs. The two countries are also developing alternative formal post-secondary education options to better meet labor market needs through short-track (usually two-year) technology, business, and other trade-oriented schools. One example of this is Tunisia's *Instituts Supérieurs des Etudes Technologiques* (ISETs).

At the university level, some countries have focused on adopting the (License, Maîtrise, Doctorat) 3–5–8 degree cycles that are being standardized throughout Europe. This change aims to: (i) increase gradua-

BOX 6.3**Private Tutoring in Egypt**

Private tutoring in Egypt has shifted from being a remedial activity into a prevalent feature of the education system. This trend holds to varying degrees across all levels of education and different income groups.

According to the Egypt Human Development Report (2005), 58 percent of surveyed families stated that their children take private tutoring. According to CAPMAS (2004), households spend on average around 61 percent of total education expenditure on private tutoring, up from 44 percent in 2000. Private tutoring exists across levels of education, but reaches its maximum intensity in secondary education.

Both poor and nonpoor households alike seek private tutoring for their children. According to a UNDP survey (1997), 51 percent of poor students take private lessons while this figure goes up to 60 percent for the rich. The rich spend more. According to CAPMAS (2004), per-household expenditure of the richest quintile on private tutoring is more than seven times that of the poorest (see the table below).

Share of education expenditure and private tutoring to average household expenditure by quintile, 2004

	Education expenditure	Private tutoring
Poorest quintile	5	2
Second quintile	6	3
Third quintile	7	5
Fourth quintile	9	6
Richest quintile	16	10
All Egypt	9	6

Private tutoring seems to be the product of three factors, according to Assaad and Elbadawy 2006:

- The system restricts entrance to higher education through a one-time examination. Because the exam score is critical for a student's career path and future earnings, families are willing to invest in tutoring as a form of intergenerational wealth transfer.
- The growth in school-age population has undermined the quality of education reflected in a very high class density and poor classroom teaching quality. This has intensified competition for seats in the general secondary stream and in universities and increased the demand for private tutoring.
- Finally, teachers' salaries are very low. This creates a strong incentive to make more income through private tutoring, which can earn them on average 10 times their governmental salary.

Sources: Assaad and Elbadawy 2006; Egypt Human Development Report 2005; CAPMAS 2004; UNDP 1997.

tion rates in universities, as it provides students more flexibility to craft their own degree programs, and (ii) provide visibility and eventually equivalence between MENA and European universities. Tunisia, Lebanon, Algeria, and Egypt are in the process of making this transition.

Resource mobilization. Historically, most MENA countries expanded access to both compulsory and noncompulsory education by means of public resources. Education was provided essentially free of charge at all levels. The education authorities both planned and executed the construction of schools, the recruitment and payment of instructors, the establishment of curricula, and examinations and the provision of teaching materials. As budget constraints became more binding over time, some MENA governments became more aware of the need to promote the efficiency and financial sustainability of the education system. To this end, some countries have attempted to diversify the revenue base through charging fees and encouraging private provision of education, while others have not.

Within our sample, the better-performing countries have increasingly relied on households to contribute to the cost of publicly provided education through the payment of fees. The same countries have also encouraged private provision of education, especially at the tertiary level. This group includes Jordan, Kuwait, and Lebanon. Tunisia is an exception, where the government continues to take full responsibility for the provision of education. By comparison, none of the least-performing countries in our sample have initiated any systematic effort at mobilizing private funds for financing education. Iraq, Syria, Yemen, and Djibouti hardly charge any fees, nor do they have private education systems. The rest of the sample has a mixed record. While Iran, the West Bank and Gaza, and Egypt have moved in the direction of the top performers, Algeria, Syria, and Saudi Arabia have not.

In addition to these broad patterns, some countries in the region are experimenting with novel initiatives to mobilize resources, although the application of these experiments is not systematic and remains limited in scope and coverage. These experiments include expanding educational opportunities through community partnerships and delegating education provision to nongovernmental actors. With respect to expanding educational opportunities through community partnerships, the initiatives typically consist of either a matching of funds for school construction or in-kind contributions to establish the needed schools (e.g., state construction/community cession of land, state materials/local labor). Djibouti, Egypt, Iran, Morocco, and Yemen have all engaged in such experiments to increase primary enrollments, particularly in rural areas, or of girls. In other cases, the government would delegate the provision of cer-

tain education services, such as adult nonformal education or preschools services, to NGOs in return for providing training, learning materials, and stipends for instructors, or in the form of a block grant.

Did the Top Performers Align Incentives with Better Education Outcomes?

