MENA DEVELOPMENT REPORT

The Road Not Traveled

Education Reform in the Middle East and North Africa

—Executive Summary—

THE WORLD BANK

Washington, D.C.

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org
E-mail: feedback@worldbank.org

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Executive Summary

The modern history of education reform in the Middle East and North Africa (MENA) region is a tale of ambition, accomplishment, falling short, and unfinished business. Along this path, the region has accomplished much: most children benefit from compulsory schooling, quite a few have opportunities to continue their formal education, and learning outcomes have improved. These achievements are impressive, particularly if one considers the starting point during the 1960s.

However, gaps exist between what education systems have attained and what the region needs to achieve its current and future development objectives. MENA countries continue to lag behind many comparator countries, as measured by years of educational attainment in the adult population. The educational achievements to date are in part compromised by high dropout rates and relatively low scores on international tests. Despite remarkable improvements in expanding access and closing gender disparity at the primary education level, adult literacy is still low and education systems do not produce the skills needed in an increasingly competitive world. Unemployment is particularly high among graduates, and a large segment of the educated labor force is employed by governments. As a consequence, the link between education and economic growth, income distribution, and poverty reduction is weak.

The MENA Education Flagship Report, the sixth MENA Regional Development Report, tells the story of education development in the region, focusing specifically on its contribution to social and economic development. It addresses the following questions:

- Did the investments in education produce the expected results and prepare countries for upcoming new demands for an educated workforce with different skills?
- What types of strategies and policies should be considered to redress any gaps in achievement and to better prepare for the future?
- Looking from the demand side, are domestic and international labor

markets providing effective outlets for reaping the benefits of a more educated labor force?

The organization of the report mirrors the above questions. Each part builds upon the last to provide a comprehensive view of regional education development and future options.

Part I makes the case for education reform by tracing past investments in education, assessing their impact on development, and reviewing the state of readiness of the education systems to meet new challenges. This assessment is comparative: education outcomes of MENA countries are weighed against those of other developing countries. The development impact of education investments is considered in the context of the extensive literature on the subject. The state of readiness of the education system to meet future demands is also examined, taking into account recent trends: the large proportion of youth in MENA populations, the need to change pedagogical approaches to better compete internationally, and the fiscal constraints that make it difficult to address either concern.

Part II examines attempts to improve education systems in 14 MENA countries, using an analytical framework developed for this report. This framework posits that effective education reform has three components: (i) *engineering* measures, which ensure the presence and efficient use of the right technical inputs; (ii) *incentives* to promote better performance and responsiveness from those providing educational services; and (iii) *public accountability* to make certain that education, as a public good, serves the interests of the widest range of citizens.

Part III focuses on the demand for labor (both domestic and external), and how regional labor market characteristics may be changed to maximize the rewards to investment in education to individuals and society. The underlying premise is that labor market characteristics determine the payoffs from investment in education: well-functioning labor markets are fundamental to maximizing the returns from investment in education because they tend to allocate human capital into activities that are most growth-enhancing and can also impact equity positively. However, labor market distortions and failure to address market imperfections would have the opposite effects.

This report covers all levels of instruction, both formal and nonformal. The broad focus is justified on the grounds that the link between human capital and economic development depends on progress made by countries at all levels of education. In addition, all levels of education arguably face similar problems. And they all need a well-functioning education process; motivated teachers and schools; and adequate mechanisms for citizens to affect education objectives, priorities, and resource allocation.

The main conclusion of this report is that the education systems in the region need to follow a new path of reform. This new path has two features: the first is a new approach to education reform in which the focus is placed on *incentives* and *public accountability*, along with inputs to education systems; the other emphasizes closing the gap between the supply of educated individuals and both internal and external labor demand.

The remainder of this summary provides an overview of the main findings of the report.

MENA's Investment in Education and Its Outcomes: Impressive results still leave MENA with an education gap with the rest of the world

MENA countries started investing in human capital later than other regions; however, once started, they generally spent a relatively high percentage of their GDP on education and rapidly raised the average level of schooling in their populations. Over the last 40 years, MENA countries on average dedicated 5 percent of GDP and 20 percent of government expenditures to education, which is more than other developing countries at similar levels of per capita income. As a result, the region was able to improve equitable access to education at all levels of instruction. These are impressive achievements, considering that MENA began in the 1960s with some of the lowest educational indicators in the world.

With some exceptions, MENA countries have almost reached full primary education enrollment and increased enrollment in secondary schools almost threefold between 1970 and 2003 and fivefold at the higher education level. The crowning achievement for the MENA region has been the closing of the education gender gap. Gender parity for basic education is almost complete. Although the region started from relatively low levels of gender parity, indexes for secondary and higher education are not significantly different from those in Latin America and East Asia. This investment has also led to an improvement in education levels and certain basic competencies. Illiteracy rates have been halved in the past 20 years and the absolute difference between male and female adult literacy rates has declined rapidly. In terms of student learning outcomes, some MENA countries score relatively well on international tests, such as Trends in International Mathematics and Science Study (TIMSS), especially when the level of income and gross enrollment rates are taken into account.

Despite these improvements, the educational achievement of MENA countries remains below other countries at similar levels of economic development. The legacy of low initial levels of education development has

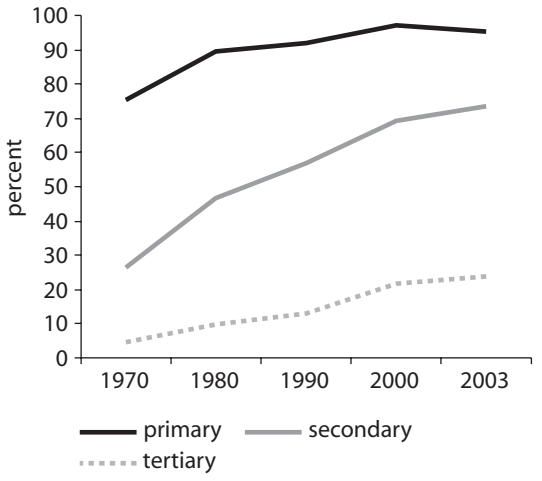
not yet been offset. Although the region has essentially caught up with East Asia and Latin America with regard to full primary enrollment, it still lags behind for secondary and higher education enrollment (figure 1a). Consequently, the average number of years of schooling in MENA is below both regions by more than one year (see figure 1b). In addition, the distribution of education attainment (measured by the standard deviation of years of schooling) has become more unequal over time compared with either Latin America or East Asia.

