

## Introduction

Part I of this report argued that while education systems in the MENA region have made considerable progress in providing a greater proportion of eligible citizens with educational opportunities, they have fallen short in key areas. First, their contribution to economic growth, income equality, and poverty reduction is not commensurate with the high level of investments made in education. Second, and equally important, they do not appear to be well positioned to address the new economic and social changes occurring in the region and globally. These conclusions bring us to the heart of this report: what reform path of the education systems should be followed to maximize the returns from education and meet these new challenges?

Part II addresses this question in three chapters. Chapter 4 proposes a new analytical approach to education reform, focusing not only on improving the technical relationships between the inputs and outputs of education (education engineering) but also on the incentives facing the actors involved (teachers, schools) and on the public accountability of policy makers to citizens. Chapter 5 traces the reform path taken by the MENA countries so far, with the objective of finding out whether they are converging with the path proposed by the analytical approach over time. Finally, chapter 6 applies the analytical approach to a sample of 14 MENA countries to find out whether or not the more successful among them in terms of educational outcomes do have education systems that exhibit modern education engineering processes, incentives that are better aligned with education outcomes, and stronger public accountability than poor performers. The purpose of this analysis is to see if actual experiences render support to the analytical approach, enabling us to propose a new road for the region to travel in the future.

The analysis indicates that education reforms in the MENA region are trending in the right direction. Having gone through an initial stage of establishing their education systems by means of building schools, set-

ting the curriculum, hiring teachers, and a command and control structure, some countries are beginning to experiment with measures to motivate the actors involved (e.g., creating parents' associations and increasing private sector involvement in education) and to enhance greater public accountability (e.g., through decentralization). However, some countries have not even begun this process. Moreover, past reform efforts tend to be partial and frequently ineffective. In cases where education outcomes were relatively good, the countries were found to possess education systems that exhibited better engineering, incentives, and public accountability than the rest of the sample. Thus, both the analytical framework and the actual experiences suggest that the region needs to make a shift in the way education reforms are designed and implemented. The road to be taken is also spelled out in some detail.

## Analytical Framework

If past investment in education in the MENA region has not generated the maximum economic returns to individuals and society, it's reasonable to ask why it has not done so. Answering this question requires an analytical framework on which past education reform efforts can be assessed and future reforms can be drawn. Without such a framework, *it is hard not to bark up the wrong tree, if (one) thinks there is only one*, as the old Punjab proverb says.

Deciding on the appropriate framework is not straightforward, however. There are at least three perspectives. One is based on the assumption that the problem of the education system at all levels is *technical* in nature. This means that the system is not sufficiently well managed and funded, thus cannot provide the appropriate quantity, quality, and mix of educational inputs (e.g., schools, teachers, textbooks) to obtain the best educational outcomes. Another is based on defining the problem in *motivational* terms. In this case, the problem can be seen as a principal-agent problem, in which policy makers (the principals) need to overcome a problem of information asymmetry and align the incentives of the teachers/schools (the agents) with desired educational outcomes. A third perspective attributes the problem to a lack of public accountability, which prevents parents and students from exerting influence on educational objectives, policies, and resource allocation to maximize the returns to investment in education.<sup>1</sup>

The analytical approach followed in this chapter and the rest of this report is a composite of all three perspectives.<sup>2</sup> Indeed, the key argument made here is that successful education reforms require: (i) reforming the education process itself, (ii) motivating the actors involved, and (iii) giving parents/students the opportunity to contribute to the formulation of education policies. Conversely, education reforms are not likely to produce the desired level, quality, and mix of human capital if policy makers focus too much on one perspective and neglect the others. Thus building schools, training teachers, and improving the curriculum are all necessary but insufficient conditions for reforms to succeed. Developing

mechanisms to monitor the performance of teachers/schools and establishing links between their performance and rewards (pecuniary or non-pecuniary) can bring reforms closer to achieving their objectives. Equipping parents and students with mechanisms to demand better education policies (e.g., through voting or decentralization) is another building block toward maximizing the returns on investment in education.

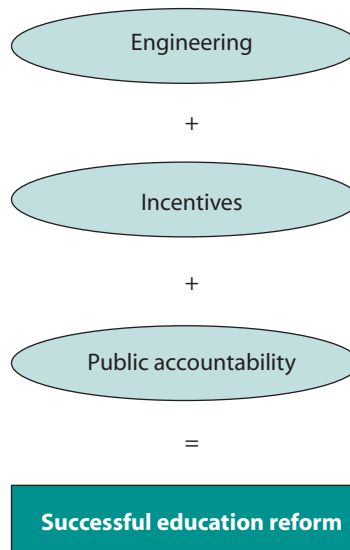
To elaborate the above arguments, the remainder of this chapter is structured as follows. The following section discusses the rationale behind each of the three building blocks of the analytical framework. Next, we discuss possible links between the conceptual framework and reform instruments. Finally, we explore the applicability in principle of the approach to different levels of education and different countries, followed by a summary of the key points made.

