EDUCATION IN A TIME OF GLOBAL ECONOMIC CRISIS[1]

SUMMARY

Developing countries have made significant gains in improving education outcomes. The last 15 years have seen sustained progress towards the education Millenium Development Goals. For example, primary completion rates in Sub-Saharan Africa rose from 51 percent to 60 percent between 1990 and 2007, in South Asia they rose from 62 percent to 81 percent. Several countries also have recorded significant gains in learning outcomes. Jordan is one example. Between the 1999 Third International Mathematics and Science Study (TIMSS) and the 2003 TIMSS, Jordan improved its science score by 0.25 of a standard deviation, which is equivalent to about one year of learning. Jordan has continued to improve, and in 2007 surpassed several countries which had a similar or slightly higher performance in 1999. Indonesia also recorded marked improvement in student learning; its score in mathematics on the Program for International Student Assessment (PISA) test increased by 30 points, or 0.3 of a standard deviation, between 2000 and 2006.

But the current global economic downturn threatens this progress—by reducing the ability of both households and governments to invest in education. The crisis could lead to expenditure cuts as incomes fall and domestic fiscal revenues drop sharply. On the demand side, school revenues from students and contributions from the community could decline as employment and family incomes fall, making schools more dependent on transfers from the government. There may be pressure for children and youth to help augment family incomes, resulting in more school absences or higher dropout rates—although this effect may be countered by the fact that the opportunity cost of schooling is also lower due to a shortage of jobs for youth. On the supply side, teacher salaries may be delayed more than usual, vacant teacher posts may remain unfilled, and allocations for school repairs and school inputs may be greatly reduced, with undesirable consequences on learning.

School enrollments are at risk, especially in poorer countries and poorer households. Although enrollments have risen in nearly all poor countries in the past decade, large segments of their populations have children who never enter school or attend school for only one or two years. Poverty and a shortage of good schools are two reasons for this. Even without the current crisis, children from poor families and ethnic minority groups and girls in some countries have the least education. A family incident such as an illness or a parent losing a job, or a school losing its only teacher or being unable to repair its leaky roof is often enough to stall their schooling permanently. But while poorer households and disadvantaged groups are the most vulnerable to pressures to leave school as a result of an economic downturn, past crises have demonstrated that the direction and size of this effect

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is not always predictable, a good reason to monitor the impact of the crisis. For example, past crises suggest that the impact on education may be significantly different in urban and rural areas.

Allowing enrollments and learning to deteriorate will weaken developing countries' ability to be competitive when the global economy recovers. The countries that are able to maintain or build up the skill level of their work force during the recession will be better poised to take advantage of the opportunities that a recovery offers. Wealthy countries are responding to the crisis by using growth stimulus spending to promote skills development programs, taking advantage of the contraction in jobs to provide incentives for laid-off workers and youths to skill up for the future. Countries in the developing world should do the same.

To sustain educational progress in a time of severe fiscal constraints, developing countries and donor countries should prioritize efforts and investments. Developing countries should give priority to those education expenditures that have the highest expected returns, and protect the most vulnerable and disadvantaged parts of the population. Where cutbacks in education spending are necessary, governments should consider carefully which types of education expenditures are the most critical to maintaining the health of the education system. Programs to protect the most disadvantaged students should be a priority too because, possessing fewer resources, they are the most likely to leave school and the hardest to coax back. Youth who are about to complete school but cannot hope to find work after are also going to need assistance either to receive more skills training or to negotiate a tight and unwelcoming labor market.

Donor countries should maintain aid effort and improve aid effectiveness. Aid levels depend on the income levels and political support for aid in donor countries. Past banking crises have led to sharp declines in aid, but reducing development aid now could be very costly for countries that are doing their part to reach their education goals in this time of deep economic crisis. Donors should meet their aid commitments while allocating aid in ways that are most effective in advancing educational development.