Furthermore, literacy rates are still below those of other regions. Although the differences have declined since the 1950s, illiteracy in MENA remains twice as high as in East Asia and Latin America. In addition, although results on international tests indicate that outcomes are close to what would be predicted considering GDP per capita and enrollment rates, they remain below those found in fast developing middle-income countries, such as the Republic of Korea and Malaysia. Finally, in more than half of the MENA countries, approximately two-thirds of the students major in the fields of social science and humanities rather than in science and mathematics. This enrollment pattern is the opposite of that observed in East Asia and, to a lesser extent, in Latin America. Given that technological innovation and adaptation is increasingly playing a prominent role in the development process, MENA schools may be producing the wrong mix of competencies.

FIGURE 1

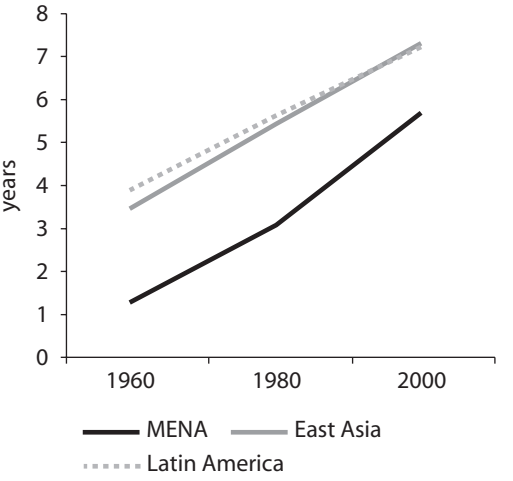
Gross Enrollment Rates in MENA and Average Years of Schooling in MENA, East Asia, and Latin America

a. Gross Enrollment Rates, 1970–2003



Source: Statistical Appendix.

b. Average Years of Schooling of the Population Ages 15 and Above



Source: Barro and Lee 2000.

The above generalizations clearly do not apply to all countries in the MENA region. Nevertheless, the region's countries on the whole exhibit a number of similarities. These include, on the one hand, high levels of commitment to investment in education and gender parity. On the other hand, most MENA countries have yet to reach the level and quality of human capital of the more dynamic economies in the developing world.

The Impact of Education in MENA on Economic and Social Development: The link appears tenuous

Among other results, investment in education is expected to produce positive development outcomes. These outcomes are usually measured by economic growth, better income distribution, and lower poverty. However, MENA has accomplished fewer development results than comparator countries in East Asia and Latin America (figure 2), begging the question: what might have prevented education from producing better development results?

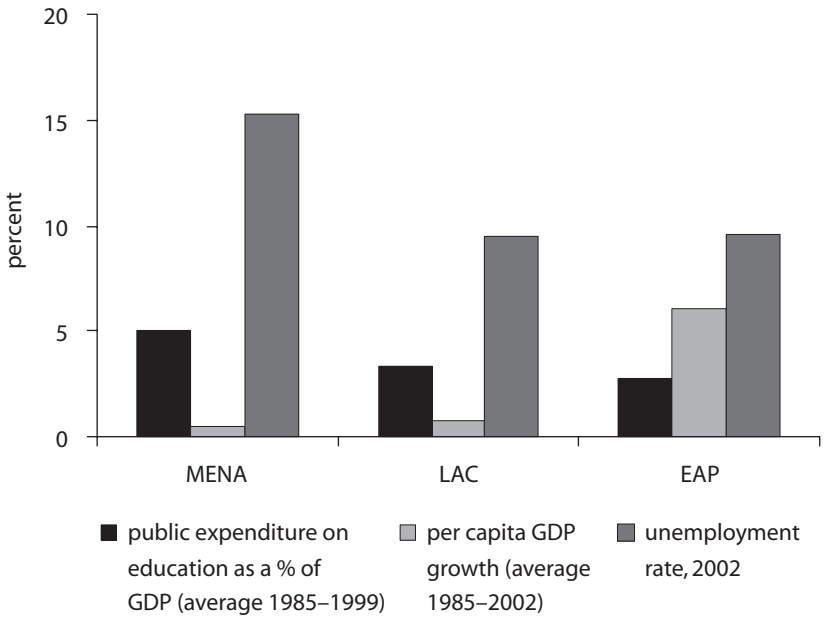
Education and Economic Growth

Education is a necessary but not sufficient condition for economic growth. Research on the MENA region supports this view. Per capita economic growth in the region over the past 20 years has been relatively low despite the improvements in educational attainment. Ironically, higher economic growth corresponded to low levels of education attainment in the 1960s and 1970s. Similarly, Total Factor Productivity, which measures the impact of factors other than increases in physical and human capital stock, was low or negative in the MENA region during the 1980s and 1990s, a period during which educational attainment was increasing. This suggests that educational attainment has not significantly contributed to economic growth or productivity in the region.

There are possible explanations for the tenuous relationship between education and economic growth in MENA. One explanation is that the quality of instruction in the region is too low for schooling to contribute to growth and productivity. Another is that it is the *relative* rather than the *absolute* level of educational outcomes that explains the tenuous link between education and economic growth in MENA. Foreign direct investment, for example, would gravitate to those countries that have better education outcomes, all other factors being equal. A third explanation is related to the variance of educational attainment, larger in MENA than in other regions: international research indicates that a more equal distribution of educational attainment is positively correlated with

FIGURE 2

Public Expenditure on Education, per Capita GDP Growth, and Unemployment



Sources: Public expenditure on education: UNESCO Institute for Statistics through EdStats; per capita GDP growth: the Global Development Finance and World Development Indicators central database; unemployment rate: Unlocking the Employment Potential in the Middle East and North Africa (World Bank 2004).