### Three Building Blocks

As asserted in the introduction, successful education reforms require better *engineering* of education, better *motivation/incentives*, and improved *public accountability*. These three building blocks, shown in figure 4.1, arguably add up to successful education reforms. While partial reforms can be beneficial, they are not likely to generate the highest returns from investment in education. A discussion of each of these components of reform is presented below.

FIGURE 4.1

#### The Three Building Blocks of the Analytical Framework



## Engineering

The *engineering* of education is equivalent to viewing the provision of education like a production function of any firm. Thus, simplistically, it takes a classroom, a teacher, a textbook, and the like to educate a student. The quantity, quality, and mix of these inputs determine educational outcomes. When outcomes are not satisfactory, the engineering perspective suggests increasing the quantity of inputs, improving their quality, or changing their mix by means of more resources and better management.

In practice, most education reforms seem to focus on better engineering. Frequently, education policy makers request larger allocations of resources from the ministry of finance to build schools, maintain existing facilities, train teachers, and pay wages. They devote significant time and effort to improving the curriculum, planning the expansion of the education systems, and developing new methods of testing and examination. In essence, they are engaged in improving access to and the technical efficiency of education by means of more funds and better management.

Better engineering of education has its virtues. Improving access to education and its technical efficiency are prerequisites to improving education outcomes. For policy makers, engineering also has the merit of producing visible results, as it is easier, for example, to point out that schools have been built than it is to show that the behavior of schools or teachers has changed. In addition, better engineering may be a reasonable way of proceeding at an early stage of developing the education system, when the majority of the population lacks access to education.

These virtues are offset by several shortcomings, however. In particular, this perspective fails to motivate the providers of education to do the best they can because of the weak link between rewards and achievements, information asymmetry, and poor monitoring devices. It fails to equip parents with mechanisms to monitor school performance or to give them the option of choosing a provider, and it does not give parents and students mechanisms for exerting influence on education policies. Thus, reforms that focus on engineering alone cannot be expected to generate as many benefits as possible.

## Incentives

Unlike the engineering perspective, the incentives (or industrial organization) perspective involves focusing on motivation rather than on technical coefficients. Guided by the industrial organization literature, incentives here go beyond rewarding schools/teachers in the form of pecuniary or nonpecuniary benefits. Instead, the problem is framed as a principal-agent dilemma.<sup>3</sup> The principals (politicians or bureaucrats) are interested

in particular outcomes (say, access to quality education), but they have to rely on the agents (teachers or schools) to achieve these outcomes. However, agents may have different objective functions than the principals. They also have an informational advantage, as they know more about what goes on in the schools and classrooms than the principals. Thus, they can charge what is referred to in the literature as “information rent,” knowing that the principals cannot fully monitor their performance because it is too costly to do so. To resolve these problems, the industrial organization literature suggests designing implicit or explicit contracts with provisions that align the incentives of the agents with those of the principals, while simultaneously reducing the information rent.

Reforms along the line recommended by the industrial organization approach are gaining ground in developing countries. Realizing that additional resources do not necessarily lead to improved education outcomes, policy makers are increasingly attempting to link the rewards of schools/teachers to student achievements. Some of them are creating avenues for parents to participate in school activities to ameliorate the monitoring problem. Others are encouraging private sector provision of education, thus increasing competition and giving parents a choice of provider. And a few are making information about the performance of schools available to the public. The underlying premise of all these measures is that the performance of schools and teachers will change for the better if they expect their resources and income to dwindle and their career development prospects to diminish if students do badly.

The perspective of incentives is an important complement to the engineering perspective. Aligning the incentives of the providers with desired outcomes motivates them to exert more effort to deliver better education outcomes. As a result, x-efficiency (slacking less) improves, leading to more and better education outcomes from the same level of resources. Involving students/parents in school activities may also lead to better resource allocation, thus improving allocative efficiency as well.

Against these major advantages, the application of the industrial organization perspective is demanding, in part because it involves changing the behavior of individuals and organizations. Other difficulties follow from the inherent imperfections of contracts, especially in the education sector, where outputs are difficult to measure, attribution of results to different factors are hard to establish, and information asymmetry is severe.

### **Public Accountability**

*Public accountability* is the third building block in the analytical framework. This component is concerned with the ability of parents/students to influence the formulation of education objectives, policies, and re-

source allocation, either at the national and/or local levels.<sup>4</sup> The premise is that if the majority of the beneficiaries have a way of persuading policy makers to improve education policies, education outcomes will improve. Conversely, if education is designed to serve the interests of only a few in a society, the benefits from investment in education will be narrowly distributed.

According to the World Development Report 2004, strengthening the voice of citizens can be achieved in two ways: the first involves improvements in the electoral process itself, which is complex and time-consuming. The second involves taking measures to make public institutions/politicians more accountable to citizens, for example, through carefully designed decentralization, or by making information about resource allocation and education outcomes available to the public.

