

Education Policy Reforms

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Over the last decade, many developing countries have embarked on large education reforms aimed at rapidly expanding the supply of education, achieving equity in the provision of education, and significantly improving the quality of education. Some of these reforms have been far-reaching, transforming the budget priorities of many countries and altering in a fundamental way the manner in which governments have traditionally made education services available and how the public sector has operated in partnership with the private sector. In the process, new relationships of accountability have been introduced.

A number of developments have served as catalysts for reform. Changes in the world economy, the general dissatisfaction with the state of education in the 1980s, and findings emerging from academic research on economic growth, returns to education, and user fees, among many other phenomena, have delivered much of the impetus for education reforms.¹ Specifically, a more market-oriented world economy has encouraged initiatives aimed at creating a more market-oriented environment for the provision of education, including measures to foster public-private approaches. The new literature on endogenous growth theory, wherein a worker's productivity is seen as a function of both the worker's own human capital and the average stock of human capital, has offered a fresh perspective on the reasons education is critical for development. In addition,

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adverse macroeconomic conditions and the leaner public funds following the debt crisis have encouraged a more efficient use of scarce public resources. Finally, in recent years, a number of initiatives put forward by the international community have made education a priority on the development agenda. Through the World Conference on Education for All, held in Jomtien, Thailand, at the beginning of the 1990s, and, more recently, the internationally agreed Millennium Development Goals, the international community has reaffirmed its commitment to universal primary education.

This chapter provides a brief review of experiences with some of these reforms. In particular, it draws on country case studies and recent findings from the empirical literature on education policy to identify some of the poverty and social impacts of education reforms, the principal transmission channels through which stakeholders are affected by or affect the reforms, and the standard tools for poverty and social impact analysis in education.

While education policy reforms have long-term effects on poverty and income distribution, this chapter mainly discusses the distributional consequences of reforms in the short and medium run. Much of the documented impact of education reforms concerns the immediate distributional effects of the reforms rather than the effects of the reforms on the current poverty status of individuals or households. Whenever appropriate, however, we draw out potential immediate effects of reforms on poverty. We adopt a broad view of distributional consequences, allowing for the possibility that reforms redistribute resources, as well as access, quality, power, and authority.

This chapter is organized as follows. The first section provides an overview of reforms that have been carried out in the education sector and the rationale for these reforms. The effects of reforms on distribution are then reviewed, and an analytical scheme for understanding these distributional effects is presented, highlighting how the reforms vary, mentioning specific features of each reform, and documenting the transmission channels through which stakeholder groups are affected. A survey of empirical tools for both qualitative and quantitative poverty and social impact analyses is provided, and valuable empirical studies on each tool are singled out. Finally, the options for monitoring and evaluation are briefly discussed.

TYPES OF REFORM

There are several broad changes to education policy that are covered in this chapter. In general, these reforms concern policy changes to the expendi-

ture structure, the financing scheme, and management, although there may be significant overlap among these broad categories. We exclude from these categories a number of professional and management reforms (such as curriculum reform² or teacher training³) that do not have explicit documented impact on distribution. We also exclude financing schemes that are less common in developing countries, such as student loans.

- *Expenditure reform.* A government may choose to restructure its expenditures to reallocate spending from higher education to lower levels of education. Reforms aimed at increasing the supply of schooling may focus on targeted spending or the expansion of coverage in specific geographic areas through a mix of public and private sector support, including public support for private education in low-income areas.
- *Financing reform.* A government may choose to reform the financing of education by introducing user fees (cost recovery) or, as seen in a number of developing countries in recent years, by eliminating them. A related scheme is the introduction of community financing, whereby, for example, communities are entirely responsible for the construction and maintenance of buildings. Financing schemes may include schemes on the demand side, in which funds are channeled directly toward people who demand education rather than people who supply it to strengthen the client's power over providers. Demand-side financing schemes may involve transfers to households, vouchers, or payments given directly to students who may submit them to the schools of their choice.
- *Management and institutional reforms.* A country in which there is centralized management over the education system may choose to implement management reforms by decentralizing the administration of education. This may involve a shift in responsibility from the central government to local governments, communities, or schools. The shift might include a simple delegation of tasks from the central government to local governments or a complete transfer of authority and decision-making power. The changes may be viewed not simply as administrative adjustments, but as reforms that fundamentally alter relationships of accountability and the way in which services are provided. The classification of these changes as institutional reforms may then be appropriate.

There are, of course, alternative methods for classifying this family of education policy reforms. For example, one might contemplate a conceptual division between compensatory schemes or targeted policies that aim to increase educational opportunities for the poor and schemes or

policies that are universal in coverage. The reforms that have been implemented over the last decade may be broadly classified as those that are primarily aimed at expanding access (expanding supply, restructuring expenditure, abolishing fees) and those that are primarily aimed at improving quality, efficiency, and sustainability (decentralization, community management, vouchers).

Reimers (2000) suggests that it may be useful to think about education in terms of “levels of educational opportunities,” ranging from initial access to schooling through progression and completion to assimilation into local labor markets. Following this typology, one could then understand education reforms as specific interventions aimed at selected levels of educational opportunity.

These alternative typologies, however, also allow for overlap among categories. There are measures, such as the provision of textbooks, that blur the distinction between access (quantity) and quality. Poor children have been observed to drop out of school with greater frequency, for example, partly because the quality of schooling is low. Programs exist that are broad in scope (offering, for example, greater financing for primary education) but strategically directed at increasing the educational opportunities available to the poor (who may account for a disproportionate share of enrollment in public primary schools).

RATIONALE FOR UNDERTAKING REFORM

In an environment characterized by low education attainment and inequitable access to education, developing countries have typically implemented education policy reform to improve access to education, in general, and also to expand coverage among poorer households. Such is the rationale for significant additions to budgets for primary education, construction programs, and many compensatory programs targeted at the poor.

Efficiency considerations are also important. A substantial body of literature has emerged over the last three decades on the rate of return to education. While the methodology has come under scrutiny, there is general consensus that the returns to primary schooling are high, thus suggesting that spending could be switched from higher to lower education levels.

Some reforms are designed to improve public finances. Cost recovery schemes, for example, are designed to supplement government revenues when rapid education expansion has created significant pressure on the budget. The resources raised may also be used to improve quality and boost demand for education. In fact, some advocates of user fees (with waiver schemes built into certain proposals) have supported the institution of cost

recovery on the grounds that such a scheme may improve quality and increase demand without significantly raising cost barriers. Meanwhile, some reforms, such as voucher schemes, aim to create a market-oriented environment that encourages competition between public and private schools, enhances school quality, reduces costs, and adds to the choices available to students. Vouchers are also designed to allow students access to higher quality private education.