Note: LAC = Latin America and the Caribbean; EAP = East Asia and Pacific. Public expenditure on education for LAC and MENA is the average of 1985, 1990, 1995, and 1999; for EAP, average of 1988, 1990, and 1995.

higher economic growth. Finally, the weak relationship between education outcomes and economic growth may also be related to the high levels of public sector employment, and low numbers of dynamic and internationally competitive economic sectors.

Education and Income Distribution

Income distribution is affected by a country's level of development, its level of economic growth, and a host of country-specific policy variables. Education can serve as an income-equalizing factor when acquired by the poor, but it can also create a divergence in earnings between the educated and the noneducated. The net impact is not obvious, although there is evidence to support the view that more egalitarian distribution of education leads to higher economic growth.

In MENA, income distribution is more even than in other regions. However, the distribution of education is becoming less equal over time. One possible explanation for inequality in education attainment not translating into greater earnings inequality in MENA is the low rates of return to higher education. In turn, the low rates of return to higher education are due to low economic growth and large public sector employment. Further diminishing the room for divergence in earnings by education level is the entrance into the labor market of more and more educated women—who tend to earn lower compensation than men.

Education and Poverty Reduction

MENA has done well in reducing poverty, both over time and in comparison with other regions. However, low poverty does not seem to have been the result of high economic growth and high earnings because of educational attainment. Rather, MENA's poverty rates declined despite low economic growth, largely because most countries implemented active social policies in favor of the poor, and oil-rich countries were able to retain an income floor for the poorest.

Where education may have made a big difference for poverty reduction is with respect to women. It is commonly accepted that investing in women's education can lead to lower fertility rates, and consequently a decline in poverty and infant mortality. Low education indicators in MENA during the 1960s and 1970s were mirrored by low levels of social development. As MENA countries have successfully closed the education gender gap, women's fertility rates declined from an average of 7.1 children in 1962 to 3.4 in 2003. While the most recent fertility rates for the region are still higher than those of East Asia and Latin America, the gap is all but closed.

In brief, the considerable education progress recorded in MENA has generally not been reflected in development outcomes such as economic growth, income distribution, and the reduction of poverty. This may result as much from certain characteristics of the educational system as from the general economic and social conditions of the countries in question.

New Challenges Facing the Education Sector in MENA: Education systems are not ready for new economic, demographic, and financial challenges

Even if past investments in education had generated expected results for economic and social development, the region would still need to reshape

its education systems to face up to a number of new challenges. Education development tends to create new challenges in its wake. Essentially, the question facing education authorities in many MENA countries is, what do we do now that we have almost reached education for all at the basic level of instruction? The future path taken will need to address three structural phenomena: the increasing importance of the knowledge economy in the development process; demographic changes; and financing limitations that can constrain efforts to meet new types of demands on education systems.

The Knowledge Economy and Its Impact on MENA Education Systems

An abundant supply of low-wage, unskilled labor is no longer a successful route to rapid growth and national prosperity. In today's world, competitiveness depends on firms that employ a well-educated, technically skilled workforce and are capable of adopting new technologies and selling sophisticated goods and services. When compared with other countries and regions on the Knowledge Economy Index (KEI), which measures the degree to which countries successfully engage in the knowledge economy, MENA countries mostly fall beneath the middle range of the distribution. Generally, they have scores below those obtained by Organisation for Economic Co-operation and Development (OECD) countries, most of the transition economies, and some East Asian countries.

First, higher-scoring countries tend to include new subjects of study and provide new sets of transversal skills. Whereas literacy and numeracy remain fundamental (with ever greater levels of mastery), foreign language and science increasingly have almost equal importance. In addition, problem-solving and communication skills, rather than the ability to perform routine tasks, have become essential for productivity. Pedagogical methods adopted worldwide incorporate inquiry-based learning and adapt teaching to the learning capacity of individual students. Most MENA countries continue to use a more traditional model of pedagogy (for example, copying from the blackboard, and little interaction between teachers and students).

Second, countries that provide multiple opportunities for learning also score higher on the KEI. Rather than schooling as a pyramid (with a narrowing group of students advancing to higher levels of instruction), education systems are becoming more inclusive and diversified, particularly at the postcompulsory level of instruction (secondary and higher). In MENA, postcompulsory education does not exhibit this flexibility. Once a decision is made regarding a field of study, there is no turning

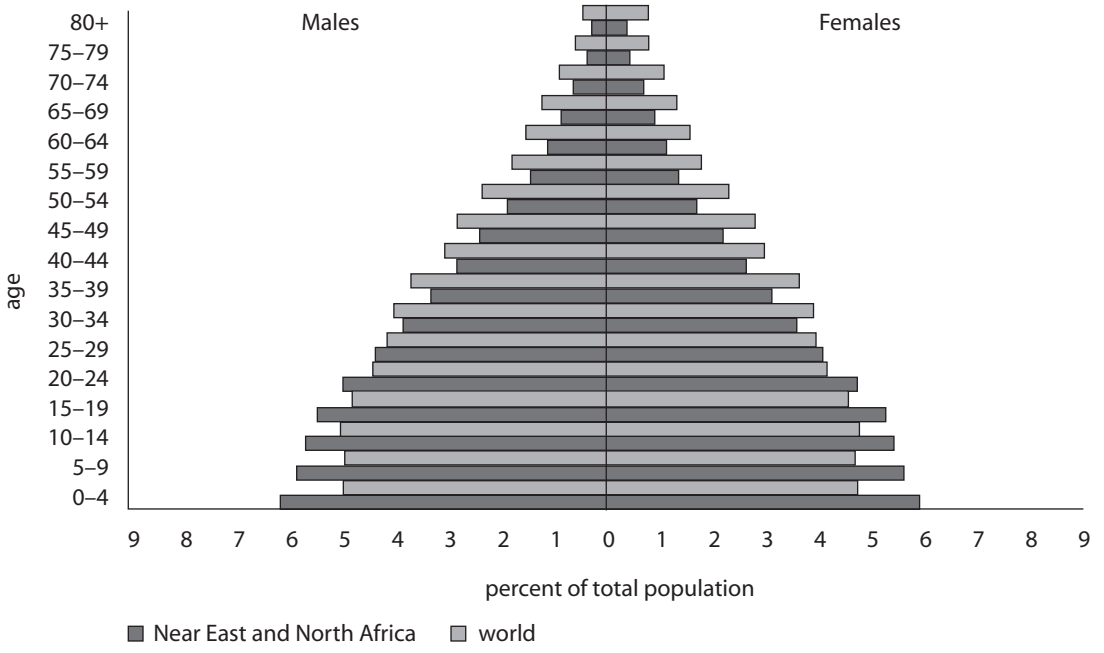
back. There are few opportunities to continue one's studies after a stint in the labor market; and formal vocational training tends to be a dead-end component of most systems. Examination systems focus on selection for further study rather than accreditation. Some MENA countries (Tunisia and Jordan, for instance) have started to address this problem by introducing quality assurance mechanisms, greater school autonomy, and a commitment to lifelong learning. However, these initiatives are just beginning.