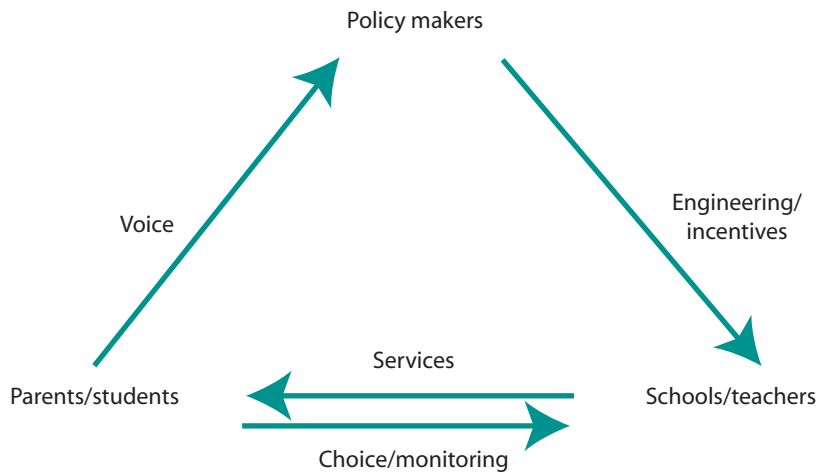
The benefits from greater public accountability can be huge. Holding policy makers accountable to citizens has the potential of improving the distribution of education among the population. It also has the potential of bringing about a more rational allocation of resources. Further, it can be an important vehicle for ensuring 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. Although some reforms are still feasible in such cases, they need to be designed with the prevailing constraints in mind.

### **Three Actors and Three Relationships**

Schematically, the components of the framework described above involve three actors and three explicit or implicit contractual relationships (see figure 4.2). The three actors are the policy makers, the schools/teachers, and the parents/students. The three contractual relationships are between: (i) the policy makers and the schools/teachers, (ii) the schools/teachers and the parents/students, and (iii) the parents/students and the policy makers.

The policy makers (as the principals) provide the schools/teachers (the agents) with the rules of the game for better engineering and incentives. The schools/teachers provide the education services to students (or their parents), who may or may not have a choice of provider and may or may not be in a position to monitor school performance. Finally, the parents/students, as citizens, may or may not be able to influence policy makers with respect to the objectives of education, the policies governing its delivery, and the associated allocation of resources, depending on the prevailing political and institutional regime.<sup>5</sup> The best-case scenario of course is one in which all three relationships are working in the same direction, so that the engineering of education, the incentives for the ac-

FIGURE 4.2

**Three Actors and Three Contractual Relationships**

tors involved, and the accountability of policy makers are all aligned to improve educational outcomes.

These relationships are complex, dynamic, and context-specific. They cannot be changed by a single act, overnight, or through one unique route. Their complexities are compounded by a number of factors. To mention but a few, it is difficult to measure all education outcomes accurately, especially with respect to such objectives as building national identity. Even where outcomes are measurable, it is difficult to establish causality. For example, when a student performs well, is it because of the teacher's method of instruction, the genes of parents, the parents' socioeconomic background, or something else? Further, the relationships between education inputs and outputs are not always clear. For example, does a class size affect student scores, and if so, in what way?

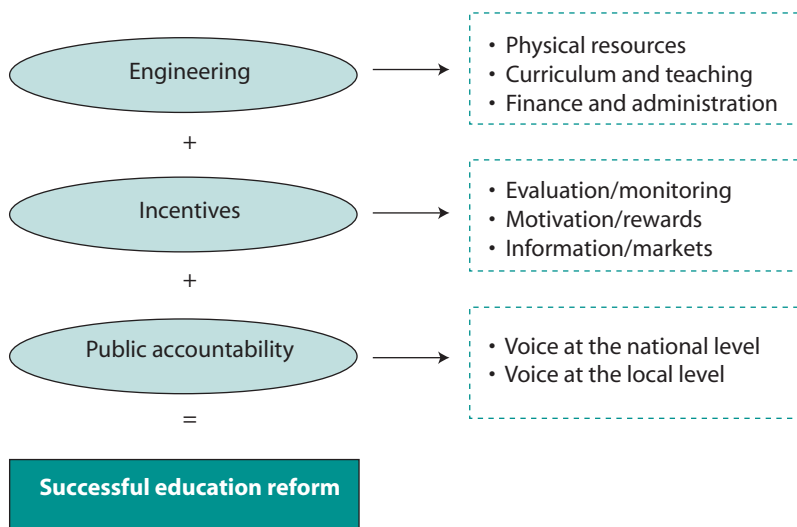
Notwithstanding these difficulties, there is extensive information about how some of these problems may be tackled. A brief discussion of some of the reform instruments as they relate to the three building blocks is presented below.

**From Concepts to Instruments**

Broad concepts become useful in practice when they are translated into instruments that have a high probability of working. This section attempts to translate our concepts into instruments without pretending to fully prescribe what ought to be done in any given context. The discussion is organized around the main concepts behind the three building blocks of the analytical approach (as shown in figure 4.3).

FIGURE 4.3

### The Three Building Blocks of the Analytical Framework



### Possible Instruments for Better Engineering

Better engineering requires that students have access to appropriate physical resources (schools, classrooms, and other infrastructure), a modern curriculum, and well-trained teachers. The provision of these inputs requires adequate and efficient allocation of financial resources and effective management. Where resources are insufficient to meet the demand for education and management is ineffective, better engineering is a prerequisite for improving education outcomes.