Management and institutional reforms, such as decentralization programs, are designed to improve efficiency, accountability, and responsiveness in education service provision. These reforms follow from the assumption that centralized systems often are not able to respond efficiently and adequately to local needs. Decentralization reforms are meant to encourage local participation and ultimately improve coverage and quality. Sosale (2000) has suggested that the strengthening of the private sector role in noncompulsory education is also aimed at releasing public resources for allocation to the compulsory basic education level.

Finally, political pressures from within and outside a country have profound effects on educational policies, such as Free Primary Education or Education for All. The call for Education for All and for measures to meet the Millennium Development Goals in the international community has been particularly influential. The enhanced Heavily Indebted Poor Countries Initiative has also led to a reallocation of public resources toward the social sectors.

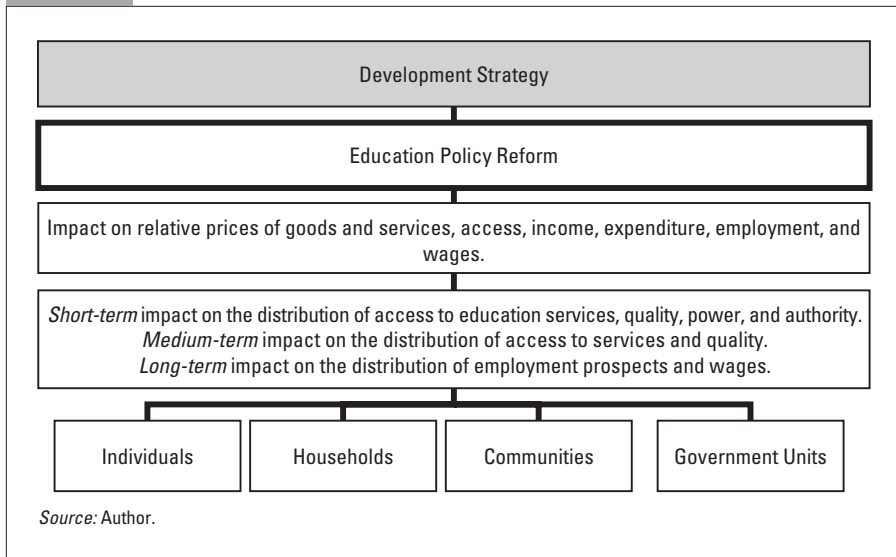
TYPICAL RANGE OF EFFECTS ON DISTRIBUTION

Figure 6.1 summarizes the analytical scheme of this chapter. It indicates that the broader development strategy determines the reform options. Through their impact on prices, income, employment, and wages, education policy reforms redistribute resources, access to education, and the quality of the services provided. They also redistribute authority and the relationships of accountability. These resources and services are all redistributed among individuals immediately as well as over time. They are redistributed both across and within households, communities, and government units.⁴

Immediate effects on the distribution of access to and quality of services

First, education policy reforms have immediate, short-term effects on the distribution of access to education services and the quality of these services. For example, reforms aimed at expanding the supply of education

FIGURE 6.1 Analytic Scheme: Education Policy Reform



by expenditure restructuring or targeted interventions may increase enrollment. Because these are targeted interventions and because these reforms are usually designed to increase the supply of basic education (typically assumed to have pro-poor benefit incidence) rather than higher education (typically assumed to be less pro-poor), such measures may disproportionately benefit the poor.⁵ The value of these education subsidies could be significant. Reforms designed to change the financing of education may boost enrollment among the poor by easing some of the financing constraints on the poor (for example, the elimination of user fees), improving access to higher quality schools (for example, through vouchers), or enhancing the quality of schooling. Other reforms run the risk of reducing enrollment, particularly among households with lower incomes (for example, the introduction or raising of user fees).⁶

Meanwhile, geographic variations in quality may be intensified by rapid expansions in the supply of education, because these require a capacity to absorb the expansions. Rural schools, for example, tend to have fewer qualified teachers. They may not have the same ability as their urban counterparts to quickly accommodate sudden surges in enrollment. Under some circumstances, management reform or decentralization may widen disparities in the quality of education to the extent that geographic differences in the availability of resources exist. Similar distributional consequences may follow from other reforms that lead to

greater community participation, such as community financing. In general, richer communities are in a better position to provide resources for education. However, some initiatives relying on community solidarity are considered more difficult to undertake in urban areas.

Even if the coverage of education among the poor was expanded, however, it would be important to assess the distributional dimensions of marginal changes in access within the poor households themselves. With respect to the demand for education, the price elasticity of households may vary by gender. That is, as their financing constraints fall, households may be more likely to enroll boys rather than girls. With respect to expanded choice, higher income households may have greater access to information and thus be in a better position to exploit voucher schemes fully (Carnoy 1997). Households in urban areas may also enjoy advantages (such as a wider choice among higher quality schools) not otherwise available to their rural counterparts.

Dynamic effects on the distribution of income and access to and quality of services

Second, reforms in education have important dynamic effects on distribution. In the long run, the expansion of education is generally designed to improve intergenerational employment opportunities and alleviate poverty. Other things being held constant, greater human capital accumulation improves income-generating capacity. To the extent that reforms are targeted at improving the human capital of the poor, reforms have long-term, progressive effects on the distribution of income. In fact, even if public spending on poor and rich were increased uniformly, it is likely that the marginal impact of each unit of spending on the human capital of the poor would be higher. Because aggregate human capital accumulation has positive effects on long-term growth, education reforms that expand the supply of education have long-term second-round effects on poverty reduction.

Still, the rates of return to levels of education change as the supply of specific levels of education expands. A number of studies have shown, for example, that returns to primary education fall, while returns to higher education rise, as a country rapidly expands access to primary education.⁷ In particular, global surveys of the returns to schooling consistently reveal a pattern of falling returns to education by level of economic development and level of education.