The "Youth Bulge"

As a result of the high fertility rates of the 1960s and 1970s, MENA has among the largest 0–14 and 15–24 year-old cohorts in the world (45 percent and 21 percent of total populations, respectively) (see figure 3). This youth bulge will substantially affect demand for education as these cohorts work their way through the population. Presently, the bulk of this cohort is at the age of secondary and higher education, the least-developed components of education systems in most MENA countries. Over the next 30 years, the secondary education population will increase by one-third; for tertiary education it will more than double.

FIGURE 3

Population Pyramid in MENA and the World, 2002



Source: US Census Bureau, Global Population Profile: 2002.

Also, if current rates of school dropout are retained, the labor force will be increasingly populated by adults who have not completed secondary or higher education. Adults who are educated but not "credentialed" with secondary or higher education diplomas will have greater difficulty integrating into the labor market. By 2030, it is estimated that more than 50 percent of the adult population will be in this category.

Finally, although universal compulsory education appears to be in sight, a significant proportion of children and young adults still have never been to school. This "last five percent" of eligible children and youth are much more difficult to access: they are often the most vulnerable, marginalized, and handicapped members of society.

Sector Financing

In most countries, demographic changes and calls to change the content and process of education provision will require additional resources. However, as mentioned above, MENA governments already spend a substantial level of resources on the sector and growth in spending has usually outpaced economic growth. Examining current trends in sector financing indicate three principal parameters to consider for reform financing. First, private funding of education is relatively modest, particularly as a consequence of most countries' commitment to free education. Second, MENA countries spend approximately 50 percent more than the middle-income countries chosen for comparison on upper secondary education and twice as much as OECD countries for tertiary education, as a proportion of GDP per capita. Finally, as demand rises for secondary and higher education, countries will be tempted to transfer resources from the lower to the higher levels of instruction, with possible detrimental affects on primary school quality.

In sum, education systems in MENA will have to change to adapt to new demands from the labor market and from the increasing number of youth. However, resources may be constrained and thus financial tradeoffs may be necessary. Taking on these challenges will require a new approach to educational reform.

Introducing a New Framework for Educational Reform: A multidimensional approach that incorporates engineering, incentives, and public accountability is needed

Given that past reform efforts have not produced the desired education outcomes, future education reforms need to be guided by a new approach or framework. The proposed framework in this report is based on

three elements: good *engineering*, *incentives* aligned with outcomes, and greater *public accountability* measures to give citizens voice. All three elements of reform are critical, and the presumption in this report is that if policy makers focus too much on one element and neglect the others, future education reforms are not likely to produce the desired level, quality, and mix of educational outcomes discussed in previous sections.

Engineering reforms emphasize measures to increase the quantity and improve the quality of inputs of the education systems. The focus is on determining the right mix of inputs to produce a desired outcome (schools, teachers, and equipment to reach a certain level of enrollment). These ingredients are important for any reform effort to succeed, but they do not address the behavior of the concerned actors, both service providers and clients.

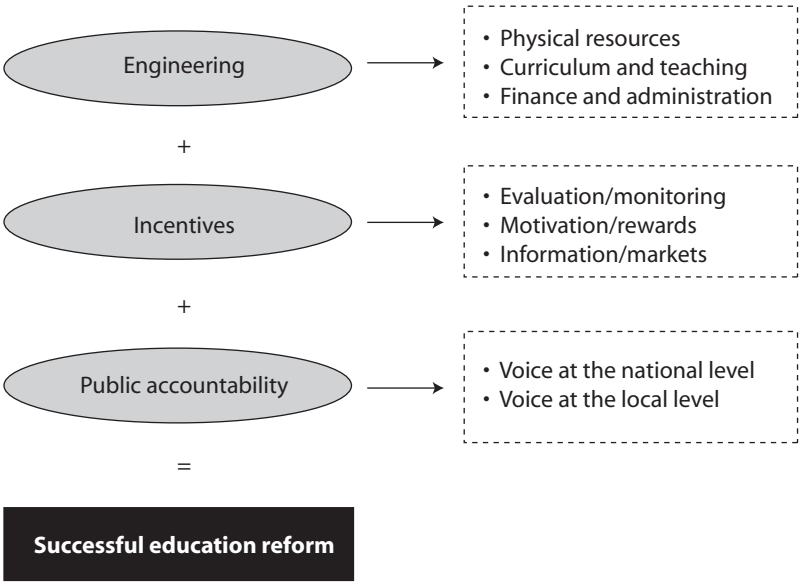
Incentive reforms are intended to address the above behavior problem and deal with the motivation of the actors involved in the education process. They are derived from "principal-agent" theory. The starting point is that education service providers (teachers, school directors) are relatively independent agents whose day-to-day actions cannot be monitored by the principals. To ensure that they are "doing the right thing" (teaching effectively, adopting new approaches), it is important to devise mechanisms that link education outcomes with the rewards (or penalties) to teachers and school directors. For example, rewards, pecuniary and nonpecuniary, can be conferred on teachers or schools on the basis of rising test scores. Such mechanisms have the advantage of affecting the behavior of agents in a positive direction, but they are not easy to implement because of the difficulty of attributing results to teacher or school performance alone. However, the problem is not without solutions as will be illustrated below.