*Physical resources.* Consider first the issue of physical resources. To learn, students need access to schools, a decent-sized classroom, and well-functioning infrastructures. These inputs require resources that some governments in developing countries cannot afford, especially in light of the growing number of students and the persistence of a policy of free education for all. And frequently, available resources are not managed efficiently. A large fraction of the resources may be allocated to overhead and a small fraction to inputs related to teaching. Teachers' salaries, low as they may be, can be so large as to leave very limited resources for acquiring all other inputs. Also, some countries allocate a large chunk of the education budget to higher education, even when most children have not yet been enrolled in basic education.

Inadequate and/or inefficient allocation of resources means that some children do not have access to schools at all, or have access to a low level of instruction and an inappropriate learning environment. Poor chil-

dren, in particular, are more vulnerable, as they tend to drop out proportionally more than the well-off and because they typically do not go on to acquire higher education. Thus, the first order of business in any education reform is to make sure that physical resources are provided for students to learn. This may require mobilizing additional resources, for example, by charging user fees to students with the ability to pay, reallocation of the current budget among different inputs, or encouraging private provision of education.

***Curriculum and teaching capacity.*** If the physical resources provide the means for learning, the curriculum and teaching methods provide *what* learning takes place and *how* it is accomplished. Well-designed curricula and qualified teachers are key ingredients to the efficient functioning of education systems. Here again, the education systems of most developing countries tend to suffer on both counts. Teaching methods tend to emphasize repetition and memorization rather than creative thinking and lifelong learning. National examinations harmonize equitable access to higher education, but may also lead to “teaching to the test” and even “manipulation” of the results (Levitt and Dubner 2006). Teachers are not always well trained, and if they are, they do not always transfer their training to the students in the classroom. Absenteeism is not a rarity either, especially in remote areas.

Clearly, this is another critical reform area if better engineering of education is to contribute to better education outcomes. Updating the curriculum and improving the training of teachers are important ingredients going forward. For all of these reform areas, there is a growing body of accumulated knowledge and experience to draw upon.

***Management.*** The management of resources (physical and human) differs according to whether education is provided by public or private schools. The role of the government is also different in each case.

For public schools, the nature of the problem is relatively well known. Typically, public schools have limited resources or limited control over the resources they have. Headmasters rarely select their teachers and they cannot fire them. Key decisions, including the allocation of resources across different classes of expenditures, are essentially centralized. Salaries are basically determined on the basis of seniority. To remedy these problems, the standard solution is “give schools more autonomy in return for greater accountability.” But, as will be discussed below, it takes more than such a broad statement for the management of public schools to be more effective. Issues of evaluation, compensation, and monitoring need to be addressed if the shift to a new paradigm of autonomy-accountability is to bring about positive results.

As for the private sector, the motivation to make a profit is likely to lead the owners to do what it takes to achieve this objective. The key issue for the government is one of protecting the public interest and reducing cream-skimming, both of which require government intervention. In the case of the private sector's involvement in education, the intervention consists of providing and enforcing a regulatory regime to ensure that certain standards are met. These standards could pertain to access, the curriculum, infrastructure, or accreditation. In parallel, the government could also provide funding to qualified but poor students to enroll in private schools, as has been tried, for example, by Chile, Colombia, Côte d'Ivoire, the Czech Republic, and Bangladesh in the form of voucher schemes.

Other forms of engaging the private sector include *contracting out* such services as the publication of public school textbooks and school maintenance. These services lend themselves to contracting out because the outcomes are easy to measure and the costs can be identified without difficulty. If contracting out is conducted through an open bidding process, it could generate cost savings to government and possibly better quality services in the public schools.

In most countries, education is provided partly by the government and partly by the private sector. Thus, reforms need to move on two parallel tracks, one for improving the management of public schools and the other for improving the regulatory environment for the private provision of education. Where countries seem to differ is in the level of education where private provision is encouraged. The recent trend in Asia and to a lesser extent in Latin America is for the government to focus on the provision of basic education, leaving a large chunk of higher education to the private sector on equity grounds.

### **Possible Instruments for Better Incentives**

Better incentives require aligning the objectives of the actors involved with better education outcomes. This can be done through multiple channels. One channel involves evaluating and monitoring schools/teachers. Another is related to linking the compensation of schools/teachers to student achievements. A third is related to the role of parents and markets in this process. Clearly, all of these channels are linked and none of them would work alone. Evaluation without rewards is not likely to change the behavior of schools and teachers for the better. Nor would evaluation fully substitute for effective monitoring, say by inspectors or parents.

***Evaluation/monitoring.*** Evaluating and monitoring the performance of schools and teachers are not easy, though. Schooling involves conveying

skills, attitudes, and values. Some of these elements are difficult to measure. While testing is a reasonable proxy, it only captures part of what a good school is supposed to do. Further complicating the process is the fact that the relationships between inputs and outputs in the education process are not linear. For example, the allocation of more resources does not guarantee better outcomes. Nor does reducing the class size necessarily improve test scores. In addition, it is difficult to monitor the performance of teachers. In part, this is because the teaching process itself requires that teachers have the autonomy to assess student knowledge of material, provide the necessary feedback, and adjust the method of instruction to the characteristics of students or the nature of subject matter. In addition, the teaching process takes place inside the classroom, where only students can observe teachers.