In the medium term, there are important (but often neglected) second-round effects that may mitigate or exacerbate first-round gains in

access. In the case of rapid increases in enrollment, the quality of schooling may subsequently fall. Should expansion lead to the rationing of limited class space, poorer households are typically worse off than wealthier ones. Enrollment rates across households may drop following some deterioration in quality in situations in which the demand for education is systematically linked to quality. Within households, this may have gender dimensions as well, as enrollments among girls may be the first to decline. The deterioration in quality may have distributional dimensions, as institutional capacity varies across geographic units. Urban schools, for example, may be in a better position to deploy qualified teachers quickly to accommodate rapid increases in enrollment. In the case of school vouchers, children from lower-income households may be penalized through “cream-skimming” (as better students, usually those from richer households, leave the schools that are accepting vouchers to attend higher-quality schools), because there may be spillover benefits from peer effects. Thus, while voucher systems may create incentives that lead to better performance among public schools, the loss of the better students to private schools may lead to an overall decline in public school performance (Hsieh and Urquiola 2003).

Effect on the distribution of power and authority

Third, reforms redistribute power and authority. In general, reforms redistribute resources in the form of transfers, opportunities, or the quality of education. However, another dimension of education policy reform is represented by the manner in which power and authority (through budgets, decision-making powers, and rights) are redistributed (Grindle 2001). In the case of institutional or management reforms, authority may be transferred from a central unit to local units. Relationships of accountability (such as between schools and local communities; among teachers, administrations, and parents; and between government and the private sector) may also evolve with education reforms.

RANGE OF VARIATIONS IN REFORM OPTIONS

There is wide variation in the options for policy changes in this family of reforms. The distributional consequences of these reforms—how quickly institutions and individuals adapt and whether sufficient capacity is in place—depend on these many variations. Reimers (2000) suggests that much policy is defined and often recreated at the implementation stage.

Expenditure reform

With expenditure restructuring, spending may be reallocated from one education level to another, central funds may be reoriented toward specific geographic units or households, or the norms for budgeting may have built-in, explicit pro-poor components.

- In South Africa, public resources are provided to schools sorted by need or poverty. The ranking is based on two equally weighted factors: the physical condition of the school and the relative poverty of the school.
- In Chile, the P-900 program provides direct material assistance to the most poorly achieving schools. These schools, numbering about 900 (hence the name), are selected based on whether their mean test scores have dropped below cutoff values.⁸
- In countries where gender gaps in schooling are significant, spending may be reallocated specifically to promote schooling among girls. Such reforms include the construction of separate schools for girls, the provision of sanitation facilities, or the hiring of more women teachers. For example, the construction of separate latrines for girls in Pakistan reportedly had positive effects on the enrollment of girls in primary schools (World Bank 2003).

Financing reform

With respect to cost recovery schemes, countries may choose to mitigate the regressive impact of user fees by offering targeted scholarships. Countries that have eliminated user fees have opted, at one extreme, for a “big bang” approach (Malawi in the early 1990s), while others have taken on a more gradual reform, such as the elimination of fees one grade at a time (Lesotho in recent years). In the 1970s, Nigeria implemented free primary schooling one state at a time. Some countries have eliminated formal fees for uniforms, textbooks, and examinations, while encouraging local communities to contribute to funds for construction and renovation.

A range of voucher programs also exists from quasi-voucher initiatives (for example, Bangladesh, Côte d’Ivoire, and the Czech Republic) to true voucher programs (for example, Chile and Colombia). Even in countries with true voucher programs, there are some important variations. The voucher plan in Colombia, for example, was restricted to very low-income pupils.

- Gauri and Vawda (2003) provided a survey of voucher programs in developing and transition economies. In Bangladesh, state subsidies for

nongovernment schools function as a sort of voucher: When schools attract enough students and the hiring of an additional teacher is warranted, the government pays for most of the extra teacher's salary. In the Czech Republic, private schools receive state funding equal to just below 80 percent of the per-student funding received by their public counterparts.

Management or institutional reform

Decentralization programs may involve a simple transfer of administrative tasks ("deconcentration") or a full transfer of authority from central units to local units ("devolution"). They may likewise involve transfers of responsibility from the central government to subnational governments or transfers of responsibility from central units to communities and schools. The financing schemes include centralized systems with the formula-based allocation of expenditures to schools (according to the number of teachers, the number of students, or some other criteria) and systems that require a significant degree of community cofinancing.

- In Nicaragua, for example, there was a shift from a highly centralized system in the 1980s to a more decentralized system beginning in 1993. School boards composed of parents, teachers, and student representatives were created and given important decision-making powers, including hiring-and-firing decisions over school principals and teachers, budget allocation decisions, and the authority to make adjustments to the national curriculum (Belli 2004).
- In Bhutan, according to official guidelines, local communities are held responsible for the construction and maintenance of buildings, including teachers' quarters (Bray 1996). In theory, teachers' wages are centrally financed, but some communities employ their own teachers to compensate for the shortage of government-employed teachers.

PRINCIPAL TRANSMISSION CHANNELS THROUGH WHICH STAKEHOLDER GROUPS ARE AFFECTED

There are several transmission channels through which stakeholders are affected by reforms, as depicted in Figure 6.1. There may be some overlap among channels. Relative price changes, for example, alter household expenditures and access to goods and services. It is possible that a specific policy reform may alter these channels. For clarity, however, we discuss each channel separately.

The relative prices of goods and services will change

Education policy reforms have significant effects on the relative prices of education goods and services. For example, cost recovery schemes elevate the price of education services. Consequently, these schemes may have regressive effects on distribution unless mitigation provisos, such as scholarships, are in place. In contrast, the elimination of user fees lowers the out-of-pocket expenditures of households for education services. The available evidence suggests that enrollments have risen rapidly following the abolition of fees. Similar effects have been observed following interventions explicitly designed to raise the supply of education, with especially sharp increases among poorer households.⁹

Other reforms have important auxiliary effects on the prices of goods and services. Private schools, for example, have been known to raise fees following the introduction of vouchers, effectively restricting access to that of richer households (Carnoy 1997). Meanwhile, management reforms may have important effects on relative prices. For example, community management may be seen as a “tax” on the time of a local community and is arguably regressive. In El Salvador, the contribution of parents to the Education with Community Participation Program (*Educación con Participación de la Comunidad, EDUCO*), the decentralization program aimed at expanding the supply of education in rural areas, has been estimated roughly as equal to 28 percent of the work done by the Ministry of Education (Cuéllar-Marchelli 2003). Among households, there may also be regressive effects, as relatively greater effort may be required of poorer households compared with richer households to reach the same outcome. An evaluation of El Salvador’s experience with community-managed schools suggests that the poorest children can obtain education results equivalent to those obtained by their richer counterparts only if their parents are prepared to work harder (Reimers 1997).