Besides the engineering of education, motivating the actors involved in the provision of education is vital to improving education outcomes. As explained in chapter 4, aligning incentives with better outcomes involves the evaluation and monitoring of performance of schools/teachers, and linking this performance to pecuniary and nonpecuniary rewards. But all this will work only if schools are given sufficient autonomy in operating decisions.

Against this backdrop, the question addressed in this section is whether the top performers in our sample of 14 MENA countries were more successful in aligning incentives and granting managerial autonomy to schools than the rest of the sample. In answering this question, a distinction is made between public and private providers of education, as the two face very different sets of incentives. Our main conclusion, as will be elaborated below, is that the top performers rely to a much larger extent on the private sector for providing education than do the least performers. Indeed, Jordan, Kuwait, and Lebanon are leading the region on engaging the private sector in education. Otherwise, both the top and least performers essentially do not provide public schools sufficient autonomy, nor do they hold them accountable through appropriate evaluation, monitoring, and rewarding mechanisms.

Does this mean that the only way to align incentives with better education outcomes is to rely on the private sector for the provision of education? The answer is *no*. There are world-class public education institutions. Private provision of education does not guarantee equitable access to education; rather, it may lead to cream-skimming and rejection of low-performing students. Moreover, the quality of regulation of private schools is as important to good outcomes as the motivation to maximize profit. Thus, a balance is needed between engaging the private sector, preferably at the level of tertiary education, while injecting elements of evaluation, monitoring, and rewards in public schools, coupled with greater school autonomy. In some ways, this is the road not traveled as yet by almost all MENA countries.

The rest of this subsection is organized as follows. First we discuss the degree to which schools are given autonomy in managing resources and activities. Next, we discuss the extent to which our sample of countries addressed issues of evaluation, monitoring, and rewards successively.

School autonomy. A key feature of recent reforms in developed and developing countries to improve education quality in public schools is school autonomy. Many responsibilities are transferred from the central authorities to schools, including program design and implementation, recruitment, supervision and evaluation of teachers, and sometimes revenue diversification. In return for greater autonomy, schools are held accountable for results. In a fundamental way, the principal (the central government) is changing the contract with public schools, so that the latter are held accountable for results rather than adhering to prespecified processes. International experience seems to support the notion that school autonomy matters for good education outcomes, as demonstrated in box 6.4.

To explore the extent of autonomy in public schools in our sample, we constructed a table that traces key managerial decisions by who makes them. The results, shown in table 6.3, indicate that none of our sample countries, successful or not, has delegated much of the operating decisions to schools. It is of course legitimate that ministries of education retain the decisions pertaining to the development of education plans, the allocation of resources according to national priorities, and the appointment, evaluation, and rewarding of school directors. The problem is that they tend to do “more.” Ministries of education tend to appoint, evaluate, and remove teachers. They decide on salaries and promotions. They design and oversee exams and in-service training. In other words, they make most of the managerial decisions, leaving schools with very little autonomy. Not surprisingly, schools are not held accountable, either.

The story is quite different in *private schools*, which typically enjoy a high level of operational autonomy, subject to the overall guidance of a board of trustees. The board of trustees sets the rules of the game, appoints, evaluates, rewards, and removes top management, and allocates resources according to expansion plans, leaving operating decisions to the school/university director. Private provision of education is also governed in most countries by government regulations to ensure equitable access for all and to maintain certain minimum standards regarding the curriculum, school infrastructure, and the like.

Historically, the private sector played a modest role in the provision of education in the MENA region, but this picture has changed over time. Egypt, for example, changed the regulations in 1992 to make it easier to establish private universities. Even Morocco, Tunisia, and Algeria have all recently loosened controls over private education as well. Lebanon, Kuwait, Iran, Jordan, and West Bank and Gaza were already ahead of the pack in allowing private provision of education. By now, almost all countries in the sample have some private involvement in education. However, the variance is large, going from 68 percent in basic education in Lebanon to only about 1 percent in Tunisia.

BOX 6.4**School Autonomy Matters: Examples from International Experiences**

A growing number of countries around the world are moving toward granting more autonomy to schools. Research has shown that decentralization to the school level has a positive impact on student performances. The following examples from Latin America illustrate this point.

El Salvador: Positive

El Salvador's EDUCO reform found that parents in EDUCO schools participate more actively in school affairs and establish more direct relationships with teachers than parents in traditional public schools. This greater local participation has had a positive effect on education outcomes. Controlling for school and student characteristics, one study found that students in EDUCO schools did not perform worse on achievement tests despite the fact that they come from poorer families, and that students' absence owing to teacher absences are significantly lower in EDUCO schools (Jiminez and Sawada 1999).