Even if mechanisms to evaluate the performance of schools/teachers are found, there is a problem of attribution. As noted earlier, the performance of students depends on a host of factors other than schools and teachers. These other factors include the characteristics of the child's parents, the child's nutrition, and the influence of peers. Thus, a student may score well in a particular school, but much of the credit may belong to the influence of the parents or peers. In another school, a student may score badly despite the serious effort made by the school/teachers. Judging the first school to be better than the second is obviously the wrong conclusion.

These problems are not without possible solutions, however. One way of assessing the performance of schools, rather than the composition of its population, is to track the *changes* in student performance in the same school over time. The scores are likely to reveal the contribution of the school rather than reflect the characteristics of the students and their parents, essentially because the structure of the student body tends to remain roughly constant for a period of time. Alternatively, the *level* of school performance could be compared with the performance of other schools, after adjusting for differences in the socioeconomic background of the student body in each of them. Imperfect as they may be, these comparisons are better than no evaluation at all. Moreover, the process can be strengthened through better monitoring mechanisms, for example, through the participation of parents/students in school activities, as will be discussed below.

**Rewards.** Evaluating the performance of schools/teachers without offering a system of financial and nonfinancial rewards is not likely to change their behavior. But creating such a system is easier said than done.

In public schools, as noted already, compensation and career development are typically based on seniority rather than performance. Salaries are

frequently too low to secure a decent standard of living, which contributes to the proliferation of private tutoring. Both excellent and mediocre performers receive similar treatment, demoralizing the morale of good teachers. And absenteeism may go unnoticed or without any penalties.

One way of addressing these problems in public schools is by emulating some of the practices of successful private schools. These practices involve according headmasters the flexibility to hire and fire teachers, compensating them on the basis of performance, and setting salaries at competitive levels. Because they are located at the schools, headmasters are better positioned to monitor the performance of teachers and get feedback from students and their parents. To avoid favoritism and poor judgments by headmasters, the ministry of education could set the rules

#### BOX 4.1

##### **Teacher Incentives Work, but Not Always**

A random evaluation of the state of the education system in Andhra Pradesh in India indicates positive results for the performance-based pay program implemented for primary education teachers. Students in affected schools scored significantly higher than those in other schools—by 0.19 and 0.12 standard deviations in math and language, respectively (Muralidharan and Sundararaman 2006). Spillover effects were also observed in other subjects.

There are counter-examples, however. Even a significantly large bonus to teachers doesn't necessarily produce positive outcomes in student learning, as shown in Mexico's Carrera Magisterial Program. Despite attractive rewards, no direct causal link was found between this scheme and teacher performance (McEwan and Santibanez 2005). Although student learning was evidently improved, particularly in rural areas, the results were also mixed (Lopez-Acevedo 2004).

In Kenya, a teacher incentive program that awarded a nonmonetary bonus to teachers resulted in short-term success. Students' test scores improved largely due to the teachers' focusing on "teaching to the test," which increased test-preparation sessions. This positive change was only observed during the duration of the program.

These cases show that teachers do react to incentive programs, but there are no guarantees that these reactions are either positive or lasting. Indeed, the conclusion of a comparative study in seven countries in Latin America (Vegas and Umansky 2005) is that there are many types of teacher incentives, and a variety of incentive schemes that are worth exploring, to affect the behavior and capacity of teachers to perform their tasks well. According to the authors, it is crucial to have careful design, a clear framework, and guidelines and objectives suitable for each country's context.

*Sources:* Lopez-Acevedo (2004); Muralidharan and Sundararaman (2006); Vegas and Umansky (2005).

of the monitoring and evaluation and hold the headmasters accountable for measurable results.

*The Role of Parents and Students.* Parents and students could play a positive role in improving the performance of schools if they had a *choice* of provider and if they had mechanisms to *monitor* school performance. The choice of provider presumably would put pressure on schools to perform better, but that would only work if:

- Parents had a real choice, in the sense that the cost of shifting from one school to another was possible without incurring excessively high transaction or transportation costs,
- Parents had reliable information about school performance that was provided by the government or independent agencies, and
- Public schools were affected by failing to attract and retain students.

As for the role of parents in monitoring school performance, clearly they are in a better position to do so than bureaucrats at the central government. They interact with the schools frequently, either directly or indirectly through their children. They also have the desire to ensure that their children are getting a good education. For both reasons, their active involvement in schools can contribute to improved performance. But that is also likely to work only if:

- Their involvement does not encroach upon teacher autonomy,
- This involvement is not captured by a subgroup of parents, and
- Schools are made responsive to the representatives of parents.