Demand- and supply-side programs can mitigate and cushion against the worst effects of the crisis. A few examples are:

- **Conditional cash transfer programs *(CCT)*** in several countries have been shown to be an effective way to encourage poor households to invest in their children's education. When incomes fall and such transfers are in even greater demand, CCT programs can help keep children in school. Evidence from *Oportunidades* in Mexico suggests that the probability of entering secondary school increased by 33 percent in participating households, and that the children who were in the program for an average of 5.5 years achieved one more year of schooling.
- **Scholarships** can help prevent a large exodus from private schools to public schools of students who can no longer afford to pay fees. Such large transfers without a corresponding increase in resources can overcrowd public schools, reducing their effectiveness, and will probably close down much-needed private schools in underserved communities. A public subsidy program targeted at low-cost private

schools in Pakistan has successfully increased the number of students and teachers in those private schools, and has expanded available school infrastructure.

- **School feeding programs** are another example of a safety net that not only keeps students in school but also enables them to focus on learning tasks, especially in places where poverty routinely forces students to come to school hungry. In Jamaica, providing breakfast to malnourished children has been shown to improve their scores in cognitive tests by 0.25 of a standard deviation.
- **Block grants to schools** are already being used to improve the quality of schools while giving the school community a greater say in how these resources are used. At the least, these grants ensure that students have continuing access to schools that are equipped with teachers and supplies. They could be critical to the survival of schools that are likely to see a significant decline in non-salary allocations. In response to the East Asian financial crisis in the late 1990s, the government of Indonesia provided block grants to rural and urban schools that cater to low-income students and requested recipient schools to waive primary-level fees in order to prevent a reduction in teacher attendance and overall quality.
- Teacher salaries account for the bulk of education spending in all countries, and thus are vulnerable to cuts and extraordinary delays during tight fiscal conditions. While fiscal austerity measures may have to be adopted, putting undue burden of such measures on teachers would demoralize teachers, increase absenteeism, and erode the quality of instruction and learning. Ensuring that **teachers are paid on time** and that they are present in their classrooms is an important means for students to stay in school and learn.

Despite the risks it poses to educational progress, the crisis may offer some opportunities to improve the performance of education systems over the longer term. Adequate resources are essential for attaining education goals, but the efficiency with which these resources are used matters greatly during an economic downturn. More stringent fiscal constraints at all levels of the system provide the rationale and potentially also the political support for tightening the oversight of its budget and procurement processes, thus reducing resource leakages. By implementing **reforms that increase system efficiencies** countries can offset some of the effects of diminished resources.

Promising initiatives also include measures to **improve the quality of the teaching force** and to **increase the accountability of schools for student learning**. In a weak labor market, it may be easier to attract better candidates into the teacher force and also to compel current teachers to upgrade their skills. Teachers may be more willing to consider reforms that base part of their progression, promotions, or pay on measures of performance, rather than simply on factors like tenure and credentials that are at best weakly related to student outcomes. Training programs could be designed in a way that allows workers to draw on them in times of need to support just-in-time skill upgrading or return to school. Also, block grants to schools can be given in exchange for school improvement plans or an agreement to participate in a quality assurance system, reforms that may be more difficult to implement in times when schools are much less dependent on government subsidies.

Finally, **support to policymaking** is critically important in times of crisis. Even in good times, effective policies and programs are difficult to formulate, partly for lack of information about what works, what doesn't and why. In times of crisis, information not only must be solid, but also must be timely and readily fed back to policymakers and stakeholders alike. There will be heterogeneity in the impact of the economic crisis on education, so identifying the nature and magnitude of the crisis will matter in formulating an appropriate policy response. Ensuring that knowledge and experience about programs are disseminated effectively could shorten the time to design good policies and programs, thereby helping to reduce the negative impact of the crisis on education for families, students, teachers and schools.

Education Achievements Are at Risk during the Crisis

In the past decade, developing countries made significant gains in expanding educational levels as a result of greater attention to education by governments and civil societies in these countries and an increase in international support. They have moved closer to the goal of universal primary education (MDG N.2): the net enrollment rate rose from 80 percent in 1990 to 83.2 percent in 2001 and to 86.4 percent in 2006 (UNESCO 2003, EdStats 2008), and the number of children out of school fell by 24.2 percent. Some countries have turned greater attention to quality as well, and there is evidence that these efforts are paying off. Several developing countries have recorded significant gains in learning outcomes. Jordan is one example. Between the 1999 Third International Mathematics and Science Study (TIMSS) and the 2003 TIMSS, Jordan improved its science score by 0.25 of a standard deviations, which is equivalent to about one year of learning. In 2007 it surpassed several countries which had equal or slightly higher performance in 1999. Similarly, between 2000 and 2006, Indonesia raised its average mathematics score on the Program for International Student Assessment (PISA) test by 30 points, or 0.3 of a standard deviation. Such gains are now at risk partly because of weakened governments' and donors' abilities to sustain the required investments. Moreover, the educational challenge remains large: In 2006, 75 million children were still out of school, 55 percent of them girls.

