

The Effect of an Economic Crisis on Educational Outcomes: An Economic Framework and Review of the Evidence

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This article first provides an economic framework for understanding how an economic crisis affects children's educational outcomes; this framework shows that there are both negative (harmful) effects and positive (beneficial) effects on educational outcomes. A review of the empirical evidence suggests that the negative effects are typically stronger, and that national educational outcomes deteriorate during a crisis. Finally, a review of the interventions indicates that fee reduction, conditional cash transfers, media campaigns, and block grants help moderate the effects of an economic crisis on children's educational outcomes.

During an economic crisis, the slowdown of the economy is associated with reductions in hourly wage rates, numbers of hours worked, and the amount of public and private funds available for schools. Such conditions affect children's educational outcomes such as school enrollment, attainment, attendance, and performance. Drawing from economic theory, this article first provides a conceptual framework for understanding how crisis conditions affect educational outcomes; in particular, the framework specifies how the outcomes are affected by parental responses to changing adult and child labor markets and school quality. Next, this article reviews the available empirical evidence on the impact of an economic crisis on children's educational outcomes. Finally, it discusses the policy interventions that help moderate the effects of an economic crisis on children's educational outcomes.¹

Economic Framework

Several economic studies have theoretically examined the potential effect of an economic crisis on children's educational outcomes (for reviews, see Behrman and Deolalikar, 1991; Duryea et al., 2007; Fallon and Lucas, 2002; Dellas and Sakellaris, 2003; McIntyre and Pencavel, 2004; McKenzie, 2004; Schady, 2004). As mentioned earlier, a crisis affects educational outcomes such as school enrollment, attainment, attendance, and performance. In addition, a crisis affects children's labor activities, whether in the household or in the labor market.

According to the existing economic studies, a child is exposed to one or more of the following negative effects during an economic crisis:

- *Negative effect 1:* The reduction in adult income makes it harder for the parents to bear the direct costs of education such as tuition, fees, books, supplies, uniforms, and private tutoring. Educational outcomes are consequently harmed because the child is either withdrawn from school or inadequately prepared for it.
- *Negative effect 2:* The reduction in adult income may also force parents to become more reliant on child labor. As a result, a child who prior to the crisis was not a child laborer may become a child laborer; if the child was already a child laborer prior to the crisis, she may have to work longer hours. This increase in child labor hours can harm educational outcomes because the additional labor is physically and emotionally draining and leaves fewer hours for studying. Furthermore, parents who have traditionally relied on child labor may respond to declining child wage rates by requiring that their child work more

hours; again, such increases in hours worked is likely to harm educational outcomes.

- *Negative effect 3:* Reductions in hourly or daily wage rates of adults may force the parents to work longer hours, which in turn reduces the time that parents can devote to assisting their child with homework, reading, and other educational activities.
- *Negative effect 4:* Sensing weaker labor market prospects from a decline in school quality, parents may withdraw their child from school or become less supportive of their child's educational endeavors.

The theory also predicts, however, that a child can be exposed to two positive effects during an economic crisis:

- *Positive effect 1:* A reduction in child wage rates may make child labor less attractive for parents. As a result, parents may encourage their child to substitute educational activities for work, which can potentially improve educational outcomes.
- *Positive effect 2:* Parents may become more supportive of their child's educational endeavors if the crisis convinces parents that less-educated workers suffer more than educated workers.

The discussion thus far indicates that there are forces that worsen a child's educational outcomes and others that improve educational outcomes during an economic crisis. The net effect of a crisis on a child is therefore potentially ambiguous. By extension, the net effect of a crisis on all children in a country is also similarly theoretically ambiguous. As the next section shows, however, the large share of empirical research indicates that the net effect of an economic crisis on a child's educational outcomes is for the most part negative, and that certain children are especially vulnerable.

Several caveats about the potential educational effects of economic crisis should be addressed. Though unlikely, it is possible that a child is unaffected by all five negative effects and two positive effects. This may be the case for children whose parents and communities are entirely self-sufficient such as some indigenous groups. A second caveat is that this framework incorporates existing theories and that several other possible positive and negative effects are not considered because of a lack of theoretical and empirical research. For example, social norms about schooling may change during a crisis; these changed norms can affect educational outcomes positively or negatively. In addition, the psychological effects of enduring an economic crisis on parental support for education are unclear. The advantage of the framework presented is that it can be easily extended to incorporate new social and psychological research on the effects of an economic crisis.