Brazil: Positive

While school councils and the direct transfer of resources are not significantly related to better student performance, the election of school directors was found to be positively associated with higher test scores in Brazil. This is based on an analysis of three components of the education reform and the impact of each innovation on educational performances.

Nicaragua: Positive

The results of a study conducted in 1991 on Nicaragua indicate that school autonomy—especially in decisions related to staffing and monitoring of teacher activities—improves student performance (King and Ozler 1998). Moreover, math and language scores were significantly higher in schools where teachers felt more empowered and influential in decision making.

Source: King and Guerra 2005, "Education Reform in East Asia: Policy, Process, and Impact." *East Asia Decentralizes*. World Bank Publication.

With the growing involvement of the private sector in education, all MENA countries have had to put in place a regulatory regime. As shown in table 6.4, these regulations deal with the curriculum, owners' qualifications, fees, graduation certification, teachers' qualifications, registration of school, and reporting of basic information. Some countries, including Egypt, Iran, Lebanon, and Morocco, even provide subsidies to

TABLE 6.3

Locus of Decision Making in Basic and Secondary Education

	Group 1			Group 2			Group 3		
	Jordan	Tunisia	Lebanon	Iran	Egypt	Algeria	Morocco	Yemen	Djibouti
Policy									
National strategy	▲	▲	▲	▲	▲	▲	▲	▲	▲
Action plan	▲	▲	▲	▲	▲	▲	▲	▲	▲
Planning									
Creation and closure of primary schools	N/A	▲■	▲	▲	▲■	▲■	▲■	▲■	N/A
Establishment of input and infrastructure norms	N/A	▲	▲	▲	▲	▲	▲	▲	▲
Finance									
Resource allocation	▲	▲	▲	▲■-	▲	▲	▲	▲	▲
Human Resource Management									
Selection of primary and secondary school directors	▲	▲	▲	●	▲	■*	▲	▲■	▲
Recruitment of teachers	▲	▲	▲	■	▲	▲	▲	▲	N/A
Management of in- and pre-service training	N/A	▲■**	N/A	■	▲	▲■	▲	▲■	▲
Establishment of teacher responsibility	▲●	N/A	▲	■	▲	▲■	▲	▲	N/A
Supervision of teachers	▲■	■	▲●	●	■	■●	■	▲■	■
Pedagogy									
Definition of curriculum and textbook content	▲	▲	▲	▲+	▲	▲	▲	▲	▲
Setting standards and exam management	▲	▲	▲	▲	■	▲	▲■	▲■	■

Note: ▲ = central ministries; ■ = provincial and regional administration; ● = schools; N/A = not available.

* In Algeria, primary school directors are appointed at the regional level, but secondary school directors are appointed by the ministry.

** In Tunisia, pre-service training for teachers is administered by the ministry, but in-service training is administered regionally.

- In Iran, resources are determined by the central ministry, but the allocations to schools are determined at the regional level.

+ In Iran, curriculum is determined by the ministry, but curriculum for pre-primary education is determined regionally.

these institutions. Moreover, countries differ in terms of the areas covered by the regulation. For example, in Lebanon, one of the pioneers in private education in the region, all regulations are technical in nature, covering the curriculum, graduation certification, registration of school, and reporting of basic information. On the other hand, Egypt and Iran include provisions regarding fees, reflecting a greater concern for equity.

All in all, *public schools* enjoy limited autonomy, especially in the areas of human resources and pedagogy. This observation applies almost equally to all countries in our sample, whether or not they are top performers. However, MENA countries differ a great deal in the extent to which they rely on the private sector to provide education services. Given that the private providers typically enjoy greater autonomy than their counterparts in public schools, and given that school autonomy matters,

TABLE 6.4

Regulations Affecting Private Schools, mid-1990s

Country	Regulations affecting private primary and secondary schools		
	Permitted	Regulated	Subsidized
Jordan	Yes	C	No
Kuwait			
Lebanon	Yes	CGR	Yes
Tunisia	Yes	CRT	No
Iran, Islamic Rep. of	Yes	CEF	Yes
Egypt, Arab Rep. of	Yes	CF	Yes
West Bank and Gaza	Yes	–	–
Algeria	Yes (since 2000)	n/a	n/a
Syrian Arab Rep.	Yes	–	–
Saudi Arabia			
Morocco	Yes	C	Yes
Iraq	–	–	–
Yemen, Rep. of	Yes	No	Yes
Djibouti			

Sources: UNESCO 1995 & 1998; Palestinian Central Bureau of Statistics and Ministry of Education 1996; Egypt Five-Year Development Plan 1997; International Encyclopedia of Education 1994; Yemen Statistical Yearbook 1997; World Bank 1994 and 1997.