As a result of the crisis, these significant education achievements of the past decade are at risk. Given that education has long-term payoffs, rather than short-term gains, it may be tempting to cut back on education; that, however, would be short-sighted and would ultimately result in serious declines in future output. The remainder of this note describes expected impacts of the crisis on education and evidence of how governments and donors can respond.

Lessons from Past Crises

Past economic crises have shown that an economic downturn produces countervailing effects on enrollments. For example, loss of income may reduce household demand for education because out-of-pocket expenditures are going to be a heavier burden in relative terms, but at the same time a decrease in the opportunity costs of education due to weak labor markets may increase enrollment. Whatever the net effects on enrollments, reductions in government, household and donor budgets for education are likely to threaten educational investments and worsen education quality and learning outcomes.

Effects on the demand side

The main effect of the crisis is a substantial temporary reduction in aggregate production and in income levels (Ferreira and Schady 2008). This might affect public and private investments and demand for education in the short-term, at high societal and economic costs in the long-term, as students who drop out may not enroll again or may not be able to recover from learning gaps after they have dropped out (World Bank 2009a). It is anticipated that the crisis will have effects at the level of the household, the level, and the education system as a whole. Not all of these effects will necessarily reduce enrollment (as discussed below), but all will put severe strains on the education systems.

With declining household incomes, direct and indirect costs become a heavier burden. Where students incur some direct schooling costs, however small, poorer students may have to forego schooling. And since the crisis could lead to tighter credit markets, households (and schools) will have fewer resources to buffer themselves, and students, especially in universities, may not be able to obtain student loans necessary to stay enrolled. Moreover, the pressure for more household members to earn income may increase demand for children and youth to substitute for adults in home production, and for youth to find work outside the home. These effects could reduce school attendance, driving down student performance and increasing dropout rates.

In Sub-Saharan Africa, the evidence suggests that the current crisis will almost certainly have an adverse affect on enrollments and may even reverse recent progress toward the elusive goal of universal primary school completion. In an exhaustive study of growth acceleration and deceleration in the region over the past 30 years, Arbache and Page (2007) find that an asymmetric relationship exists between education (and other indicators of human development) and growth. Primary school completion rates are substantially lower in countries experiencing growth decelerations, and they are negatively correlated with growth collapses.

At the same time, a decrease in work opportunities reduces the opportunity cost of schooling. A sustained contraction of the economy also sends a message that there are no jobs and so the return to education is lower, again producing two countervailing effects. On the one hand, this signal could lead to a discouragement effect in schooling; on the other hand, the contraction could mean that only the most educated would have any chance of finding a job. Consider the different experiences across countries. In the U.S., at the higher education level, it has been estimated that the recessions during 1968-1988 were responsible for increasing U.S. college enrollment rates by almost 400,000 students (Dellas and Sakellaris 2003). Two major recessions in Mexico, in 1982-83 and 1986, were associated with higher school retention and continuation rates (Binder 1999). In Nicaragua there were marked increases in enrollment, and in Peru and Brazil enrollment increases were marginal, while in Costa Rica school enrollment patterns were pro-cyclical, meaning that there were reductions in enrollment (Ferreira and Schady 2008). In Peru, the crisis of the 1980s was expected to reduce enrollment, given the declines of almost 50 percent in household and public incomes, but in fact the probability of being enrolled increased as a result of a reduction in the opportunity cost of schooling (Schady 2004).

Not all households will be affected to the same extent. The balance between substitution and income effects determines actual short-term impacts of the crisis and helps explain heterogeneous impacts across countries, in particular, whether education indicators will improve or worsen (Ferreira and Schady 2008). To the extent that there is an impact, it is likely that the poor—and the near-poor—will suffer most; studies of Indonesia and Latin American countries show that in response to crisis, families below, or close to, the poverty line were more likely than wealthier ones to reduce investments in human development. But poverty is not the only important dimension to consider. Evidence from Indonesia following the crisis in the late 1990s indicates that the urban households suffered more than rural households in terms of unemployment and earnings. As a result, education expenditures per age-eligible household member (age 5–20) declined more in urban areas than in rural areas.