Evidence

Only a handful of empirical studies have examined the net effect of an economic crisis on educational outcomes. The key reason for the lack of studies (compared to the large number of cases of economic crises faced by different countries) is that data collection initiatives are typically postponed or curtailed during crises. In general, the available studies are unable to examine all of the positive and negative effects that were presented in the framework. A few studies, however, address some of the effects brought up earlier in the framework section.

The available evidence shows that the net effect of an economic crisis on educational outcomes depends on the level at which children are being educated. During the 1980-83 crisis in Costa Rica, the decline in secondary school enrollment was larger than the decline in primary school

enrollment (Funkhouser, 1999). Consequently, Costa Rican cohorts that were of secondary school age during the crisis period eventually had lower attainment levels than cohorts who were of secondary school age before or after the crisis.

The net effect of an economic crisis also varies by family characteristics such as socioeconomic status, parental education, and employment status of the household head. Evidence from Indonesia indicates that children from poor households suffer more during a crisis. During the Indonesian crisis of the late 1990s, there was a 1 percent drop in overall enrollment among children, compared to a 2 percent drop among children from the poorest quartile of households (Thomas et al., 2004). In addition, households with educated adults are more reluctant to withdraw children from school during crisis periods possibly because educated adults have more accurate information on government programs, employment opportunities, and loans. For example, there is evidence from Costa Rica that enrollment rates dropped less in households with more educated adults, holding all other factors constant (Funkhouser, 1999). Regarding the employment status of household heads, there is evidence from urban Brazil that unexpected short-term unemployment of the household head causes a significant increase in the probability of urban 10-16 year olds children dropping out of school, failing to advance in school, and engaging in child labor (Duryea et al., 2007).

Along with family characteristics, the net effect of an economic crisis on educational outcomes varies by child characteristics such as age and gender. In Indonesia, unlike the evidence in Costa Rica cited above, younger children experienced larger reductions in school enrollment during the crisis of the 1990s (Thomas et al., 2004). As for gender, there is evidence that girls' educational outcomes decline more in an economic crisis than boys' outcomes. During Cameroon's crisis years in the 1980s and 1990s, girls were 83 percent more likely than boys to drop out of primary school, and 56 percent more likely to drop out of secondary school (Eloundou-Enyegue and Davanzo, 2003). At upper secondary levels of education, however, girls' educational outcomes in Cameroon were similar to those of boys possibly because enrolled girls were especially motivated, gifted, or selectively drawn from supportive families. At any given level of education, the outcomes of rural girls fared worse than those of urban girls during Cameroon's crisis periods. In addition, poorer households were much more likely to sacrifice the education of girls than of boys in Cameroon. In Brazil, the impact of the household head becoming unemployed was especially large for girls' education in the poorest regions such as Sao Paulo (Duryea et al., 2007).

There are some examples of crises not harming educational outcomes, suggesting a zero net effect, because the positive and negative effects cancel each other out. For example, school enrollment rates did not fall in Mexico during its crises in the 1980s and 1990s (Binder, 1998; McKenzie, 2003). Similarly, secondary school enrollment rates in Argentina during the 1998-2002 crisis were comparable to enrollments in pre-crisis years (Boo, 2008).

Curiously, there is evidence that educational outcomes can improve during a crisis, thereby implying the net effect of a crisis on schooling is positive. This seemingly counterintuitive positive net effect is a possible, though rare outcome according to the framework presented earlier. During Mexico's crisis in the 1990s, for example, school enrollment rates increased for children of secondary school age (McKenzie, 1999). In Peru, every year of exposure to its 1987-91 economic crisis was associated with a 4 to 5 percent increase in the number of grades completed (Schady, 2004). These results for Peru imply that children who were of school age during the entire period of the crisis completed one-quarter more grades than those who were not of school age during the crisis; in other words, one out of every four or five children exposed to the entire crisis period

eventually completed one more grade compared with children who were not exposed to the crisis. Among those who were partially exposed to the Peruvian crisis, the educational attainment of those with low exposure (between 1 to 2 years) was not affected by the crisis, and those with a high exposure (between 3 to 5 years) increased grade completion by 0.2 years; these results suggest that it takes time for households to adjust their educational and work decisions about their children in response to an economic crisis.

In the U.S., improvements in educational outcomes during the Great Depression are attributed to falling child wages rates and decreased employment opportunities (Goldin, 1999; Kisswani, 2008). In particular, secondary school completion rates increased in regions that were hardest hit by the Great Depression, such as Delaware, New Jersey, New York, and Pennsylvania; these regions had the largest share of workers in the manufacturing sector and prior to the Great Depression thus had ample child labor opportunities. This case illustrates the positive effect identified in the framework: A reduction in child wage rates makes child labor less attractive for parents, such that parents substitute their children's educational activities for work.²

Crisis Impact on School Quality

Research on school quality in developing countries is challenging because formal data collection initiatives on schools are typically infrequent. Furthermore, during an economic crisis, data collection initiatives are halted, which makes it especially challenging for researchers to compare school quality before, during, and after an economic crisis. Despite such data issues, a handful of studies have addressed the impact of an economic crisis on school quality by using school quality indicators (or proxies) such as governmental and parental contributions to schools, school expenditure, and staff attitudes and behavior.