Household incomes and expenditures will change

The policy debates on the social impact of reforms have generally revolved around the issue of access and the way reforms, such as the institution of cost recovery, create financing barriers to education for households. Whether or not such barriers actually lower access to education, they certainly increase out-of-pocket expenditures (or decrease net income if user fees are counted as taxes) on education across all households. For the poorest households, this may have long-term adverse effects on welfare. There is evidence that user fees, as typically implemented, consume a dis-

proportionate share of the incomes of the poorest households (Reddy and Vandemoortele 1996, 30).

Access to goods and services will change

The changes in the relative prices of goods and services alter the access of households to education (see the section titled “The relative prices of goods and services will change”). Meanwhile, vouchers are designed to provide greater access to higher-quality education services, and construction programs have direct effects on the access of specific communities to education. Clearly, access to educational services is determined by many factors other than prices. Thus, reforms that reduce nonfinancial barriers to education, such as teacher training reforms or bilingual education initiatives, promote education without changing nominal prices or nominal household incomes and expenditures.

The quality of goods and services will change

Should the elimination of user fees weaken the fiscal stance, the quality of the goods and services provided may deteriorate. Experiences with initiatives in support of Education for All or Universal Primary Education indicate that “access shock” has usually followed the abolition of fees. Across a number of countries, the quality of schooling (measured in terms of pupil-teacher ratios, textbook-per-pupil ratios, the share of qualified teachers) has deteriorated following increases in enrollment. Yet, the quality of services is not exclusively a function of fiscal resources. Given the same amount of educational resources, management reforms may improve the quality of the services provided.

Human capital assets and employment prospects will change

Reforms aimed at raising access to education promote human capital formation. This increases the long-term employment prospects for those people who benefit from the expanded education opportunities. However, some educated workers may see the value of their education fall as the pool of educated workers grows (Knight and Sabot 1983). A recent country study by Duflo (2002) of education expansion in Indonesia through a significant program of school construction initiated in the 1970s (the Sekolah Dasar Instruksi Presiden [INPRES] Program) found that an increase in the proportion of primary school graduates in the labor force decreased the wages of older cohorts.¹⁰ All told, the greater supply of education both

boosts average incomes (by improving the employment prospects of the newly educated workforce) and reduces inequality (by bidding down the wages of the richer, higher-educated workforce.)

TYPICAL DIRECTION AND MAGNITUDE OF THE IMPACTS AND EVOLUTION OVER TIME

Expenditure reform

An expansion of supply achieved through expenditure restructuring, targeted spending, or school construction programs immediately promotes greater access, especially among poorer households. Over time, sharp rises in enrollment may lead to some deterioration in quality. Moreover, an expansion of supply at the lower levels of education may have little long-term impact if it is not matched by an expansion of supply at the higher levels of education and in the prospects for employment. There is evidence that households are forward looking and take into account the constraints on access to higher education when making decisions at the primary level (for example, see Lavy 1996).

Financing reform

Cost recovery schemes may have important dynamic effects, depending on whether fees are being introduced, reduced, or eliminated. The introduction of user fees has an immediate impact on households' out-of-pocket payments; if the impact is large enough, this may lessen the demand for schooling. However, greater resources may improve the quality of the services provided. For example, some schools have been known to use the proceeds from cost recovery for investment over time in quality (for the case of Mali, see World Bank 2003). These investments in quality may, in turn, increase the demand for education (see Kremer 1995). The revenues collected through cost recovery schemes may also finance education expansion directly.

In contrast, the abolition of user fees lowers the out-of-pocket payments of households (see the section titled "The relative prices of goods and services will change"). This promotes greater access to education, especially among the poor. In the medium term, if school facilities do not keep up with the rising demand, there may be deterioration in quality because of crowding.¹¹ If higher enrollments cannot be accommodated, rationing may take place. Changes in quality and rationing may each lead to reduced access, increased dropout rates, and more repetition, and poorer house-

holds are particularly vulnerable in these cases. A voluminous body of literature, some of which dates back to the 1970s, shows that rapid increases in enrollment following the abolition of fees have often been accompanied by deteriorations in quality (see Table 6.1), at times with significant geographic variation. Enrollments have sometimes decreased over time, partly because of declines in quality.

The elimination of fees reduces teacher accountability with respect to parents (Kadzamira and Rose 2003). Of course, this would be true only if the payment of the fees has been accompanied by greater accountability with respect to parents. Some fees may be reinstated in the absence of fiscal countermeasures, potentially reducing enrollment among the poor. Such was the case of Kenya in the 1970s (Nkinyangi 1982). Other countries have taken steps to finance expenditures that were previously financed by the fee revenues. For example, in the 1990s, Uganda added to the recurrent budget for education to compensate for the abolition of fees.

The introduction of school vouchers has several immediate effects. First, vouchers promote access to higher-quality private schools and thus lead to rapid growth in private school enrollments. Second, when the value of the voucher is insufficient or not automatically adjusted to inflation, households may face higher out-of-pocket payments (Gauri and Vawda 2003). Compared with richer households, poorer households may not make up for the shortfall in spending and are therefore less likely to use the vouchers for private schools. Third, assuming the value of the voucher is adjusted sufficiently to inflation, the vouchers may still benefit only select income groups. There is evidence that parents at a lower level of education attainment are less likely to conduct research and make school choices on the basis of quality. Moreover, the better private schools tend to be located in the urban areas where the more affluent families live. Finally, the experience in Chile suggests that the best voucher-schools charge higher tuition copayments, effectively restricting the access of the poor anyway.