On the other hand, the education shares in household budgets declined by over 10 percent in urban areas and by nearly 30 percent in rural areas. Spending reductions were particularly marked in poor households with more young children (10-14 years), while similarly poor households with older children (15–19-year-olds) tended to protect education spending (Thomas et al. 2004). Thus, the financial crisis had a negative effect on enrollments of younger children. In 1998 there were 35 percent more out-of-school 10-year-old boys than would have been the case had the rate of rising enrollments between 1993 and 1997 had not been disrupted (Thomas et al. 2004).

In Korea, the reduction in educational expenses in response to the crisis varied according to the socio-economic level of the families: While the richest 20 percent increased the share of education expenditures by 0.8 percentage points, the rest of the socioeconomic distribution reduced this share by 0.02-.05 points (UNESCO 2001). Because of this heterogeneity in impact, the local context matters in the design of an appropriate policy response to the crisis.

Crises do less harm to better educated workers. Better educated workers are more able to sustain earning and consumption levels during an economic downturn because they are generally more able to adapt to the changing demands of the labor market and to the use of new technologies, and they are more able to use information to find jobs or other sources of income during the recovery (Schultz 1975; Fasih et al. forthcoming). Less educated workers– as well as minorities and women–are more likely to suffer from a crisis because they have fewer skills and may be less able to retool themselves. In the long run, they are also less likely to benefit from the recovery (Hoynes 2000; Hall and Patrinos 2006). Supporting evidence comes from the U. S. where more educated workers experienced smaller reductions in the amount of hours worked, annual earnings, and employment rates relative to less educated workers (Hoynes 2000). In Indonesia educated workers were more likely to retain their jobs relative to less educated ones; and in Mexico and Argentina, less educated workers experience significant earnings losses (Fasih et al. forthcoming). These experiences point to an increase in inequality during and after an economic crisis.

Effects on the supply side

Dwindling resources put pressure on school quality. While there is no rigorous systematic evidence that shows direct impacts in the quality of teaching and learning following a financial shock, it is likely that it suffers. With declining household incomes, revenues from fees are likely to fall. This will make schools more dependent on government transfers. One channel for this deterioration is its effect on teacher performance. Because teachers may feel greater pressure to earn extra income, especially when they do not receive their pay on time, they may engage in more moonlighting activities, even during school hours, thus increasing absenteeism. For example, in Laos it is the teachers whose salaries are not paid on time who tend to offer tutoring services for pay (Dang, King and Waite 2009). Several recent studies in contexts as diverse as the India, Indonesia, the United States, and Zambia indicate that frequent teacher absences reduce student learning, in some cases, by substantial amounts (Miller, Murnane, and Willet 2007; Duflo, Hanna, and Ryan 2008; Rogers and Vegas 2009). For example, in Zambia, teacher absence driven in part by AIDS and other illnesses has sharply reduced learning, as measured by math and English tests: each increase in teacher absence of 5 percent leads to decline in student learning by 4-8 percent of an average year's learning (Das et al. 2007). A detailed study of Peru found that the prolonged economic crisis of the 1980s eroded school quality and almost certainly retarded learning, with seventy percent of children from the poorest half of the poverty distribution not being able to read (World Bank 2007). These findings highlight the potentially large effect of declining school-level inputs on student learning and thus the importance of protecting them in times of crises.

As household incomes decline, large number of students may transfer from private to public schools. Assuming that demand for education does not shrink, a fall in households' ability to pay for private schooling may lead students in private schools to transfer to public schools. If public expenditure on education remains constant or declines, the impact on the public school system would be to raise pupil-teacher ratios, to increase the pressure on often insufficient or inappropriate infrastructure, and to compromise teacher effort. The impact on private schools would also be adverse. Even if few students shifted from private to public schools, private schools would find it much harder to raise funds through tuition fees and may be forced to freeze their fees for significant periods for time. As a result, these schools would be in a weak position to sustain or improve the quality of their services. The experience of the Philippines is instructive. Between 1982 and 2006, the share of secondary enrollments in private schools fell dramatically, from 46 percent to 20 percent reflecting the outcome of the introduction of free public schooling (Jimenez and Sawada 2000). The secondary school system is now performing worse than before, with severe over-crowding in public schools and a much weakened ability of private schools to raise revenues through fees for their operations.