The Peruvian government of Garcia sharply decreased public expenditures during its 1987-91 crisis years and did not adopt any specifically educational interventions. Recurrent expenditures in Peru declined by 50 percent during the crisis but capital expenditures remained low and stable (Schady, 2004).³ The fall in recurrent expenditure for Peruvian schools was accompanied by declining real earnings for teachers and administrators, which increased teacher absenteeism rates because teachers began seeking other part-time employment.

The attitudes of school staff provide suggestive evidence on the impact of an economic crisis on school quality. In interviews of school principals in Indonesia in the crisis years of the 1990s, there were major concerns that school quality would decline because of falling monthly household contributions (particularly from secondary school level) and the rising cost of paper, books, supplies, and photocopying (Frankenberg, 2003).

To prevent a decline in school quality, there is some evidence that schools increase efficiency, i.e. doing more with existing resources and facilities, in the face of reduced government and household contributions. In Mexico, for example, it is argued that improvements in school-level efficiency helped maintain school quality and protect educational outcomes during its crisis years (Prawda and Psacharopoulos, 1993). There were similar responses by Indonesian schools, which responded to rising costs by relying more on writing on the blackboard and reading test questions instead of using printed materials (Filmer, 2001).⁴

Although the overall evidence is mixed, there is a real threat of declining educational outcomes in certain circumstances and for some particularly vulnerable populations. It is therefore worth

exploring the interventions that can moderate the effects of an economic crisis on children's educational outcomes.

Interventions

There are strong reasons for protecting educational outcomes during crisis periods (Jolly and Cornia, 1984; Reimers, 1994). As the previous section suggested, educated individuals become workers who are better at coping with crises and protecting their families from poverty. Furthermore, there are ethical and social justifications for protecting educational outcomes for the general populace (Lange and Topel, 2006). This section discusses three interventions that have helped households and schools cope in crisis periods.

The first type of intervention involves school fee reduction and cash transfers to poorer households. Indonesia's government launched the *Jaring Pegamanan Sosial* (JPS) scholarship program to encourage school enrollment during its 1990s economic crisis period. In addition, students were not dismissed because of their inability to pay fees, and uniform requirements were relaxed (Filmer et al., 2001). The JPS, along with several other interventions, was motivated by the large school dropout rates during Indonesia's previous crisis in the 1980s (Cameron, 2002). The JPS program began in 1998/99 academic year and was funded by development banks and donors. Between 1.2 and 1.6 million scholarships were disbursed to schools, providing Rp. 10,000, Rp. 20,000, and Rp. 30,000 per month for primary, lower-secondary, and upper-secondary school students; poorer schools received proportionately more scholarships.⁵ School committees—consisting of the school head teacher, the chair of the parent's association, a teacher representative, a student representative, and the village head—were responsible for selecting recipients. All students except those from the lowest three primary school grades were officially eligible. The scholarships were to be targeted to the poorest students, and decisions were made using school and household surveys. Overall, the JPS gave preference to girls, single parent households, large households, and the poorest households.

There is evidence that the JPS committees followed the official criteria for awarding the scholarships (Cameron, 2002; Filmer, 2001). The JPS, however, may not have reached some poor households and children because the poor were unable to pay bribes to government officials to obtain identity cards that were required to establish residency. An evaluation of the JPS reveals that a secondary school student receiving a scholarship had a 24 percent lower likelihood of dropping out than a similar child who did not receive the scholarship (Cameron, 2002). The evaluation also indicates that older children, children with more siblings, and children from non-farming households were more likely to drop out of the JPS.

In countries with existing conditional cash transfer programs for vulnerable populations, the introduction of additional school fee reduction and cash transfer interventions may be unnecessary. Mexico's PROGRESA program for children of rural households helped maintain school attendance rates during periods when household heads became unemployed (de Janvry et al., 2006). Other countries have also introduced stipend and scholarship programs, but evaluations of their effectiveness are unavailable. During Thailand's crisis in the 1990s, for example, the government provided scholarships for children from the poorest households; however, there are no evaluations of the Thai scholarship program.