Note: C = curriculum; E = owners' qualifications and/or physical status of building and grounds; F = fee levels; G = graduation certification; t = teachers' qualifications; r = registration of school and reporting of basic information.

it is not surprising that the better performers in our sample have greater private sector involvement in education than do the rest of the sample.

Evaluation, monitoring, and rewards. Even if MENA countries were to have provided schools with sufficient autonomy, that would not have been enough to assure better-quality education. Accountability is the other side of the coin. To enhance accountability, it would have been necessary for the principal (the central government for public schools and owners/board of trustees for private schools) to establish mechanisms to evaluate the performance of schools/teachers, to monitor their performance in the interim period, and to reward them for achieving better results. These mechanisms are important for both public and private providers alike. The main difference is that the private sector does have a built-in mechanism (profit) to trigger interest in creating and enforcing these mechanisms. For public schools, it will take a conscious effort on the part of policy makers to institute such mechanisms. The question is whether MENA countries have moved in this direction, and whether the top performers are doing better than the other countries in the sample.

To answer these questions, we constructed a table summarizing what the MENA countries are doing on evaluation, monitoring, and rewards,

both in public and private schools. The results are shown in table 6.5. Two main observations regarding the way the table is constructed for both the public and private sector schools are in order before proceeding further. For *public schools*, the following criteria were used to assess their evaluation, monitoring, and rewarding systems:

- Evaluation was judged on the basis of whether the country participates in international tests (e.g., TIMSS) and whether it has a national accreditation system. The two yardsticks clearly do not measure the performance of schools or teachers directly, but they can be taken to reflect a country's concern for quality.
- Monitoring was judged on the basis of whether the country has effective parents' associations and a system of inspection.
- Rewards were judged on the basis of whether the country links the performance of schools/teachers to any kind of reward, be it resources, pecuniary payments, or career development.

For *private schools*, evaluation, monitoring, and rewards were judged simply on the basis of the percent of student enrollment in private institutions at all levels of education in a given country. The higher the private sector involvement, the better the incentive system. The presumption is that private providers are interested in attracting the best teachers they can find and rewarding them according to market conditions.

TABLE 6.5

Industrial Organization Features of the Education Systems in Selected MENA Countries

Countries	Public			Private		
	Evaluation	Monitoring	Rewards	Evaluation	Monitoring	Rewards
Jordan	●	N/A	○	●	●	●
Kuwait	●	N/A	○	●	●	●
Tunisia	●*	○	○	○*	○	○
Lebanon	●*	N/A	○	●*	●	●
Iran, Islamic Rep. of	●	●	○	●	●	●
Egypt, Arab Rep. of	●*	●	○	●*	●	●
West Bank and Gaza	●*	○	○	●	●	●
Algeria	○	○	○	○	○	○
Syrian Arab Rep.	○	○	○	○	○	○
Saudi Arabia	○*	N/A	○	○*	○	○
Morocco	○*	○	○	○*	○	○
Iraq	○*	○*	○	○*	○	○
Yemen, Rep. of	○	○	○	○	○	○
Djibouti	○	○	○	○	○	○

Source: MENA Education Reform Database.

Note: ● = high; ● = medium; ○ = low; * administered since 2003; N/A = not available.

Meanwhile, they are also interested in monitoring and evaluating their performance to keep their students from going to another school. Because parents are also paying for education, they are expected to strengthen the capacity of schools in monitoring the performance of teachers.

Based on the above, our broad conclusion is that three of the top-performing countries (Jordan, Kuwait, and Lebanon) are also those that have relatively better evaluation, monitoring, and rewarding in public schools and greater private sector participation. Tunisia—whose success may be attributed to good engineering rather than more aligned incentives—is an exception. In contrast to the top performers, Morocco, Iraq, Yemen, and Djibouti hardly have any private sector providers. As will be discussed below, they have some evaluation and monitoring mechanisms, but like the rest of all countries in the sample, have no performance-based reward systems.

To discuss some of these issues in the context of public schools, consider *evaluation* first. As noted already, none of our countries have a system of assessing individual schools or teachers. However, some of them have opted to participate in international assessment tests of student achievements. Three of the top performers, Jordan, Tunisia, and Lebanon, have participated in TIMSS. In contrast, only one of the least performers, Morocco, participated. Iraq, Yemen, and Djibouti have yet to join other countries in assessing their students' achievements in math and science against similar students elsewhere. Among the average performers, Egypt, Iran, and West Bank and Gaza participated in the 2003 TIMSS.