Lower fiscal revenues could reduce education spending. Schools may not receive their usual budgetary transfers for operations, utilities, repair and maintenance, and school supplies. Non-salary allocations are especially vulnerable to cuts. Because teacher salaries comprise the largest share of education budgets, paying teachers their salaries and their benefit packages will put a heavy strain on fiscal budgets. Although political concerns may prevent outright reductions in teacher salaries, a tight fiscal situation could lengthen delays in paying teachers and could lead also to a glut of vacant posts. Moreover, investments in new construction of classrooms and schools could be frozen. On the other hand, sustained budget cuts could exert enough pressure for administrators to formulate and implement reforms that decrease leakages in the system and present opportunities to increase its efficiency.

Following the East Asian financial crisis of the late 1990s, government austerity measures in Malaysia led to universities reducing their operating and development expenses by 18 percent; and reductions in corporate and public donations and on returns on investments from capital markets led to the corporatization of some institutions (UNESCO 2001). State higher education institutions experienced expansions in enrollment at that time because of returning students from abroad, while enrollment in private institutions fell by 20-30 percent (UNESCO 2001).

Cuts in international donor assistance would exacerbate an already tight fiscal situation. Deep recession and fiscal pressures in developed countries could translate into weaker voter support for aid and hence reduced levels of donor assistance (Paxton and

Knack 2008). New research estimates that over the past quarter-century, each increase of 1 percent in donor-country GDP per capita has been associated with an increase of aid of at least 1 to 2 percent (World Bank 2008a). If this relationship holds in times of economic downturn as well, overall aid levels could decrease substantially as donor-country incomes fall several percentage points below their trend in 2009 and 2010. Aid reductions during the current crisis would further weaken recipient countries' overall fiscal positions (World Bank 2008a).

Initial Assessment of Impact

The economic downturn will affect world regions differently. Some countries are already suffering from the initial financial shock, while other countries will feel the effects only after the shock works its way through channels such as remittances and trade and capital flows. Similarly, it is too early to know the full impact of the crisis on school enrollment and quality. Reports from the field suggest the following initial impacts.

According to the most recent World Bank estimates (World Bank 2009), **East Asia and the Pacific** will experience a dramatic slowing of GDP growth, down to 5.3 percent in 2009 as China's growth declines to 6.5 percent, and several smaller economies, including Thailand, fall into recession. One result of this economic slump is that a reduced availability of trust funds from donors in the region, particularly in cases where such funding sources do not include provisions to correct for currency fluctuations. Despite the falloff in the real economy, the crisis does not appear yet to have a major impact on the education sector and enrollment rates are not expected to show notable declines. An exception is Mongolia where there has been a demand for emergency type assistance.

In terms of GDP decline, **Eastern Europe** has been hit the hardest by the crisis, and effects are expected to follow in **Central Asia.** GDP in the region is expected to fall by 2 percent in 2009, compared with a 4.2 percent increase in 2008. The crisis has severely tightened fiscal constraints, which may force cuts in salary budgets and school construction (and perhaps lead to efficiency reforms in teacher workforces), while at the same time reducing households' ability to pay for schooling costs. There are many poor countries in the region, such as Tajikistan, Armenia and Moldova, where there is need to watch enrollment, attendance and completion rates. In the middle-income countries in the region, enrollments are not likely to decrease, but the quality of schools may fall because of reduced fiscal resources.

The **Latin America and Caribbean** region is expected to be hit hard in the next two years. Most of the large economies have strong trade and financial ties with the U.S., and so are vulnerable to the crisis. In Argentina and Mexico, real GDP contracted 4.9% and 2.7%, respectively, in the fourth quarter of 2008, and Brazil is now beginning to feel the effects of the crisis. In the education sector, past experience with economic downturns suggests that recurrent budgets are likely to be protected because they consist mostly of salaries and because policymakers fear teacher strikes. The concerns, therefore, are that non-salary expenditures will fall, reducing school quality, and that new investments in school infrastructure may be stalled. The demand for assistance in the region is mostly for budget support and short-term quick disbursements for safety nets, with little thinking so far on the impacts of the crisis on human capital formation in the medium and long-term. In terms of specific responses, Mexico and Colombia want assistance from the Bank on CCTs and on active labor market and job-creation policies, while other countries such as Peru, El Salvador and Guatemala have opted for social sectors Development Policy Loans.