A second type of intervention for protecting educational outcomes during a crisis is a media campaign directed at households and the broader society. In periods of uncertainty, such campaigns may help to reaffirm the many private and social benefits of educational attainment.

Government and non-governmental organizations in Indonesia, for example, launched a “Stay in School” media campaign during its crisis years in the late 1990s. Anecdotal evidence suggests that the “Stay in School” campaign helped maintain educational outcomes (Cameron, 2002).

A third type of intervention is block grants, which involve government and non-governmental organizations providing monetary assistance to schools. Indonesia’s government provided block grants to schools during its crisis in the late 1990s (Filmer et al., 2001). Primary schools, especially those with a religious orientation in Indonesia’s rural areas, were most likely to be grant recipients because they educated the least privileged children; since Indonesia’s religious primary schools in rural areas cater mainly to the poor, they received a disproportionate share of the block grants. Urban private schools and rural schools were the least likely to receive block grants. The Indonesian government requested that primary school fees be waived in grant receiving schools. As a result, teacher attendance and performance did not deteriorate and school principals overwhelmingly praised the block grant policy intervention (Frankenberg et al., 1999).

Given the severe resource constraints faced by government and non-governmental organizations during a crisis, priorities must be determined about the beneficiaries of interventions. The empirical evidence presented earlier indicates that crises typically cause the most harm to the educational outcomes of the poor, girls, younger children, and children with more siblings. Therefore, educational interventions are likely to have the greatest effect if they are targeted towards these vulnerable groups.

Conclusion

An economic framework for understanding the decisions of households and schools indicated that there are negative effects and positive effects on educational outcomes during an economic crisis. A review of the empirical evidence suggests that the negative effects are stronger, causing national educational outcomes to deteriorate during a crisis. In particular, the deterioration in adult labor markets and school quality dissuade parents from supporting their children’s schooling. The experiences of countries that have coped better with an economic crisis suggest that households benefit from school fee reduction, conditional cash transfers, and media campaigns. Another useful intervention for protecting educational outcomes is the provision of block grants to schools, which help pay for costs and therefore maintain quality of instruction.

Acknowledgements

I am very grateful to Barry Bull and Michael Schapira for detailed comments on earlier drafts, and Matthew Hayden for editorial guidance. For helpful conversations, I thank Tazeen Fasih and Harry Patrinos. I alone am responsible for interpretations and errors.

Endnotes

1. The labeling of a particular period as an “economic crisis” is up to consensus among domestic and international analysts, but such crises typically involve the following: reduction in business, consumer, and government investment, consumption, and spending; high inflation; large increases in unemployment and underemployment (that is, fewer hours worked); return migration; falling real (that is, inflation-adjusted) wage rates; increased real interest rates; and currency depreciation. These characteristics are typically more unexpected and severe in a crisis than in a “recession” or “downturn”. Most analysts declare the period a crisis if a country’s actual macroeconomic performance is far worse than predicted in the International

Monetary Fund's annual *World Economic Outlook*. In industrialized countries, however, milder recessions may be labeled crises. Finally, a prolonged period of economic crisis is sometimes labeled a "depression." Given this imprecision, the term "crisis" is used in this study indicate that there is general consensus that the term is appropriate. It should also be noted that the causes of an economic crisis vary and are almost always complex and contentious; some oft-cited causes include problematic fiscal and monetary policies, unexpected changes in the price of key exports or imports, and natural disasters.

2. At the higher education level, it has been estimated that the U.S. recession during 1968-1988 was responsible for increasing U.S. college enrollment rates by almost 400,000 students (Dellas and Sakellaris, 2003).
3. Recurrent expenditures cover everyday operations, such as teacher salaries, supplies, and utilities. Capital expenditures include additions to staff, teachers, faculty, and amortization of asset or property debt. It is worth noting that the reductions in expenditures are directly related to reductions in household educational expenditures. During Cote d'Ivoire's economic crisis in the 1980s, for example, school expenditure fell partly because real household educational expenditure fell by 50 percent among very poor households, 25 percent among mid-poor household, and 31 percent among non-poor households (Grootaert, 1994).
4. The impact of a crisis is not limited to schools. There is recent evidence, for example, that U.S. and Thai institutions of higher education struggled to meet recurrent and capital costs, and had difficulty with sustaining enrollments during crisis years (Vargo, 2000; White, 1978).
5. In 1998 U.S. dollars, these scholarship amounts were \$1.25, \$2.50, and \$3.75 per month for primary, lower-secondary, and upper-secondary school student. These values reflect the weak Rupiah and exchange rate of Rp. 8000 to US\$1. By 2000, the exchange rate had improved considerably to Rp. 2909 to US\$1.

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