In addition to participation in international assessment tests of student achievements, some countries in the sample developed their own national assessments of students (or quality assurance systems). Going beyond end-of-cycle examinations, Jordan and Tunisia began to introduce assessments of student learning outcomes for planning and accountability purposes. Jordan has instituted learning assessments that target grades three, six, and nine. Similarly, Tunisia is putting in place a national assessment system, focusing principally on languages, math, and science; and targets the fourth, sixth, eighth, and tenth grades. Similar initiatives are also reported for Egypt, Yemen, and Morocco, but these initiatives are at an early stage of implementation.

Turning to *monitoring*, all countries in the sample have a highly centralized system of inspection, conducted by the central ministry. In principle, such a system could help in monitoring school performance, but in reality it is considered by most observers as a mechanism for verifying compliance with ministry directives. A similar view is held with respect to parent-teacher associations (PTAs). Most countries have adopted this

system in the hope that parents would help monitor school performance because they have a stake in the outcomes and because they are in touch with the schools almost daily through their children. However, PTAs are also seen by many to be a matter of formality rather than an effective instrument for monitoring school performance.

Finally, when it comes to *performance-based rewards*, there is very little to say. For all countries in the sample, public school teachers and university professors receive salaries according to a pre-specified civil service code and are promoted fundamentally on the basis of seniority. Acquiring a higher degree during their tenure or obtaining in-service training may make some difference for the level of compensation and/or career development, but there are no clear and predictable links between these rewards and student achievements. Some countries compensate teachers in the form of higher salary or free housing (or both) for working in rural areas or in more challenging schools, but this differential treatment is clearly not linked to performance either.

A similar observation holds with respect to schools. In particular, we could not find any case in the MENA region where schools are systematically accorded more resources or greater autonomy when their students perform better over time or better than other schools after taking their socioeconomic conditions into account. Ironically, Tunisia accords more resources to the least-performing schools to enable them to catch up with better-performing schools, possibly creating perverse incentives. What we could find is a school block grant that is given on the basis of a proposal prepared by the school or university to meet certain outcomes, such as enrolling children in rural areas or girls in schools.

Do the Top-Performing Countries Exhibit Stronger Public Accountability?

Public accountability is the third leg in the analytical framework that, together with engineering and incentives, is supposed to explain the variations in education outcomes presented at the beginning of this chapter. The premise of this section is that countries that give their citizens more voice broadly and education-specific voice mechanisms in particular are expected to have better education systems and better education outcomes than those that do not. Voice provides a vehicle for different stakeholders to reconcile their conflicting demands on education and for citizens to influence public policies regarding education objectives, priorities, and resource allocations. These mechanisms can be proposed by the ruling elite or in response to pressure from citizens, but in either case their effect can be positive. The question is whether this premise holds in our sample of 14 MENA countries.

The short answer is that it does. As will be elaborated below, our top performers, especially Jordan, Kuwait, and Lebanon, enjoy relatively higher public accountability than do our least-performing countries, save Morocco. The citizens of our middle-performing countries, including Iran, Egypt, and Algeria, enjoy moderate levels of public accountability. Morocco and Tunisia represent a glaring exception to this conclusion, with Morocco ranking high on public accountability but low on education outcomes, while Tunisia ranks low on public accountability and high on educational outcomes. These cases serve as a reminder that it takes a combination of good engineering, aligned incentives, and public accountability, or a reasonable combination thereof, to attain good education outcomes. Below, we explore the relationship between public accountability and educational outcomes, followed by a discussion of some voice mechanisms.

Political accountability and education outcomes. The importance of public accountability for better delivery of social services is well established in the literature by now (see, for example, MENA World Bank report on Governance 2003, and World Bank World Development Report on Making Social Services Reach the Poor 2004). Greater public accountability is associated with open societies, greater transparency, and opportunities for contestability. These virtues allow citizens to become actively engaged in monitoring service delivery and induce policy change. They also have the effect of making service providers and government officials more accountable for the quality of services and for implementing the right policies for the benefit of citizens.

To explore this premise, we rely on an Index of Public Accountability (IPA), which was constructed for the MENA region by the World Bank Governance Report (2003). The IPA assesses how well citizens can access information, hold their leaders and public officials accountable for their decisions and actions, and become involved in selecting and replacing those in authority. The IPA is calculated using 12 indicators. These indicators include measures of political rights, civil liberties, freedom of the press, combined polity score, regulation of executive recruitment, competitiveness of executive recruitment, openness of executive recruitment, executive constraints, regulation of participation, competitiveness of participation, democratic accountability, and transparency and accountability.