In the **Middle East**, the expected GDP growth has dropped to 3.3 percent, and the region is feeling the effects of the lower oil prices and lower remittances from emigrants. Reduced oil revenues and cuts in oil output are expected to restrain GDP among oil exporters to 2.9 percent from 4.5 percent in 2008. Further effects may become evident in the summer through a reduction in the tourism activity. In terms of education effects and responses, some countries, such as Tunisia and Morocco, have increased lending requests in anticipation of the crisis, taking advantage of low interest rates. Other countries have increased their demand for technical assistance in such areas as reforming the education system (Libya), benchmarking (Saudi Arabia), capacity-building (Kuwait) and sector review (Oman). Countries that are suffering the impacts of the crisis more severely, such as United Arab Emirates, are thinking of it as an opportunity to reform the system.

In **South Asia**, initial impacts of the crisis are already being felt. Demand for exports and remittances into the region have been decreasing, in turn lowering household incomes. The GDP growth in South Asia is projected to be 3.7 percent for 2009, down from 5.6 percent in 2008. Because jobs are scarcer and the opportunity costs of school attendance is falling, enrollments at the tertiary level appear to be increasing, a shift that signals a need to pay greater attention to the quality of tertiary education. There are no data to measure these changes in private enrollment, but previous experience in the region suggests that public enrollment will increase at the expense of private enrollment. In response to the crisis, the Bank is providing support for interventions targeted to the poor, such as stipend schemes or CCTs, and is using quick disbursing lending instruments, such as Development Policy Loans and Sector Investment Loans with a sector-wide approach.

In **Sub-Saharan Africa**, the crisis is expected to dampen growth, putting a halt to the promising pattern of faster growth that many countries achieved during the past decade. Although spared the first-round effects of banking failures, African countries are already feeling the bite of second-round impacts in the form of declining capital flows, slowing remittances, stagnating foreign aid, and falling commodity prices and export revenues. GDP growth for the region in 2009 is expected to halve from 4.9 percent in 2008. In the education sector, enrollments have not yet been affected by the crisis but declines can be expected given the experience during past episodes of growth deceleration. The growth deceleration will also make it more difficult for countries to expand post-basic education and to realize countries' aspirations to join the global economy and compete for markets. The focus of the region's response to the global crisis is on mobilizing assistance from donors, including through the Education for All Fast Track Initiative, to help African governments meet the gaps between spending needs and available budgets. The response is also to support countries in prioritizing reforms to improve the efficiency and effectiveness of resource use.

Promising Policy Responses

An overarching initial response to economic crises is to seek to protect investments in human development. Indeed, such investments will not only protect vulnerable families and individuals from falling into catastrophic poverty but also equip them with the ability to benefit from, and contribute to, the future economic recovery. Recent advances towards the achievement of the education MDGs have been achieved through sustained government efforts and expenditures, as well as through international aid to education. To sustain educational progress despite the crisis, developing countries and donor countries should prioritize efforts and investments. This might mean reallocating resources to the most pressing areas—for example ensuring that the poor or vulnerable are able to stay in school, ensuring that teachers are paid, and paid on time, to ensure that they are focused on teaching, or ensuring that schools are able to maintain a minimum level of physical infrastructure in light of declining operational budgets. Irrespective of the context, there will be a need for prioritization and better targeting of interventions to those most severely affected in the face of dwindling public and private resources and shifts in education demand.

The experiences from past crises suggest several priorities.