Public accountability reforms focus on the ability of parents, students, and other stakeholders to influence the formation of education objectives, policies, and resource allocation, either at the national or local levels. The premise is that if the majority of the beneficiaries can persuade policy makers to improve education policies, education outcomes will improve. Conversely, if education is designed to serve the interests of only a few, the benefits from investment in education will be narrowly distributed. Holding policy makers accountable to citizens can ensure that education is serving the broader objectives of society. Against these benefits, public accountability is much harder to introduce, especially in less-than-democratic societies.

This report argues that there is a positive interaction effect when all three types of reforms are implemented in concert (figure 4). Successful reform programs combine good engineering, which covers the efficient use of inputs; well-functioning incentives structures, supported by adequate evaluation mechanisms and rewards for outcomes; and effective channels of accountability, where the preferences of students, parents, and

FIGURE 4

The Three Building Blocks of the Analytical Framework



citizens-at-large are heard and negotiated. Partial and isolated reforms may lead to some improvements in performance, but integrating all three components described here is likely to produce more successful reforms.

The Road Traveled Thus Far in MENA: Countries in the MENA region have followed broadly similar paths of education development, introducing some, but not enough, incentive and accountability measures

Mapping the evolution of education system reforms against the analytical framework outlined above, most countries gradually shifted their sector development paradigm from one that was essentially engineering to one that includes some incentives and accountability. However, this shift in emphasis has been slight and not commensurate with the present and future demands facing education systems across the region. This evolution is confirmed by both qualitative and quantitative examinations of the types of reforms and policies adopted to date.

The Path Taken So Far—A Qualitative Story

In the wake of independence, with national identity and mass education a priority, most MENA countries faced the challenge with a particular configuration of engineering, incentives, and public accountability reform

measures. The first act was usually related to public accountability, with the codification of compulsory and free access to education for all citizens into constitutions and basic laws. The incentive system put in place was a command-and-control centralized apparatus: schools were the property of the state, content was produced by the relevant ministries, and teachers were civil servants. However, engineering was the overwhelming approach used to establish education systems: construction and equipping of new schools; production of pedagogical material; curriculum development; and recruiting, training, and deploying teachers. Governments also needed to generate demand for formal schooling: this was often a challenge because of the high opportunity cost for poor families. Hence, various incentives were put in place to attract and retain students.

After enrolling as many students as possible, most MENA countries were subsequently faced with the perceived problem of an overexpansion of higher education. Growing graduate unemployment rates and the costs of higher education led many MENA authorities to consider ways to dampen demand for this level of instruction. Some adopted higher standards of entry and retention, as well as fewer incentives to attract students (for example, fewer scholarships). The most common response, however, was to orient lower-performing students to terminal vocational training at the secondary education level. Once in the vocational stream, students largely remained in the path that provides practical skills for a particular career, with few given the option of pursuing university education. Unlike the previous policies linked to school expansion, constraining and reorienting demand was met with less enthusiasm by students and parents.

Another pillar of educational development adopted by many countries was literacy programs. Unlike formal education, these programs were by their very nature remedial and one-off endeavors (often entitled "campaigns"). These programs usually aimed to reintegrate those who never benefited from compulsory schooling or those who left prematurely.

Compared with formal educational provision, incentives have been more common for adult literacy and other nonformal educational endeavors. First, the size, location, and specific training needs of the target population are not particularly easy to discern; hence, a more nimble, demand-driven institution was often found to be more effective. Second, as one-off activities, nonformal education and literacy training are much more amenable to contracting arrangements because there is no need to establish a permanent relationship with the service provider.

A Quantitative Approach

After categorizing the reform measures of 34 reform programs undertaken in 14 MENA countries over the last 40 years, a quantitative analy-

sis confirms many of the trends presented above and provides some additional insights. First, reforms in the MENA region were dominated by the engineering perspective across all levels of education. Of the total number of reform measures, 82 percent were of the engineering variety, while the proportion of incentives and public accountability measures was only 9 percent each.

There appear to be slight variations in objectives. Of the reforms that aimed to improve quality, 15 percent used incentive measures, with a corresponding decline in engineering measures. This finding suggests that achieving better quality may require more incentive mechanisms. Similarly, more public accountability measures appear to be associated with equity and national identity objectives (18 percent and 19 percent, respectively), perhaps indicating the close link between resource allocation and voice.

Over time, MENA reform programs have exhibited a modest shift in focus from engineering toward incentives. Categorizing the reforms by phase of educational development (determined by gross enrollment rates), reform measures increasingly emphasized the use of incentives: the proportion of engineering measures is on the decline, from 82 percent in early phases of reform to 72 percent most recently. At the same time, the proportion of incentive measures has risen from 6 percent to 15 percent.

These observations collectively suggest that MENA countries have relied heavily on the engineering perspective to improve equitable and efficient access to education and to build national identity. This emphasis may have been justified at the postindependence period, because establishing a mass education system required the "engineering" of everything. A command-and-control system may have also been the best way to manage the entire process. However, the world has changed, with education systems facing new challenges—but the approach to education reform in MENA has not evolved as quickly. The data show that most MENA countries have yet to rely more systematically on incentives and public accountability.

Why Some MENA Countries Did Better Than Others: The more successful reformers integrate more incentive and accountability mechanisms in their education systems

Within the regional trends described above, outcomes and reform approaches have varied among countries. The premise explored in the report is that MENA countries that performed well had education systems that exhibited better engineering of education, incentives more aligned

with outcomes, and greater public accountability than those that performed less well. This hypothesis was borne out by the analysis of the relationship between outcomes and reforms in the region.

Education Outcomes

The report establishes a composite index of educational outcomes for 14 countries, which incorporates achievements in access, equity, quality, and efficiency in the provision of education at all three formal levels, corrected for point of departure. In the case of access, the index combines the net enrollment rates of primary education with the gross enrollment rates of secondary and higher education. The integrated index for access shows that Lebanon, Jordan, the Arab Republic of Egypt, and Tunisia did particularly well in comparison with Djibouti, the Republic of Yemen, Iraq, and Morocco. The rest of the countries fell in the middle. The variation between countries was primarily driven by differences in higher education rates.