Plotting the IPA against our index of education outcomes shows a positive correlation between the two variables (figure 6.11). Among the top performers in our sample, Jordan, Kuwait, and Lebanon rank highest on the index of IPA relative to their neighboring countries. Iran, Egypt, and Algeria rank in the middle on both the public accountability

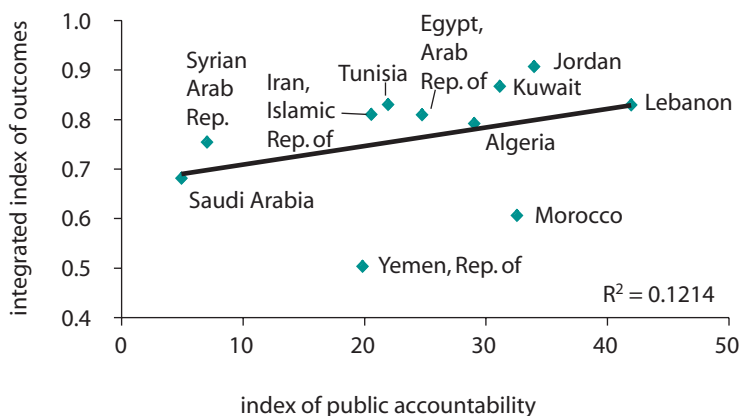
index and the education outcomes index. Yemen ranks low on both indices. As noted before, two exceptions stand out: Morocco and Tunisia. Morocco ranks high on public accountability but achieves modest educational outcomes, while Tunisia ranks low on public accountability but achieves high educational outcomes. The best way to explain this anomaly is that Tunisia has made effective use of the other components of the analytical framework, especially the engineering of education.

Voice mechanisms. Clearly, more open societies provide a wider range of voice mechanisms to citizens than do less open societies. Nevertheless, all rulers need legitimacy and the consent of their citizens to stay in power. Thus, they, on their own or in response to pressure from citizens, may initiate constitutional changes to make education a right for all citizens. They may decide to decentralize the provision of education to sub-national levels, as a first step toward democratization, and as a way of allowing citizens to exercise some influence over education policies. And they may change the rules governing information disclosure and make collected information about school performance, national and international test scores, and resource allocation available to the public. These decisions commit the executive branch to meeting certain objectives and/or provide citizens with mechanisms for expressing themselves.¹⁶ The question is whether MENA countries have attempted to do this, and whether there are variations across our sample of countries.

Consider first the provisions related to education in the constitutions of some MENA countries. This is one area where most nations in the region have made clear commitments, although the nature of these commitments varies. The constitutions of Algeria, Egypt, Iran, and Syria not

FIGURE 6.11

Educational Outcomes and Political Accountability



Source: MENA Education Reform Database.

only guarantee the right of education to all citizens, but also to be provided free of charge. Jordan and Lebanon's constitutions also guarantee the right of education for all, but no commitment is made that education will be provided by the state for free. These constitutional commitments were made typically in the wake of independence from colonial powers and have put pressure on governments to deliver. In recent years, however, most countries are increasingly relying on the private sector for the provision of education and private tutoring is mushrooming, both of which are turning free education gradually into a "false entitlement."

Next, consider decentralization. It was argued in chapter 4 that a carefully designed decentralization to local states could empower citizens if it is paired with free local elections and representation of citizens on local councils. If not, decentralization could erode public accountability. It further reduces the consistency of education policies across states while giving citizens no effective voice. Thus, decentralization is a potentially useful instrument for enhancing public accountability, but its usefulness depends on the way it is designed and implemented.

In the MENA region, more and more countries are increasingly adopting programs of decentralization of decision making to subnational governments. The delegation of responsibilities covers many areas of service delivery, including education. However, there are no systematic assessments of the effectiveness of decentralization in the region. Thus, we cannot ascertain its value from the point of view of enhancing public accountability.

Finally, consider information, which is fundamental to public accountability. Indeed, it is almost impossible to see how accountability could be enhanced in the absence of relevant information about different aspects of education. Even if the media were fully independent, NGO associations and advocacy groups unrestricted, and citizens able to express themselves freely, the lack of information would prevent them from holding politicians accountable for outcomes. The examples of how information can change policies are numerous. From the WDR on making services reach the poor, making the information available about the resources allocated to schools and how much actually reached them in Uganda caused a strong reaction from citizens and led to a shift in favor of schools.