### **Possible Instruments for Better Public Accountability**

Even if the education process is efficient and the incentives of the actors involved are aligned with desired results, education outcomes may still be suboptimal. For example, the objectives of education may be set to serve the narrow interests of the ruling elite, or the demand for unproductive but high-paid jobs. Education policies may be formulated to achieve these narrow objectives, and resources may be allocated accordingly. As a result, society may allocate significant resources to education, but the majority of the population may not necessarily reap their benefits, or the lucky ones who have access may not get the education they want or need.

These concerns are not academic. On the contrary, different groups in society typically want education to achieve distinct and possibly contradictory objectives. The World Bank Development Report 2004 phrases the problem this way:

**BOX 4.2****Report Cards and School-Self Assessments Strengthen Parental Involvement and Community Mobilization**

Under the No Child Left Behind (NCLB) initiative, the United States developed a report card system that profiles schools. Variations of the system have been adopted in other countries around the world. While their impact varies from one country to another, a USAID study concludes that their success depends on: (1) the capacity of participants to benefit from the collected information, (2) the quality of the information system, and (3) the political will to implement the recommendations. The study adds that the bottom-up approach is more effective than the top-down approach in strengthening community participant in decision making (Cameron et al. 2006).

One successful example in a developing country is that of the School Self-Assessment (SSA) system in Namibia. In this case, the system helped mobilize parents to participate in school activities and management in the process of developing and implementing school improvement plans (SIPs). The SSA system is a comprehensive tool to assess school performance, covering school climate, school management, professional development, school planning, teacher attitude, and classroom management. Gillies (2004) reports that the SSA approach works well in helping parents identify issues and seek ways to make practical contributions.

*Sources:* Cameron et al. (2006); Gillies (2004).

“Poor parents see education as an opportunity for their children to lead better lives, but they may also want education to reinforce traditional values. Elites may want universal education but often promote public spending on higher education for the benefit of their own children. Urban and business coalitions may favor more education because it increases the productivity of their workers, or industrialists may quietly oppose ‘too much’ education because it makes workers restive. Politicians may want to deliver on promises of universal schooling while also using the education system to provide patronage jobs. Teachers and their unions want high-quality universal education but also higher wages.”

To reconcile the conflicting demands on education, each society needs to find mechanisms through which different groups can voice their concerns and a process by which these concerns are taken into account. Whether these mechanisms are proposed by the ruling elite or in response to pressure from citizens, they can be at the national or regional/local levels.

*Voice at the national level.* Democracy is probably the best instrument for reaching consensus about the objectives of education in a given society. It also provides a forum for reconciling differing views about the best modes of education delivery. And through parliamentary debates, it has the potential of allocating resources to serve the interests of the majority of the population. Although democracy, like markets, is imperfect, Churchill famously said: “Democracy is the worst form of government except all the others that have been tried.”

Appealing as the above assertion may be, it is nevertheless true that even less-than-democratic rulers need legitimacy and the consent of their citizens to stay in power. Thus, populist leaders may attempt to build consensus about education objectives and education policies by creating reform commissions or holding large conferences for different stakeholders. They may push for constitutional changes that guarantee free education for all, or allocate resources to remote areas to gain popular support. The problem with these mechanisms of public accountability is that there are no assurances that the leaders would adopt them, nor that they would work as well as a democracy.

*Voice at the sub-regional level.* If the political regime is such that public accountability mechanisms cannot be established at the national level, it does not mean that society has to wait until full democracy is achieved. Indeed, it may be possible to inject levels of public accountability at the sub-regional level with potentially positive effects on education outcomes. A carefully designed decentralization of decision making to the local level could empower citizens to have voice over issues related to education policies, resource allocation, or even school management.

The converse is not out of the question, however. It is indeed possible that decentralization could erode public accountability if it reduces the consistency of education policies across states while giving citizens no voice. The absence of local elections and lack of representation of citizens on local councils essentially means that decentralization may give local politicians a free hand in making decisions without being accountable to anyone. This could make things worse. Thus, decentralization is a potentially useful instrument for enhancing public accountability, but its usefulness depends on the way it is designed and implemented.

## **Applicability of the Approach across Levels of Education and Countries**

The discussion thus far has not been focused on any particular level of education—preschool, basic, secondary, or higher education. Nor has there been any differentiation between countries on the basis of their

level of development, education achievements, or resource availability. The question addressed in this section is whether the combination of better engineering, incentives, and public accountability is applicable across different levels of education and countries.

### **Applicability across Levels of Education**

Admittedly, different levels of education are intrinsically distinct from one another. For example, what needs to be done to improve the curriculum and infrastructure in preschool is not the same as what is needed at the level of secondary schools. Similarly, what is required to motivate a high school teacher may not necessarily be the same thing that will motivate a university professor. Nor can the participation of parents in school activities be applied to basic education and university in the same way; at a minimum, students in higher education are mature enough to play that role themselves.

Notwithstanding these differences, the framework presented in this chapter is applicable to all levels of education. Successful education reforms, regardless of sector, need to combine measures to improve the education process, the incentives of the actors involved, and public accountability. The details of these reforms need to be tailored to the specific level of education under consideration, but the three dimensions of the analytical framework can be used as the essential building blocks of the reform package.