Over time, vouchers may foster competition between private and public schools, assuming there are no capacity constraints on improving the quality of education (such as the external constraints in Côte d'Ivoire). Public schools facing greater competition from their private counterparts could make efforts to reduce costs and enhance quality (West 1997).¹² Cream-skimming may also occur as public schools lose their best-performing students to private schools (see the section titled "Dynamic effects on the distribution of income and access to and quality of services"). If there are important peer effects because of the presence of more advanced students in greater numbers in classrooms, vouchers may foster rises in inequality in achievement if the advanced

TABLE 6.1 What Happens When Primary School Fees Are Eliminated? The Main Results of Selected Country Studies^a

Country	Year(s) covered	Author, year of publication	Analysis	Change in		Measurement of quality	Comment
				Enrollment	Quality		
Botswana	1973, 1980	Mehrotra 1998	Descriptive	Increased	Not indicated	Not indicated	Primary school fees were halved in 1973 and were removed entirely in 1980.
India (Tamil Nadu)	1977–92	Duraismy et al. 1997	Multivariate	Increased	Deteriorated	Pupil-teacher ratio, pass rates	None.
Indonesia	1977–78	Colletta and Sutton 1989	Descriptive	Increased	Not indicated	Not indicated	Embarked on its program with a pool of available teachers.
Kenya	1970–78	Nkinyangi 1982	Descriptive	Increased	Not indicated	Not indicated	In the absence of fiscal countermeasures, new fees were imposed under new names.
Kenya	1974–85	Colletta and Sutton 1989	Descriptive	Increased	Deteriorated	Not indicated	Low quality particularly acute in poorer districts.
Madagascar	2002	Fatchamps and Minten 2003	Multivariate	Increased	Not indicated	Not indicated	None.
Malawi	1994–97	MacJessie-Mbwe 2002	Descriptive	Increased	Deteriorated	Pupil-teacher ratio, textbook, repetition	Families and communities still involved in cost sharing.
Malawi	1994–97	Kadzamira and Rose 2001, 2003	Descriptive	Increased	Deteriorated	Pupil per qualified teacher, textbooks	None.
Malawi	1990–98	Al-Samarrai and Zaman 2002	Benefit incidence, marginal incidence	Increased	Not indicated	Not indicated	Gains in enrollment have been highest among the poor.

(continued)

TABLE 6.1 What Happens When Primary School Fees Are Eliminated? The Main Results of Selected Country Studies^a (Continued)

Country	Year(s) covered	Author, year of publication	Analysis	Change in		Measurement of quality	Comment
				Enrollment	Quality		
Nigeria	1954–63	Adetoro 1966	Descriptive	Increased	Deteriorated	Unqualified teachers	None.
Nigeria	1976–86	Prince Asagwara 1997	Descriptive	Increased	Deteriorated	Pupil-teacher ratio, facilities	None.
Nigeria	1973–83	Csapo 1983	Descriptive	Increased	Deteriorated	Teaching staff, dropout rates	Because of rising costs, government passed responsibility to local authorities. Proposal to levy parents.
Nigeria	1979–83	Chuta 1986	Descriptive	Increased	Deteriorated	Pass rates	Eventually led to less liberal education policy.
Tanzania	1974, 1976	Colletta and Sutton 1989	Descriptive	Increased	Deteriorated	Not indicated	Enrollment has decreased over time, in part because of low quality.
Uganda	1992–99	Deininger 2003	Multivariate	Increased	Deteriorated	Pupil per qualified teacher	Gains in enrollment have been highest among the poor.
Uganda (Mukono and Kampala)	1998	Appleton 2001b	Multivariate	Increased	Deteriorated	Pupil-teacher ratio, average class size, test score	None.
Zimbabwe	1983–89	Edwards 1995	Efficiency analysis	Increased	No change	Pyramid rate, efficiency index	Fees introduced.
Zimbabwe	1979–89	Nhundu 1992	Descriptive	Increased	Deteriorated	Pass rates, transition rates	None.
Zimbabwe	1979–81	Colclough and Lewin 1993	Descriptive	Increased	Deteriorated	Facilities, textbooks	The increased dependence on local financing has led to variations in school quality.

Source: As indicated.

a. May not refer to the abolition of user fees alone, but to a broader program of the expansion of education.

students flee the schools accepting the vouchers (Carnoy 2000; Carnoy and McEwan 2001, 2003), and this may lead to an overall decline in public school performance.

Management and institutional reforms

The impact of decentralization on access, quality, and fiscal stance is indeterminate and largely a function of the extent of decentralization, the existing capacity at the local level, and the resources available to local communities. With respect to equity, the gap in quality between rich and poor districts may widen over time (Fiske 1996). An evaluation of El Salvador's experience with community-managed schools suggests that the existence of tuition fees in some schools (despite the fact that EDUCO schools are not supposed to impose fees) reflects inequities in the resources available to schools. It has also been proposed that decentralization may sometimes make it easier for discrimination against ethnic groups to occur at the local level (Fretwell and Wheeler 2001). Bhatnagar and Williams (1992) indicated that decentralization renders the resources for development particularly vulnerable to capture by local elites. These public resources may be used by the local elites primarily for private gain rather than for the intended beneficiaries.

IMPLEMENTATION MECHANISMS

To prepare for rapid increases in enrollment, countries often adopt teacher-training programs, including distance teacher education. In a number of Latin American countries, conditional transfers (in which the transfers are disbursed to households provided the children remain in school) represent a rapidly growing type of program aimed at ensuring that children stay in school and that initiatives focused on universal primary education are sustained.¹³

MAIN RISKS

Reforms aimed at expanding the supply of education or removing the financial barriers to education faced by households are susceptible to changes in the economic environment. In particular, negative or low economic growth, as well as deterioration in fiscal accounts, limits the scope for expanding education. In Uganda's case, success in reorienting public expenditures was made easier by stable macroeconomic conditions and the development of budget institutions (World Bank 2003). Budget reforms

have allowed Uganda's expenditure management system to evolve from a cash budget system to the medium-term expenditure framework to the Poverty Action Eradication Plan, ensuring that budgetary priorities receive sufficient funds. In contrast, under relatively more unstable conditions and with poorly developed budgetary systems, other governments have found programs for universal primary education difficult to sustain.

The political economy of education reforms implies that the political context is also critical for sustaining the reforms. In Uganda in the mid-1990s, for example, the president had to contend with dissatisfaction among newly elected members of parliament over rapid increases in enrollment unmatched by increases in resources (Moulton et al. 2001). In Latin America during the 1990s, encouraging greater parental involvement in education planning, where there was little tradition of parental and community participation, was a key challenge in implementing and sustaining reforms (Grindle 2004).

OTHER ISSUES

A number of intervening factors influence how well reforms are executed. The distributional consequences often depend on whether these factors advance or limit the intended effects of the reforms. For example, it is critical that programs aimed at expanding the supply of education, by constructing schools in or targeting spending toward poorer communities, also identify the necessary complementary measures.

Country experiences with the elimination of user fees suggest that the private costs (informal fees) are still high even after user fees have been abolished. In part, this reflects problems in implanting policies for free primary education, such as the problem of an inadequate allocation of resources to compensate for the loss of revenues from school fees. The capacity of school systems to absorb qualified teachers and the availability of such teachers for rapid deployment are also recurring issues in Universal Primary Education Initiatives. Conversely, for initiatives introducing cost recovery, it may be the timing of the implementation of fees, rather than the magnitude of the fees, that affects the affordability of education.