Relative success in reaching equity was measured by gender parity indexes (GPIs) of gross enrollment rates for three formal levels and the distribution of years of schooling. (GPI is defined as the gross enrollment rate for females divided by the gross enrollment rate for males.) Today all countries except Djibouti, the Arab Republic of Egypt, Iraq, Morocco, and the Republic of Yemen have GPIs close to or above 0.95 at all levels of instruction. GPIs for higher education are even higher than for primary and secondary education in most MENA countries. In the Islamic Republic of Iran, Jordan, Kuwait, Lebanon, Saudi Arabia, and Tunisia, female higher education students outnumber male students by a significant margin. For the distribution of years of educational attainment, all countries improved considerably since the 1970s. The most equally distributed education attainment can be found in Jordan and the Syrian Arab Republic, whereas the greatest disparity in educational attainment can be found in Iraq and the Republic of Yemen.

Efficiency was measured using primary school completion rates. Completion rates in the region range from 36 percent in Djibouti to 106 percent in the West Bank and Gaza. Quality was measured from two perspectives: adult literacy rates and scores on international tests (TIMSS, 2003). In the region, adult literacy rates have doubled since 1970 to today, ranging from 29 percent for Djibouti to 93 percent for Kuwait. Algeria, the Islamic Republic of Iran, Saudi Arabia, and Tunisia have made the most progress in raising adult literacy over the last 35 years; Djibouti and Iraq have increased their adult literacy rates the least over the same period. As for TIMSS science results, the Islamic Republic of Iran and Jordan scored the best in science, whereas Lebanon and Morocco scored the

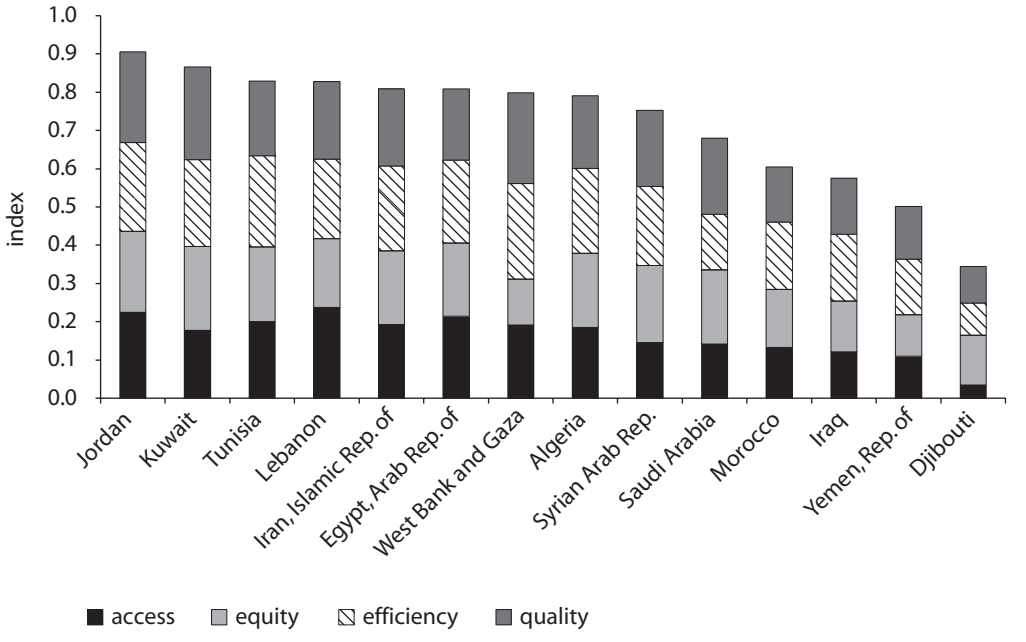
least well. For TIMSS mathematics, Jordan and Lebanon scored the highest and Morocco and Saudi Arabia the least well.

When all four indicators are combined in one overall index, the clearest difference is between the top performers (Jordan and Kuwait) and the lowest performers (Djibouti, the Republic of Yemen, Iraq, and Morocco) in the sample (figure 5). The average performers, especially Tunisia, Lebanon, the Islamic Republic of Iran, Egypt, West Bank and Gaza, and Algeria, tend to closely track the top-performing countries. Each group of countries faces slightly different challenges. The top performers have achieved relatively high levels of equitable access to education and are now poised to engage in a new generation of education reforms to address retention at higher levels of instruction, greater external efficiency, and higher levels of instructional quality—for all. The least performers are still facing fundamental issues such as low primary completion rates and literacy levels and relatively little access to postcompulsory education.

The middle performers have their own specific mix of education achievements and challenges. For example, whereas 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

FIGURE 5

Integrated Index for Access, Equity, Efficiency, and Quality



dropout rates that limit their ability to develop postcompulsory levels of instruction. Thus, this group is in a position to consolidate past achievements and tackle whatever unique problems each country faces.

Two correlations are interesting to note in this comparison. First, four countries in the sample have experienced large-scale political conflicts since the 1960s, and yet, they have been able to retain their positions as top or middle education performers: Lebanon, the Islamic Republic of Iran, Kuwait, and West Bank and Gaza. Second, success in meeting education objectives does not always correlate with per capita income. To be sure, Kuwait performs better than the Republic of Yemen or Djibouti. However, Algeria and Saudi Arabia, which have relatively high per capita income, performed less well than Jordan or Tunisia, with lower per capita incomes. Thus, neither conflict nor lack of resource availability are absolute bottlenecks to making progress in education reforms.

Assessing Reforms Against Outcomes

Did the top-performing countries in the region engineer their education systems better than the rest of the sample? Did they adopt better incentives to motivate the actors involved in the education process? Did they exhibit more public accountability toward their citizens? These questions were addressed by examining features of the education system that reflect engineering, incentive structures, and public accountability—these current features are the product of all past reform efforts.