### **Applicability across Countries**

Here too, it is true that no two countries are exactly alike. One country may be ahead of the other in terms of education achievements and institutional capacity to implement reforms. The two countries may also differ in their level of economic development and resource availability. Nevertheless, both countries need to design their education systems to provide students with education infrastructure. They need to motivate their teachers and headmasters. And they need to engage their citizens in the process of setting the objectives of education and allocating resource to meet these objectives. Thus, both countries are likely to find the approach relevant, at least as a way of thinking about the design of their reform strategies.

The above argument does not mean that all countries need to do exactly the same thing—far from it. A country's history and institutional features and the nature of its political regime are clearly important determinants of the reform strategy. So are the other factors. The trick is to find a good match between the country's distinct characteristics and the recommended reform approach.

**BOX 4.3****Well-balanced Reform Approach: Successful Case of Bogotá in Colombia**

Bogotá, population 7 million, is the capital of Colombia. With a school-aged population of 1.6 million, of which 47 percent are from low-income families, the city has undertaken a series of reforms showing important achievements in a short period of time. The city made remarkable progress in reaching out to the most vulnerable populations and providing them with basic social services (education, health, and social protection). For instance, the net enrollment rate increased at a rate of 6 percent per year between 1998 and 2002. This resulted in 98 percent GER and 89 percent NER (primary and secondary combined) in 2002. With an increase in public expenditures for social sectors (from 1.6 percent of GDP in 1991 to 7 percent of GDP in 2000), a number of strategies and programs were implemented, which translated into improvement in students' learning outcomes. Basic competencies assessment for third, fifth, seventh, and ninth grades in 2003 showed an improvement in math score of 30 percent and of 7.6 percent in language, compared to the scores in 2001.

The Bogotá example has an interesting balance of good engineering, incentives, and accountability, which has contributed to these results.

***Engineering for Results:***

- **Demand-side intervention:** Subsidies were provided for the children from low-income families to encourage their attendance at private schools. Programs to provide school lunches and transportation services were also implemented.
- **More effective use of public resources and improved linkage and relevance to the demand from the labor market:** A joint program involving various industries was developed to define competencies and skills for the students that would increase their employability upon completion of secondary education. Public resources such as museums, government offices, and industry facilities were encouraged to work as public learning centers. A major investment was made in the development of a library network covering 70 percent of the entire school population, and providing library resources to 40 percent of the adult population. This particular initiative brought the attention of the Bill & Melinda Gates Foundation, which awarded the city the "Access to Learning Award" in 2002.

***Incentives:***

- **Monitoring and evaluation system:** A set of indicators was developed to measure the access to and quality of education. It covers a wide range: (1) NER and GER for primary and secondary education; (2) public and private enrollments; (3) the subsidized populations in private schools; (4) the number of children supported by special

programs (subsidies); (5) the labor skills and competences linked in the curriculum; (6) the provision of special education; (7) in-service teacher training; (8) literacy programs; (9) partnerships with the private sector; (10) the number of library network users; and (11) the availability of textbooks and books per student. This M&E was used mainly by teachers and school principals, who received special training to interpret results and who introduced corrective measures when needed. The results were published on the Internet, which was made available through the library network.

- **Teacher incentives:** Aiming at promoting teacher incentives, an Excellence Award and a network of Centers of Excellence were established.
- **Corrective measures and special support for low-performing schools:** As a crucial element of the M&E, special support programs were provided to 90 primary and 46 secondary schools in partnership with universities and NGOs.

### *Accountability*

- **Expanded M&E to improve public accountability and community participation:** Started in education sector, the M&E initiative was broadened and a massive public campaign was launched to monitor how various development objectives were being fulfilled. Initiated by the government of the city, the media, and leading NGOs, this campaign was called “Bogotá, how are we doing?” The indicators were established to cover various sectors, such as education, health, public services, housing, environment, public transportation, use of public spaces, security, public administration, finances, and economic development. Using indicators designed for each sector, monitoring was conducted by the public on a quarterly basis. Data were collected through the interviews, workshops, and focus groups assessment. The results were published and broadcast by the local newspapers, TV programs, and official journals. The program also had a profound impact on the quality of life of citizens overall: this campaign contributed to raising awareness among policy makers and citizens about better governance and public accountability.

Subject and grade	Test scores 2002–2003		Test scores 2005–2006	
	Grade 5	Grade 9	Grade 5	Grade 9
Math	52.7	57.2	57.7	61.4
Reading	58.2	60.6	60.1	65.3
Science	49.3	56.2	51.9	59.3

Since 2002, this approach has been brought up to a national scale, under a program called “The Education Revolution”; it has been having a strong impact on education outcomes, as shown in improved test scores.

*Sources:* El Tiempo, November 9, 2006; Martin and Ceballos (2004): Georgetown University, COLOMBIA Program. [www.georgetown.edu/sfs/programs/clas/Colombia](http://www.georgetown.edu/sfs/programs/clas/Colombia).