With respect to vouchers, universal schemes may increase cream-skimming or sorting. When the voucher scheme is restricted to poor households, the effects may be more positive.

With respect to decentralization, the financing scheme is important. For the formula-based allocation of expenditures, there are potentially perverse incentives whether the formula is grounded on the number of teachers or on the number of students (capitation-based financing). For

example, systems that use a formula involving the number of students have suffered from suboptimal pupil-teacher ratios, as well as misreporting in enrollment and retention statistics. There is also an issue of capacity within decentralization reforms, because local governments may not be fully prepared for their new responsibilities.

The mechanism to determine teachers' wages may undermine reforms that aim to introduce competition and rewards for good performance. It may compress the resources for education. In Nicaragua's experience with school autonomy, the Ministry of Education negotiates with the labor union on collective wage increases. It has been argued that such an approach may undermine merit-based wage increases and use up available incremental funds, making it difficult to allocate extra funds to schools in poorer municipalities (Belli 2004).

Decentralization or the introduction of new relationships of accountability presupposes the existence of local communities interested in holding service providers accountable and who are willing to do so. In a sense, a "culture of accountability" is a necessary condition if decentralization is to improve services.¹⁴ In addition, to hold service providers accountable, local communities need to be better informed about the level and quality of the services to which they are entitled and the level and quality of the services they actually obtain. There are a number of initiatives aimed at making local communities better informed, such as the school report cards program in Brazil.

STAKEHOLDERS

Education initiatives in this family of education policy reforms may affect stakeholders negatively or positively, or the impact may be indeterminate. Among the groups expected to be affected negatively are teachers' unions (under management reforms) and students in higher levels of education (who may lose subsidies when expenditure is reallocated). In contrast, reforms may positively affect funding agency actors and local elites through increases in their decision-making powers (supply expansion or management reforms). In some cases, reforms may augment the exposure of services to local capture. The impact on households and central government bureaucrats, meanwhile, is largely indeterminate. Among households, the impact depends on how reforms alter household incomes, the relative prices of goods, and the quality of the services provided. Among central government bureaucrats, the impact depends on whether the reforms enhance their authority (reallocation, supply expansion) or weaken it (decentralization).

However, a simple calculation of the winners and losers fails to reveal the many dimensions of the political economy of reform. Grindle (2001) has proposed that social sector reforms are best understood as dynamic, evolving processes in which some actors and institutional arenas are more relevant or more likely to be strategically important at particular phases. The phases include agenda setting, design, approval, implementation, and the efforts to sustain the reforms. An understanding of the political economy of reforms thus requires an understanding of the critical decisions made at each phase by specific actors within specific institutional arenas.

TOOLS FOR POVERTY AND SOCIAL IMPACT ANALYSIS

The section below discusses quantitative and qualitative tools that have typically been applied to evaluate education policy reforms. The tools are examined separately, although a combination of several techniques may be used simultaneously. Each tool provides a unique perspective, but they each may also have distinct drawbacks. The use of the tools in combination can provide a rich source of information on the diverse characteristics of the poverty and social impacts of education policy reforms.

The section on quantitative tools is arranged according to the increasing complexity of the tools. The tools become more technically demanding depending on the data desired, the assumptions about household behavior, and the assumptions about the links between households and markets (either all markets, or a subset of markets). However, there is a significant overlap among the methods. For instance, some types of marginal incidence analysis rely on estimates of demand based on reduced-form equations. In general, the tools described below are suited to the basic mapping depicted in Figure 6.1. The typical evaluation of a particular reform involves an assessment of the effects of the reform on individuals, households, communities, and government units separately or in combination with the beneficiaries. The evaluations are based on prior assumptions about the way the reform's impact on prices, income, and wages, for example, subsequently influences the distribution of access, quality, and authority.

Quantitative techniques

Public expenditure tracking. Some studies use various quantitative techniques to assess the efficiency of service provision. Public expenditure tracking surveys track the flow of resources through the bureaucracy from the central government down to the service facility. These surveys determine the share of the originally allocated funds that actually arrives at the

facility and the amount of time required for this journey to be completed. Tracking surveys of this sort might help determine the likely impact of, say, a reallocation of education expenditures, including whether the resources can be expected to reach the intended beneficiaries. They may also be cross-validated through service delivery surveys to gauge the perceived effectiveness of service provision. Such surveys may reveal significant geographic variations in service delivery. A tracking survey of this kind in Uganda (Reinikka and Svensson 2001), for example, drew on panel data from a survey of public primary schools to assess the degree of leakage of public funds. The results indicated that significant leakage existed and that the leakage varied according to the sociopolitical endowment of the schools.

Benefit incidence analysis. Benefit incidence analysis (BIA) relies on household survey data and information on public expenditure to assess the current distribution of benefits among different groups, such as households at various income levels. A standard BIA has two components: a measure of the value received by the unit of analysis (individuals or population groups) and a gathering of the sample along selected dimensions (normally expenditure or income quantiles). There are technical difficulties with the valuation of the benefits received by users; as typically implemented, BIAs therefore simply count the users. The analysis has generally been used to identify the beneficiaries of public spending on education and health care (see Demery 2003 for a review of the literature). It has also been employed as an *ex post* evaluation of education policy reforms (Al-Samarrai and Zaman 2002; Castro-Leal 1996). For a predictive analysis, a BIA may assist in making inferences about the likely distributional impacts of an increase in expenditure or the abolishment of user fees (assuming that the impacts are proportional to the current distribution of benefits). For any understanding of the distributional impacts of policy reforms, BIAs exhibit a more fundamental limitation: They do not account for quality differences in services. Many services in developing countries are disproportionately consumed by the poor because they are self-targeted services of inferior quality. If richer households abandon mediocre public schools for superior private schools, the benefit incidence of public education would be counted as progressive by a BIA. In this case, the progressivity is hardly a result of policy, but rather a result of neglect and poor outcome.