Identify and target the population hit hardest by the crisis and most likely to cut back on investments in human capital. As discussed above, the crisis can affect education through various ways, including through changes in the costs of and returns to schooling, availability of public resources and donor aid for education programs. Past crises have demonstrated that the net effect of these changes and which segments of the population are most affected are not predictable. There will be heterogeneity in the impact of the economic crisis on education, so country context matters in formulating a policy response. The purpose of a rapid education monitoring system would be to monitor changes in education indicators related to the demand side, such as enrollment and dropout rates, and student absenteeism rates, and to service delivery, such as timeliness of teacher pay, maintenance of schools, availability of supplies, and even school closures. Crucial in this monitoring is an assessment of differential impacts on various population subgroups. Such a system should also feed back information to policymakers who design programs and policies to cope with the crisis. Two pertinent challenges are:

(a) Are current education data systems able to identify the impact of economic crises in the sector? The crisis has magnified the need to enhance monitoring and evaluation systems in three main areas: impacts on enrollment and learning; impacts on budgets and in particular non-salary expenditures; and impacts of aid budgets. Many countries have education management information systems (EMIS) in the Ministry of Education but these systems are generally not designed for monitoring unexpected changes in education indicators during times of crisis. A growing number of developing countries also conduct household surveys, but these surveys tend to be episodic and complex. However, it is potentially valuable to use these two types of data platforms to build a rapid education monitoring system at the school and household levels. The existing data platforms can be used to build a sensible sampling frame for constructing a representative picture of the impact of the crisis, and to provide valuable baseline information against which to compare current indicator levels.

(b) Is the education system able to feed back critical information to policymakers for the purpose of formulating an appropriate response to crises? Just-in-time data collection should lead to just-in-time policy analyses and further to timely feedback to policymakers. The link between data

collection and analysis and policymaking is often a tenuous one, but one that needs to be strengthened in order to shape effective programs or policies during the current crisis. Improving capacity for informed policymaking is not an action that sparks excitement as an adequate response to emergency situations, but a sound foundation for policymaking is even more important when resources are scarcer.

At the program level, ***demand-side financing programs***, such as conditional cash transfers and scholarships, can mitigate the impact of the crisis. Social safety nets are likely to diminish the adverse impacts of crisis in investments on education. These findings are consistent with other research that shows that conditional cash transfers in Colombia and Mexico have been effective in preventing poor households from reducing investments in education. Evidence from *Oportunidades* in Mexico suggest that the probability of entering secondary school increased by 33 percent for participating students, that children who stayed in the program for an average of 5.5 years achieved one more year of schooling (World Bank 2009b).

Also operating on the demand side, **scholarships** could help prevent large enrollment shifts from private schools to public schools and the adverse impacts that that might have on school supply. Indeed, these shifts could entail overcrowding in the public sector and loss of revenue in the private sector—with potentially lower quality in both. Also, scholarships could be a less expensive alternative than large investments in school infrastructure. Especially if targeted to poorer students, scholarships (such as through student vouchers) have been shown to increase net enrollment in lower-income neighborhoods without overcrowding public schools by using existing capacity in private schools (Angrist et al. 2001). Evidence from a recent public subsidy program targeted at low-cost private schools in Pakistan shows a significant increase in the number of students enrolled, teachers employed, and school infrastructure, without any significant increase in student-teacher ratio or student classroom ratio (Barrera-Osorio and Raju 2008).

In addition to encouraging school attendance, **school feeding programs** improve child health and nutrition—which in turn have substantial positive impacts on cognitive development, particularly for the poorest children. For instance, providing breakfast to malnourished children in Jamaica improved their scores in cognitive tests by 0.25 of a standard deviation (Jukes et al. 2008). If disseminated well, knowledge about these programs would promote policy dialogue at the country level.

A prolonged economic downturn weakens the fiscal capacity of countries that are most affected, putting pressure on governments to look for expenditures to cut. Because of diminished fiscal resources, school conditions are likely to deteriorate, weakening the positive effects that demand-side interventions might have. **Supply-side programs** that are focused on schools can protect education quality.

Schools are vulnerable in that the allocations for repair and maintenance of buildings, furniture and equipment, already too little in many developing countries, could be reduced or frozen altogether. When this kind of situation persists for long, even public schools are tempted to initiate mechanisms for raising funds from students and the community, including the imposition of tuition fees. Such initiatives are likely to reduce enrollments, especially in poorer communities. For these reasons, it would be important to provide supplementary financial grants to supporting schools at risk in the areas hit hardest by the crisis.