In the MENA region, information disclosure acts leave much to be desired and NGO laws are restrictive, but there are signs that things are changing for the better. Civil society is now playing a more active role in several areas, including education. Newspapers, television shows, and the Internet regularly feature education debates, sometimes with scathing analysis of government efforts. Also, a number of independent institutes and academics are conducting and disseminating research on education

issues. One example of this is the Arab Human Development Report (2003) on knowledge in the region. Notwithstanding this progress, more reforms are needed to make information more available in a timely fashion and to strengthen the role of civil society.

Summing Up

The purpose of this chapter was to find out whether the more successful countries in the MENA region have education systems that exhibit better features of education engineering, stronger alignment of incentives with education outcomes, and greater political accountability than those who lagged behind. Although our sample is too small to make generalizations and the model ought to be tested using a large global sample, the findings from our 14 case studies suggest that the predictions of the model hold.

The analysis from MENA countries over the period 1970–2003 further reveals a number of noteworthy observations:

First, there are significant variations in outcomes among countries. Jordan, Kuwait, Tunisia, and Lebanon were relatively more successful in providing access to reasonable-quality education for most of their populations than were the rest of the countries in sample. The challenge facing this group of countries is to go beyond creating a mass education system for all to a modern education system capable of coping with increased globalization and technological innovations worldwide. At the other end of the spectrum, Djibouti, Yemen, Iraq, and Morocco lag behind considerably. The main challenge facing this group of countries is one of expanding the coverage of quality education at all levels and eradicating illiteracy. Finally, there is another group of countries in between, which includes Iran, Egypt, West Bank and Gaza, Algeria, Saudi Arabia, and Syria. The challenge facing this group is mixed, depending on each country's initial conditions.

Second, the more successful countries seem to have education systems that exhibit a good mix of engineering, incentives, and public accountability. This observation lends some support to the analytical framework and suggests that it can be used for prescription of future reform efforts in the region, and possibly elsewhere. However, there were exceptions. The contrast between Tunisia and Morocco was highlighted, with Morocco enjoying greater public accountability but low educational outcomes and Tunisia representing the counter case. This suggests that suboptimal solutions are feasible with potentially positive results.

Third, and finally, more countries are increasingly relying on the private sector for the provision of education at all levels. While this move resolves some

of the incentive and monitoring problems in schools, its success requires a strong regulatory regime and a special attention to issues of equity. It should also be recognized that the role of the private sector in education is likely to remain limited into the foreseeable future. Thus, no country can afford to slack in its effort at reforming public schools.

Endnotes

1. Unfortunately, a consistent time series and cross-section data on measures of external efficiency were not available for the countries in our sample.
2. NER is defined as the ratio of the number of children of official school age (as defined by the national education system) who are enrolled in school to the population of the corresponding official school age.
3. GER is defined as the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education.
4. "Gender parity rate" equals GER for girls divided by GER for boys.
5. Gross enrollments do not correct for overage of children in primary education (due to repetition or late starting age). As a consequence, countries with high gross enrollment rates and low gender parity rates usually have a substantial number of overage boys enrolled in primary school.
6. Education Gini coefficients, as an analogue to Deaton's definition, measure the ratio to the mean (average years of schooling) of half of the average schooling deviations between all possible pairs of people (Thomas, Wang, and Fan 2001).
7. There is also allocative efficiency, which is concerned with how much education can be produced with a given amount of resources. However, comparable data on this measure are scarce, especially for the whole sample over a sufficiently long period.
8. Because of data limitations, we were not able to include completion rates at the secondary or tertiary levels.
9. It is possible to have a completion rate of more than 100 percent when students who graduate outnumber students in the first grade, typical of countries with a declining 6-year-old population.
10. There are potential links between the two types of quality: a country with a broad base of skilled adults may produce more excellence. There may be trade-offs, too: should a country invest in upgrading a university or creating a research center or would resources be better used to expand literacy among out-of-school youth?
11. Adult literacy rate is the percentage of people ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life.
12. We also have information about youth literacy measures, which focus on the 15- to 24-year-olds. This information is given in the Statistical Appendix.
13. TIMSS is designed to help countries all over the world improve student learning in mathematics and science. It collects educational achievement data at the fourth and eighth grades to provide information about trends in performance over time together with extensive background information to address concerns

about the quantity, quality, and content of instruction (<http://timss.bc.edu/timss2003.html>).

14. We tested the effect of deleting one variable at a time to see if the ranking of countries changed, but found no evidence of reversal. Indeed in no case did the top performers change position with poor performers. Some countries in the middle sometimes came ahead of others within the same grouping.