Marginal incidence analysis. Gauging the current average benefit incidence of public spending is helpful if one wishes to make inferences about

the likely effects of program expansion. There is evidence, however, that the marginal gains of the poor may be high even through interventions not currently showing a pro-poor average incidence (for example, see Lanjouw and Ravallion 1999). For this reason, marginal incidence analysis may be used to evaluate the marginal gains of poor households following, say, the expansion of education. Al-Samarrai and Zaman (2002) have employed such an analysis to evaluate retrospectively the impact of education policy reform in Malawi. Marginal incidence analysis may be applied predictively to simulate the likely impact of an increase in education expenditures. Younger (2003) reviewed the relevant methods that have been implemented to measure the benefit incidence of marginal expansions in services, including simpler versions that compare BIA at two points in time, versions that rely on regressions of program participation to reveal the ways expansions in coverage affect the participation of different population groups, and versions that calculate the variations in coverage necessary to compensate for policy changes. The data requirements differ. In some cases, a single cross-sectional survey produces a sufficiently reliable estimate of marginal incidence based on spatial variations in coverage. In other cases, at least two cross-sections are needed to observe the changes in benefit incidence as programs expand.

Reduced-form estimation. Regression analyses relying on reduced-form equations have been exploited widely in the literature on education policy reform to make inferences about the likely impact of reforms or evaluate the impact of past reforms, depending on the availability of appropriate data and the particular specification adopted. These regressions draw on both household survey data (or school-level data) and cross-country data and are generally of the form:

$$\text{Equation 6.1} \quad Y_{i,t} = \beta X_{i,t} + e_{i,t},$$

In Equation 6.1, $Y_{i,t}$ might be observed education outcomes or measures of access for individual i , wage for individual i , school quality, economic growth for country i , or average education indicators for country i , at time t . $X_{i,t}$ is a vector of individual, school, or country characteristics, which may include measures of policy reform (for example, a dummy variable for the prereform and postreform periods), the magnitude of fees, and years of education. β is a vector of coefficients, and $e_{i,t}$ is the residual. Depending on the particular specification of Equation 6.1, this reduced-form equation could be used to estimate (a) the household demand for education (Y is access; X includes user fees or measures of the

“price” of education); (b) the returns to education (Y is income; X includes years of schooling); (c) the impact of a selected reform on measures of educational outcomes; and (d) determine (a) and (c) by using a panel of households, a cross-section of households, a panel of countries, or a cross-section of countries, as appropriate.

The demand for education (a) has been estimated to evaluate policy reforms retrospectively or to predict the likely impact of education reforms, particularly those related to user fees or a potential financing barrier to household demand for education (for example, see Birdsall and Orivel 1996). Thus, a large body of literature has emerged from these demand studies on the price elasticity of demand for education. Proponents of user fees have used the results to argue that the aggregate price elasticity of demand for education is low (Appleton 2001a; Jimenez 1989; Reddy and Vandemoortele 1996), and cost recovery is unlikely to affect access significantly. However, critics have argued that (a) the price elasticity of demand varies by income and that the poorest households also show high elasticities,¹⁵ and (b) the experience with the removal of user fees (and the subsequent increases in enrollments) indicates that the aggregate elasticity is probably inadequately measured (Reddy and Vandemoortele 1996). Appleton (2001b) reviews some of the typical econometric problems associated with these demand studies, including endogeneity and reverse causality (for example, fees may be higher where the demand or enrollment is high).¹⁶

Using data drawn from household surveys, reduced-form regressions of the natural logarithm of individual wages on years of schooling have been estimated to make inferences about the returns to education (b). This particular specification is sometimes referred to as the “human capital earnings function” (or the “Mincerian wage equation”). It has been used to make education policy decisions based on how the rate of return to schooling varies by education level, for example, or by gender. In particular, there is now a large amount of literature on the rates of return to education investments (for example, see Psacharopoulos 1994) suggesting that the rate of return to investment in primary education is high and is higher than that of either secondary or tertiary education expenditure. Knight and Sabot (1981) have used this framework to show that the expansion of primary education may affect wage inequality. More recently, using a similar framework, Bouillon, Legovini, and Lustig (2003) showed that, in Mexico during 1984–94, changes in the levels of and returns to education were responsible for about two-fifths of the increase in inequality (as measured by the Gini coefficient). However, despite the paradoxical effects of the gains in education and in the distribution of education, they conclude that

little emphasis has gone to improving Education for All, particularly for those people who are least able to improve education on their own. They emphasize that education helps to reduce poverty, regardless of its consequences in distribution.

Equation 6.1 has been used to estimate the impact of specific education policy reforms (c), with Y as a measure of education outcome or student performance, for example, according to test scores or passing rates. Such retrospective evaluations of policy reform are typically based on a panel of households or a cross-section of households. Where the setting allows for a natural policy experiment or a random selection of schools for the reform, Equation 6.1 may be estimated through single-equation methods. In fact, there is now a growing amount of literature that uses randomized evaluations of education programs and exploits the randomized phasing in of programs to address the omitted variables bias common in standard retrospective evaluations (Kremer 2003). These include the following examples:

- Angrist and others (2002) evaluated the Colombian voucher program through which lotteries were used to distribute vouchers. Three years later, lottery winners were more likely to be attending private schools, completing the eighth grade, and scoring higher on standardized tests.
- Galiani and Schargrodsy (2002) evaluated the effect of secondary school decentralization on educational quality in Argentina. They exploited the exogenous variation in policy reform, whereby decentralization took place across all provinces, but at different periods and intensities. They showed that decentralization is generally associated with enhanced education quality, but the effect varies according to fiscal management capacity. In severely mismanaged districts, decentralization leads to negative outcomes. This provides evidence that, in some instances, decentralization may adversely affect the distribution of school quality. In cases in which education reform is assumed to be endogenous, Equation 6.1 is typically estimated using simultaneous equation models, such as two-stage least squares with appropriate instruments for the reform variable.¹⁷

Cross-country regressions analogous to (a), (b), and (c) have also been used to evaluate the impact of levels of education on growth and the impact of education resources on school quality (Barro and Lee 2001). Closely related to cross-country regression in the level of aggregation, time series techniques relying on aggregate macroeconomic data have likewise been employed to determine the causal impact of levels of edu-

cation on growth (Self and Grabowski 2004). While the results may potentially be used for predictive analyses or out-of-sample predictions, cross-country regression results are probably too broad and generally less handy for making country-specific decisions on education policy or for estimating the distributional impact of education policy.¹⁸

Computable general equilibrium (CGE). CGE models form a class of models wherein production activities, factors, and institutions and their links are fully specified. These require both national accounts and survey data. They are compiled into a single information matrix (the social accounting matrix [SAM]), in which the links among activities, factors, and institutions are organized. Because they are technically demanding and data intensive, they have been rarely applied in examining the impact of education policy reforms. Jung and Thorbecke (2003) have used multisector CGE techniques to look at the impact of targeted education expenditures on growth and poverty reduction in Tanzania and Zambia. Their simulations suggested that higher education expenditure raises economic growth and alleviates poverty. However, they also found that increases in expenditure need to be accompanied by better targeting of spending (through, for example, the construction of schools in rural areas), enhanced demand for labor, and sufficient levels of physical investment.