Who engineered better? Jordan and Kuwait have education systems that are judged to possess better engineering than those of Morocco, Iraq, the Republic of Yemen, and Djibouti. The 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. The quality of engineering was determined by examining the following features: pedagogy, teaching capacity, structure of education and flow of students, and resource mobilization. A judgment was then made as to the relative success of each engineering aspect. For example, the quality of pedagogy was determined on the basis of whether such components existed as inquiry-based learning, student-based learning, and multiple-chance learning, and whether emphasis was placed on technology, science, and foreign languages. On the basis of available information, Jordan, Tunisia, and Lebanon have gone farthest in student-centered pedagogy. In contrast to these pedagogical innovations, the remaining countries continue to adopt an outdated pedagogy. Typically, curricula and textbooks are centrally developed to ensure they are the

same for all students of each grade. Arabic language, history, and religion dominate the curriculum over math, sciences, and technology.

Who used incentives more? Here, a distinction was drawn between public and private providers of education. Several measures were used to assess incentives for public schools: school autonomy, participation in international tests (TIMSS, for example), existence of a national accreditation system, the presence of effective parents' associations, a system of inspection, and whether the country links the performance of schools and teachers to any kind of reward—resources, pecuniary payments, or career development. Evaluation, monitoring, and rewards were judged simply on the basis of the percentage of student enrollment in private institutions at all levels of education in a given country. Private providers typically enjoy greater autonomy and ability to provide rewards than their counterparts in public schools. Thus, the higher the private sector involvement, the better the incentive system.

No country has public schools with significant autonomy or that provide specific rewards to teachers or schools for performance. Also, all countries have centralized inspection systems and parents' associations, although these entities do not reward performance. However, there was some variation on the other measures. Almost all countries have participated in TIMSS, except Iraq, the Republic of Yemen, and Djibouti, all lower performers. Jordan and Tunisia, both high performers, have introduced assessments of learning outcomes for planning and accountability purposes.

Based on the above, the broad conclusion of the report is that three of the top-performing countries (Jordan, Kuwait, and Lebanon) are also those that have relatively better evaluation, monitoring, and reward systems in public schools and greater private sector participation. Tunisia, whose success may be more attributable to good engineering, is an exception. In contrast to the top performers, Morocco, Iraq, the Republic of Yemen, and Djibouti hardly have any private sector providers.

Who had better public accountability? Alternatively, is it true that countries that gave their citizens more voice broadly, and education-specific voice mechanisms in particular, have better education systems and better education outcomes than those that do not? Using the Index of Public Accountability—which 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—it appears that the top performers, especially Jordan, Kuwait, and Lebanon, enjoy relatively higher public accountability than do the lowest-performing countries, save Morocco (figure 6). The citi-

zens of the middle-performing countries, including the Islamic Republic of Iran, Egypt, and Algeria, enjoy moderate levels of public accountability. These cases serve as a reminder that it takes a combination of good engineering, aligned incentives, and public accountability to attain good education outcomes.

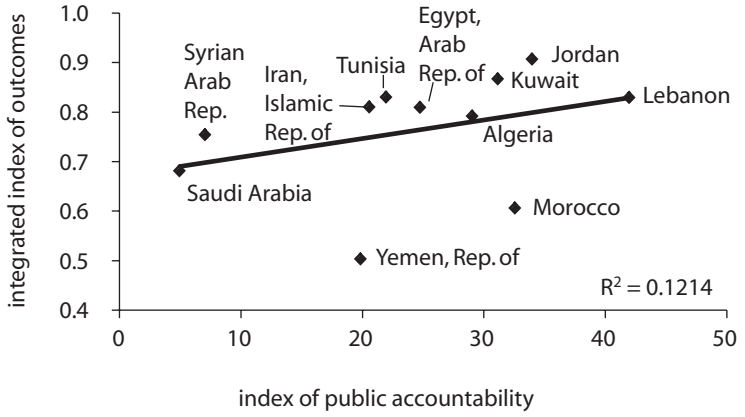
In sum, three insights come from this analysis. First, there are significant variations in outcomes among countries. Jordan, Kuwait, Tunisia, and Lebanon were relatively more successful in providing access to reasonable-quality education for most of their populations than were the rest of the countries in the sample. At the other end of the spectrum, Djibouti, the Republic of Yemen, Iraq, and Morocco lag behind considerably. Finally, there is another group of countries in between, which includes the Islamic Republic of Iran, Egypt, West Bank and Gaza, Algeria, Saudi Arabia, and Syria.

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 to prescribe 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 could produce positive results.

Third, 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 special attention to issues of equity. It

FIGURE 6

Educational Outcomes and Political Accountability



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 relax its efforts to reform public schools.

Education and Labor Markets: The employment of graduates is often compromised by low demand for labor

Unemploymin ent in the MENA region averages 14 percent, which is higher than in all other regions except Sub-Saharan Africa. The problem affects virtually every country in the region, even several oil-exporting Gulf economies that traditionally had to import expatriate laborers to supplement the national workforce. In addition, unemployment has disproportionately affected those with higher levels of education. Thus, the nature of labor markets within MENA countries and across their borders has rendered it more difficult to maximize the economic returns from education. Within countries, the demand for labor is generally insufficient or distorted because of low economic growth, the dominant role of the government as an employer, and the relatively high cost of doing business. As a result, productivity and the returns to education are low. Across countries, labor mobility is hampered by asymmetry of information about job seekers and job opportunities, weak contract enforcement, and lack of coordination among governments to resolve these problems. Failing to correct these problems also erodes the benefits from education, both to the migrants and to the labor-exporting and -importing countries.

The labor market outcomes observed within MENA countries are the product of imbalances between the supply of and demand for labor. On the supply side, the labor force in MENA countries has grown more rapidly than in East Asia or Latin America for several decades. With women increasingly seeking employment, labor force increases accelerated in the 1990s. On the demand side, the region was able in the 1960s and 1970s to achieve relatively rapid economic growth, which made it possible to absorb population growth into employment. But by the 1990s, unemployment in MENA was the highest of any region, while education attainment had increased. One principal cause for this imbalance was the legacy of public employment, which led to suboptimal use of labor and created expectations that could not be fulfilled. Also, excessive and costly regulations constrained the growth of an efficient and dynamic private sector, thus lowering the capacity of countries in the region to create productive jobs. Finally, macroeconomic and structural policies were not always consistent with taking advantage of trade opportunities. Not sur-

prisingly, the economic returns to education were not as high as might have been expected.