## Summing Up

This chapter proposed an analytical framework that we intend to use in the next two chapters to assess past education reforms in the MENA region. If the approach is validated empirically, then we have a way of thinking about designing effective education reform strategies in the region, and possibly elsewhere.

The proposed approach is made of three pillars: better engineering of education, better motivation of the actors involved, and better public accountability of policy makers to citizens. Better engineering involves providing the necessary level and mix of inputs to achieve the objectives of education by means of effective management and adequate resources. Better incentives go beyond compensation to issues of evaluation, monitoring, and information. Finally, better public accountability involves giving parents/students voice to influence educational policies and resource allocation.

In addition to introducing some of the possible instruments to bridge the gap between these broad concepts and actual reforms, it was argued that the proposed approach is relevant across levels of education and countries. Although the differences on both counts are real, it is argued that all countries need to devise an education reform strategy that matches their own distinct characteristics with sets of reforms that cover the three components of the analytical approach. Partial and isolated reforms may lead to some improvements in performance, but integrated reforms are likely to be more successful. This is the key hypothesis that will be explored in the next two chapters.

## Endnotes

1. A fourth and fully coherent framework for delivering social services, including education, to the poor has been developed in the World Bank Development Report (2004), in which the term *accountability* is used as a unifying theme to address the complex links between the key actors involved.

2. As discussed first in Galal (2003).

3. This literature has traditionally been applied to the regulation of monopolies, but it can certainly be applied to education as well. For a more sophisticated exposition of the incentive theory, see, for example, Laffont and Tirole 1993.

4. Two points are in order. The first is related to the definition of public accountability in this chapter, which is different from the way the term accountability is typically used in the education literature. For example, Levin (1974) defines accountability as: "... a closed loop reflecting a chain of responses to perceived needs or demands...[it] is continuous and dynamic when the linkages are tight and information is generated and transmitted freely (p. 375)." Alexander (2000) focuses on performance-based accountability, in a context where resources ought to

be used efficiently in a budget-restricted environment. And Benveniste (2002) emphasizes student assessments. These definitions fit into the incentive framework rather than public accountability in the current analytical approach.

The second point concerns the beneficiaries of education. The focus here is on the immediate beneficiaries of education, namely, students and their parents. However, other citizens (including civil society groups) do care about education too and could play an important role in enhancing public accountability.

5. In that sense, the approach adopted here is similar to that of the World Bank Development Report (WDR) 2004. In both instances, the three actors and their relationships are similar. However, the two approaches differ significantly in terms of their focus. The WDR focuses on how to strengthen accountability, defined broadly, in the relationships among politicians, providers, and clients. The current approach focuses on the elements that will improve the delivery of education services to their beneficiaries and society. While the two approaches overlap in many of the recommended reform areas, each brings additional insights on its own.

## References

- Alexander, F. King. 2000. "The Changing Face of Accountability Monitoring and Assessing Institutional Performance in Higher Education." *The Journal of Higher Education* 71 (4, Jul.–Aug.): 411–31.
- Allcott, H., and D. Ortega. 2007. "The Performance of Decentralized School Systems: Evidence from Fe y Alegria in Venezuela." The World Bank, Washington, D.C.
- Benveniste, Luis. 2002. "The Political Structuration of Assessment: Negotiating State Power and Legitimacy." *Comparative Education Review* (46) 1.
- Cameron et al. 2006. "School Report Cards: Some Recent Experiences." USAID, Washington, DC.
- Galal, Ahmed. 2003. "Social Expenditure and the Poor in Egypt." In *Fiscal Sustainability in Emerging Markets: With Implications for Egypt*, ed. Ahmed Galal and Nadeem Ul Haque, 2005. Cairo: The American University in Cairo Press.
- Gillies, J. 2004. "Strengthening Accountability, and Participation: School Self-Assessment in Namibia." USAID, Washington, DC.
- Laffont, J. J., and J. Tirole. 1993. *A Theory of Contracts in Procurement and Regulation*. Cambridge: MIT Press.

- Levin, Henry M. 1974. "A Conceptual Framework for Accountability in Education." *The School Review* 82 (3, May): 363–91.
- Levitt, Steven D., and Stephen J. Dubner. 2005. *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*. New York: Harper-Collins.
- Lopez-Acevedo, D. 2004. "Professional Development and Incentives for Teacher Performance in Schools in Mexico." Policy Research Working Paper 3236, World Bank, Washington, DC.
- Martin G., and Ceballos, M. 2004. Bogotá: Anatomía de una transformación. Políticas de seguridad ciudadana 1995–2003. Bogotá: Editorial Pontificia Universidad Javeriana. [www.sedbogota.edu.co](http://www.sedbogota.edu.co).
- Muralidharan, K., and Sundararaman, V. 2006. "Teacher Incentives in Developing Countries: Experimental Evidence from India." MA: Harvard University.
- Vegas, E., and I. Umansky. 2005. "Improving Teaching and Learning through Effective Incentives: What Can We Learn from Education Reforms in Latin America." The World Bank, Washington, DC.
- World Bank. 2003. *Making Services Work for Poor People*. World Bank Development Report 2004. New York: Oxford University Press.