Qualitative techniques

Qualitative surveys draw on a variety of methods that can be broadly classified into three categories: participatory approaches, ethnographic approaches, and textual research methods. A widely cited example is a study of the current state of education in India that drew heavily on qualitative data and the personal observations of field investigators (Probe Team 1999). The methods may provide critical information about the context of reforms, assist in understanding the quantitative results, aid in determining the quantitative parameters, and shed light on dimensions of the distributional impact of reforms that are not easily quantifiable. For example, structured and semistructured interviews of head teachers, teachers, school administrators, members of parents-teachers associations, and parents may supply critical information about how education policies are implemented and perceived and the likely impact of reforms. Such surveys may help test the hypothesis that the timing of user fees, not user fees in themselves, is the primary determinant of access. It may be that the demands for fees are made during inconvenient periods, for example, between harvests.

Stakeholder analysis. This particular tool relies on qualitative data to describe the interests and level of influence of selected groups with respect to policy reforms. For example, Natriello (2001) identifies major stakeholders and their concerns in the use of privatization and vouchers to educate children from poor households. The stakeholders identified include education professionals, service providers outside the public sector, political leaders, local leaders, poor children and their families, and researchers and policy analysts.

Institutional analysis. An alternative approach, which is closely related to the other methods in its use of qualitative data, focuses on the decision-making and implementation processes. Case studies of transition economies have used this method to assess the implementation of the decentralization of education and identify country-specific challenges along three dimensions: the lack of clarity in the definition of responsibilities, the mismatch between responsibility and authority, and the mismatch between authority and accountability (Fizbein 2002).

Monitoring and evaluation

To monitor coverage, access, and quality, policy makers typically collect information on enrollment rates (net and gross), repetition rates, dropout rates, test scores, pupil-teacher ratios, the number of pupils per qualified teacher, textbooks per pupil, and desks per pupil. To monitor the distributional dimensions of these indicators, disaggregated information (for example, by gender, locality, income) are required.

As discussed in the section titled “Quantitative techniques,” the benefit incidence of public spending on education provides information about the share of education spending captured by households classified by income groups. As typically implemented, benefit incidence does not provide information about the absolute levels of benefits received by households. For this reason, the monitoring of aggregate expenditure levels by the government is critical.

The monitoring of household expenditures, meanwhile, may provide complementary information on the out-of-pocket payments made by households for education services. This may also provide information on the magnitude of both official school fees and informal user fees.

NOTES

1. Burnett and Patrinos (1997) review some of the developments that have created the conditions for reform.

2. It may be argued, however, that curriculum reform may enhance equity (Reimers 2000, 75). The choice of language of instruction may tend, for example, to exclude some ethnic groups. It has also been said that the school calendar has an urban bias and places rural children, who are forced to be absent during harvests, at risk of failure. There is, nonetheless, relatively weaker documentation on some of the distributional effects.
3. For readers with a particular interest in country experiences with incentives for improving teacher performance, studies conducted by Lopez-Acevedo (2004a, 2004b) are useful.
4. There is little existing documentation on the effect of policy reforms on ethnic groups, although there could be important disparities in educational achievement across these groups. There is evidence, for example, that important differences exist in the quality of the schools attended by indigenous and nonindigenous students (McEwan 2004).
5. See World Bank (2003) for a review of the benefit incidence of public education expenditure by level.
6. Higher user fees imply that households require higher out-of-pocket expenditures; because poorer households pay a larger share of their incomes for user fees, the fees are regressive.
7. See Bouillon, Legovini, and Lustig 2003; Knight and Sabot 1983; Psacharopoulos 1994; Psacharopoulos and Patrinos 2002.
8. Chay, McEwan, and Urquiola (2003) find the impact of the program positive for student achievement, but it is much smaller than generally believed. They suggest that the program may not have correctly identified the most poorly performing schools.
9. The price elasticity of demand for education may vary by income (Gertler and Glewwe 1989).
10. Duflo observes that, in Indonesia's case, physical capital did not adjust to the increases in human capital in the regions where schools were built. She is unable to explain why the stock of physical capital failed to adjust despite the public announcement of the program and the gradual implementation over 10 years. The experience nonetheless suggests that education reforms need to be designed within a broader framework of a country's development plans and growth strategy. See Jones (1998) for a discussion of the problems related to school expansion and the limited demand for high school graduates in poor regions of Indonesia.
11. Deolalikar (1998) provided interesting evidence that an expansion of school facilities in Kenya increased enrollments among poor but not rich children. Conversely, improvements in quality (in the teacher-pupil ratio) raised enrollments among rich children, while decreasing enrollments among poor children.
12. There is little evidence, however, that vouchers have actually led to greater competition (Carnoy 1997).
13. See Moulton and others (2001) for a discussion of the implementation instruments in education reform.

14. However, it is impossible in practice to estimate beforehand how much power communities will effectively be able to handle. In fact, the ability of communities to undertake collective action seems generally to be underestimated. Thanks to Luis Crouch for raising this point.
15. A recent retrospective evaluation in Uganda showed that the gains in enrollment following the elimination of user fees have been highest among the poor (Deininger 2003).
16. Assuming that a significant statistical relationship exists between fees and access, it may be possible to use the parameter estimates to produce a rough approximation of anticipated changes in quality (for example, projected changes in the pupil-teacher ratio) and, in turn, an approximation of the impact of changes in quality on student performance, assuming that a statistical relationship exists between quality indicators and student performance (for example, see Appleton 2001b).
17. For example, King and Özler (1998) estimated the impact of school autonomy on student performance in Nicaragua using a structural model for student performance, while taking into account the selection process in reform. They found that autonomy has been effective in raising performance. Jimenez and Sawada (1999) also used an exogenously determined formula to target schools as an instrumental variable to evaluate the impact of El Salvador's community-managed-schools program.
18. Of course, even reduced-form cross-country regressions may allow for some disaggregation to account for variation in outcomes across broad income groups. Bidani and Ravallion (1997) use a random-coefficients cross-country model to allow for the variance between the poor and non-poor in the impact of spending on social indicators.

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