Labor migration in the MENA region served both the host and exporting countries reasonably well in the past, with excess labor in one subgroup of countries (such as Egypt, Lebanon, Jordan, and Morocco) and excess capital in another (such as the Gulf Cooperation Council countries). Without labor mobility, unemployment in the region would have been higher and the returns to education would have been lower than observed. This positive outcome was possible despite an array of migration policies and practices that do not encourage migration. The hiring policies in the Gulf states and strict migration policies in the European Union and North America have led to suboptimal levels of migration and high levels of illegal migration. Lack of explicit promigration policies in the exporting MENA countries left some migrants with no efficient mechanism for seeking jobs abroad or assurances of agreeable working conditions in the host country. For both reasons, migration in MENA has not been the win-win game for all it might have been. Supporting this view are the high unemployment rates in labor-abundant countries and persistent human capital gaps in capital rich countries.

Accordingly, to reap the full benefits from education, complementary reforms are needed to enhance the demand for decent work and to allow more productive use of human capital, both within and across countries. These reforms are important to both improve the returns on past investment in education and to ensure that the right education choices are made in the future.

The Road Ahead

The Road Not Traveled refers to the rest of the journey the region needs to make. This journey is a continuation of former reform efforts, but it is also a significant departure from past practice. Taking the perspective of the analytical framework discussed above, this report concludes that MENA education systems will subsequently need different types of engineering measures, incentive structures, and public accountability mechanisms. It will also need changes to the relationship between labor markets and education.

From Engineering Inputs to Engineering for Results

In earlier phases of reform, engineering was a relatively straightforward activity of putting in place buildings, teachers, and pedagogical materials

based on a simple prediction of demand. Now education must produce appropriate skills for global competition and meet a growing demand for postcompulsory education. This increased complexity requires a new kind of engineering based on partnership rather than hierarchical command. For example, rather than controlling the allocation of all educational inputs and resources, education authorities need to coordinate the contributions of an assortment of actors (public, private, local, nongovernmental) to meet expected objectives. Some of the tools of this type of engineering include quality control and public-private partnerships. In addition, "engineers" (from the ministry to the school level) would have the responsibility of finding additional sources of financing.

From Hierarchical Control to Incentive-Compatible Contracts

Using incentives to change the behavior of educators, schools, or providers of other education services is not new in the region. However, to promote the flexibility and performance of education actors, the report argues that there are three areas in which MENA countries can further improve incentive structures. First, nonpublic provision of instruction and education could be further promoted, particularly in areas where it has an evident comparative advantage to meet diversified demand for educational services (for example, nonformal education, vocational training, and postsecondary education). Second, more decision-making responsibilities could be shifted to the school or university level to increase flexibility. In parallel, (additional) public financing could be tied to outcomes and innovation, thus ensuring accountability for performance. Finally, teachers are now expected to function more like physicians or lawyers, applying diagnostics and crafting responses according to the specific needs of the students and the environment. To support this transformation, new teacher incentive structures are need. Although linking teacher pay or promotion to class outcomes is controversial, many countries are experimenting with incentives to teaching teams (sometimes schoolwide, sometimes specific departments) to work together to improve learning outcomes. Also, teacher licenses and promotion could require teachers to continuously upgrade their skills and competencies, rather than depend on seniority alone.

Accountability to the State versus Accountability to the Public: Education has a New Boss

For education systems to perform better, they must cater to the increasingly complex demands of a diverse clientele (parents, students, workers, employers). Ensuring better accountability to this public can be ap-

proached along two dimensions. First, institutional mechanisms can be put in place to promote a more level playing field for stakeholders to influence educational policy, resource allocation, and service delivery. In MENA, these have usually been created by governments in the form of consultative events, parliamentary oversight committees, advisory committees, or nongovernmental representation on oversight agencies. In many other regions, civil society has also created such mechanisms through advocacy and "watchdog" organizations, specialized journals, independent research institutes, and professional associations. Such instances are just starting to appear in MENA countries. Second, an accurate, credible, regularly updated, and detailed information system is required to effectively use incentives to improve educational outcomes, as well as to ensure that all vehicles of public accountability function on the basis of a firm foundation. Education information systems tend to be weak in the MENA region, as demonstrated by the many gaps in basic educational data available to the public; even simple information on student outcomes, attendance, dropout, teacher absenteeism, and teacher training and qualification needs is not readily available to school, district, and national education managers on a timely basis.

Synchronizing Human Capital Accumulation with Labor Demand

Initiatives are needed at national, regional, and international levels to produce better labor market outcomes and higher returns to investment in education in MENA. First, employment policy in government has led to suboptimal use of labor and created expectations that could not be fulfilled. This policy was coupled with relatively low levels of job creation by the private sector in new and dynamic activities. In turn, private sector activities were limited by excessive and costly regulations, constraints on openness, and low confidence in macroeconomic policies. One important implication for the education sector is this: until sufficient progress is made to create productive jobs in the dynamic sectors of the economy, further expanding the education systems in the region may be counterproductive.

Without labor mobility, unemployment in the region would have been higher and the returns to education would have been lower than observed. Yet, this positive outcome was possible despite an array of migration policies and practices that do not encourage migration. Collectively, governments of both host and home countries can benefit from concluding bilateral or multilateral agreements on orderly migration and return migration of workers. They could further coordinate their education systems to ensure that the graduates of the exporting countries have the skills most in demand in the host country markets.

New Destinations

Having succeeded in expanding the education systems to include most eligible children, boys and girls, the MENA region is now ready to travel a new road. The new road requires a new balance of engineering, incentives, and public accountability measures. Simultaneously, it requires renewed emphasis on reforming domestic and external labor markets.

The exact configuration of the new road for each country is not the same. After all, some countries have already carried out more education reforms and achieved better results than others. A similar statement can be made about the magnitude and nature of economic reforms. Thus, the reform agenda for each country will differ, depending on these initial conditions. However, all countries, irrespective of their initial conditions, need to find a new combination of engineering, incentives, and public accountability, along with measures to improve labor market outcomes.

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