15. According to the UNESCO institute of statistics database 2006, Lebanon surprisingly has a very low percentage of teachers with minimum qualifications at all levels of education, including primary (60 percent), lower-secondary (approximately 75 percent), and upper-secondary (approximately 35 percent). How much of this is due to the country's definition of qualified teachers and how much is a reflection of weak teaching capacity could not be verified.

16. When voice cannot be expressed within an institutional framework, it is sometimes expressed in an extralegal manner (e.g., student demonstrations, protests by parents by not sending their kids to school). Such practices are not unheard of, for example, in Egypt, Jordan, Yemen, and Morocco.

References

- Abdul-Hamid, H. 2005. "Students' Performance in International Assessment Studies in MENA: Lessons Learned from TIMSS." Background paper for the flagship report on education, World Bank, Washington, DC.
- Assaad, Ragui, and Asmaa Elbadawy. 2006. "Private and Group Tutoring in Egypt: Where is the Gender Inequality?" Conference paper. Estuarine Research Federation Conferences.
- Benavot, Aaron. 2004. "A Global Study of Intended Instructional Time and Official School Curricula, 1980–2000." Background paper for the *Education for All Global Monitoring Report 2005: The Quality Imperative*. The United Nations Educational, Scientific and Cultural Organization (UNESCO).
- Egypt Central Authority for Public Mobilization and Statistics (CAP-MAS). 2000. Egypt Households Survey 2000; 2004.
- Egypt's Five-Year Development Plan. 1997.
- International Encyclopedia of Education. 1994.
- Jimenez, E., and Y. Sawada. 1999. "Do Community-Managed Schools Work? An Evaluation of El Salvador's EDUCO Program." *World Bank Economic Review* 13(3): 415–41.

- King, Elizabeth, M., and Suzanna Cordeiro Guerra. 2005. "Education Reform in East Asia: Policy, Process, and Impact." In *East Asia Decentralizes*. Washington, DC: World Bank.
- King, E., and B. Ozler. 1998. "What's Decentralization Got to do with Learning? The Case of Nicaragua's School Autonomy Reform." Working Paper on Impact Evaluation of Education Reforms. World Bank, Washington, DC.
- Kothari, B., A. Pandey, and A. Chudgar. 2004. "Reading out of the 'Idiot Box': Same-Language Subtitling on Television in India." *Information Technology and International Development* 2: 23–44.
- Massialas, Byron G., and S. A. Jarrar. 1991. *Arab Education in Transition: A Source Book*. New York: Garland Publishing, Inc.
- Organisation for Economic Co-operation and Development (OECD). 2001. *Education at a Glance*. Paris: OECD.
- Sakellariou, Chris N., and Harry A. Patrinos. 2004. "Technology, Computers and Wages: Evidence from a Developing Economy." *Brussels Economic Review/Cahiers Economiques de Bruxelles* 47 (3–4): 543–60.
- Thomas, Vinod, Yan Wang, and Xibo Fan. 2001. "Measuring Education Inequality: Gini Coefficients of Education." Middle East and North Africa Working Paper Series 2525, World Bank, Washington, DC.
- United Nations Development Programme. 1997–1998. *Egypt's National Human Development Report*. Cairo: UNDP.
- . 2005. *Egypt's National Human Development Report: Choosing our Future: Toward a New Social Contract*. Cairo: UNDP.
- United Nations Development Programme and Arab Fund for Social and Economic Development. 2003. *Arab Human Development Report: Building a Knowledge Society*. New York, UNDP/RBAS.
- The United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute of Statistics Database.
- UNESCO Statistical Year Book 1995; 1998.
- World Bank. 2003. *Better Governance for Development in the Middle East*

and North Africa: Enhancing Inclusiveness and Accountability. Washington, DC.

———. 2004. *Making Services Work for Poor People.* World Development Report, Washington, DC.

———. 2007. *The Road Not Traveled.* Statistical Appendix. Washington, DC.

World Economic Forum. 2002. *Global Technology Report: Readiness for the Networked World.* Oxford University Press.

Yemen Statistical Yearbook. 1997.

Zafeirakou, Aigli. 2006. "Providing Access to Education and Care for all Young Children 0 to 7: Early Childhood Care and Education in South East Europe: Progress Challenges, New Orientations." Background paper prepared for the *Education for All Global Monitoring Report 2007: Strong Foundations: Early Childhood Care and Education.* The United Nations Educational, Scientific, and Cultural Organization (UNESCO).