Block grants to schools are an approach to easing financial constraints that negatively affect quality of learning, in particular, to support public schools that experience enrollment increases due to shifts from private schools or as a result of a reduction in the opportunity costs of schooling. In response to the East Asian financial crisis in the late 1990s, the government of Indonesia provided block-grants to rural and urban schools that most likely cater to low-income students and requested recipient schools to waive primary level fees in order to prevent a reduction in teacher attendance and overall quality (Frankenberg et al. 1999).

Because teacher salaries account for the largest item in the education budget, teachers may experience extraordinary delays in receiving their pay or reductions in their monetary incentives. These responses to the crisis are likely to demoralize them, increase absenteeism, and erode the quality of instruction and learning. Ensuring that **teachers are paid on time** and that they are present in their classrooms, however, is an important means to ensure that students stay in school and that they learn. Evidence indicates that delays in teacher pay increase their likelihood to seek supplementary sources of income, both within the school (e.g., paid after-school tutoring) and outside the school.

A Crisis Offers Opportunities for Reform

The crisis may offer opportunities to initiate and lock in reforms that will improve the performance of the education sector over the longer term. It would not be the first time that a country took advantage of a crisis situation to reform its education system. During Finland's economic crisis in the early 1990s, significant reforms were undertaken in all sectors, and education was a prime beneficiary.

One potential area for reform is ***teacher quality***. In countries that have had trouble attracting enough qualified teachers into the profession, worsening labor market conditions will make teaching more attractive as a profession. During the downturn, education systems should be able to attract higher-quality candidates into the teaching force. If they can focus on creating the conditions that will induce these new entrants to remain in the profession even after the crisis, the long-term quality of the system should improve. In countries where teaching already attracts enough qualified applicants but performance is an issue, the focus should be on aligning teacher incentives with education goals. In a weak labor market teachers may be more willing to accept pay structures that base a part of their compensation or progression on performance.

There are likely to be opportunities too for ***increasing system efficiencies***, such as reducing expenditure leakages in the education system through better oversight of budget and procurement processes and through the implementation of sanctions against the most egregious misuse of public resources. In a time of diminished fiscal resources, there is likely to be stronger political support for a more responsible management within government.

An economic crisis might also be the time to consider putting in place mechanisms that ***support skill upgrading of the labor force*** to guard against future crises and economic downturns. Some countries have experimented with individual learning accounts (such as Canada's Learn: Save program) (World Bank 2003) and other countries such as Chile and Colombia have individual unemployment accounts (Ferrer and Riddell 2008). Such programs could be designed in a way that allows workers to draw on them in times of need to support just in time skill upgrading or return to school.

At the same time as programmatic actions to reduce the adverse impacts on the crisis, **support to policy-makers** should be prioritized in times of crisis. As countries identify tailored options for dealing with shortfalls in education budgets, they should focus on preserving the programs and policies that have proven most effective in achieving education outcomes. Even in good times, effective policies and programs are difficult to formulate, partly for lack of information about what works, what doesn't and why. In times of crisis, information not only must be solid, but also must be timely and readily fed back to policymakers and stakeholders alike. Ensuring that knowledge and experience about programs are disseminated effectively could shorten the time to design good policies and programs, thereby helping to reduce the negative impact of the crisis on education for families, students, teachers and schools. Better monitoring and evaluation will allow governments not only to show results to citizens, but also improve education results over time. Serious impact evaluation should be part of any major aid-financed initiative; donors also need to encourage recipient governments to make monitoring and evaluation an integral part of their domestically financed programs.

Key messages

Demand-side programs in education can cushion the worst effects of the economic crisis. Some of the most effective programs include conditional cash transfers, school feeding programs, and scholarships. Countries that do not already have these programs can learn from countries that do about targeting, delivery and monitoring mechanisms that are necessary to improve program effectiveness and manage costs.

Supply-side interventions such as block grants to schools in the most vulnerable areas, on-time payment of teacher salaries, and incentives for teachers to be present in their classrooms help ensure that students stay in school and learn.

The crisis presents opportunities for education sector reforms that increase efficiencies which can offset some of the effects of diminished resources. Priorities should include measures to ensure that allocated resources do reach schools, increase the accountability of schools, and improve teacher performance.

Because the effect of the crisis will be different across countries and within countries, and because economic recovery is not expected to happen quickly, monitoring the impact of the crisis on government spending, households and schools will be important for shaping an appropriate and adaptive policy response.

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