BY THE SWEAT & TOIL OF CHILDREN

Volume VI:

An Economic Consideration of Child Labor

U.S. Department of Labor
Bureau of International Labor Affairs
2000

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This report was published by the U.S. Department of Labor, Bureau of International Labor Affairs. Copies of this and other reports in ILAB's child labor series may be obtained by contacting the International Child Labor Program, Bureau of International Labor Affairs, U.S. Department of Labor, Room S-5303, 200 Constitution Ave., NW, Washington, DC 20210. Telephone: (202) 208-4843; Fax: (202) 219-4923; Email: GlobalKids@dol.gov. The reports are available on the Internet at: http://www.dol.gov/dol/ilab/public/programs/iclp/publicat.htm.

Other publications in ILAB's child labor series include:

1. *By the Sweat and Toil of Children (Volume I): The Use of Child Labor in U.S. Manufactured and Mined Imports* (1994).

2. *By the Sweat and Toil of Children (Volume II): The Use of Child Labor in U.S. Agricultural Imports & Forced and Bonded Child Labor* (1995).

3. *The Apparel Industry and Codes of Conduct: A Solution to the International Child Labor Problem?* (1996) [also referred to as "By the Sweat and Toil of Children (Volume III)"].

4. *By the Sweat and Toil of Children (Volume IV): Consumer Labels and Child Labor* (1997).

5. *Forced Labor: The Prostitution of Children* (1996) [Symposium Proceedings].

6. *By the Sweat and Toil of Children (Volume V): Efforts to Eliminate Child Labor* (1998).

Also available are proceedings from public hearings on child labor held to gather information for several of the reports.

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Executive Summary

A. Overview

This is the sixth in a series of reports on child labor prepared by the Department of Labor's Bureau of International Labor Affairs (ILAB). The subject matter for the report was defined by the United States Senate Committee on Appropriations:

> [T]he Committee requests that the Bureau undertake a study on the economic benefits that could be realized from the elimination of abusive and exploitative child labor and the increased enrollment of these children in school. The study should look at the economic benefits to individual countries and to possible global benefits, in particular U.S. trade, that would result from the elimination of abusive and exploitative child labor.[1]

The report satisfies this mandate by examining: (1) the economic costs of child labor related to insufficient schooling; (2) the reasons why child labor exists; and (3) policy strategies and programs aimed at removing the barriers that prevent children from moving from work to school.

The report considers child labor to be any work that prevents a child from going to school, or that restricts a child from accessing quality schooling. The evidence cited in this report suggests that schooling almost always leads to better outcomes, both socially and economically, than working for children. These results should hold even more strongly in the case of children working under abusive and exploitative conditions. While the benefits of going to school for such children are expected to be similar to those that would be enjoyed by other working children, the costs that the worst forms of child labor impose on children are expected to be far greater. It is important to note, however, that the lack of detailed, specific, and consistent multi-country data on the incidence of abusive and exploitative child labor remains a constraint on research in this field.

B. The Economic Cost of Child Labor

For many working children, child labor means giving up the opportunity to go to school. For others, it means going to school less or having less time to focus on schooling. To the extent that working leaves little or no time for formal education, the economic cost of child labor can, in part, be measured in terms of the forgone economic benefits of education. Chapter II looks at the individual and social benefits and costs associated with children going to work instead of school, and discusses how children are generally better off over the course of their lifetimes if they pursue education while young. It presents evidence drawn from 162 studies showing that in countries at all levels of economic development, most children can expect to benefit more over the course of their lifetime from going to school instead of working. It also discusses the benefits of education not only to the individual child but also to society, including such extra benefits as: increased adult wages, increased participation in the political process, greater charity donations, reduced dependency on social support

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[1] This report has been prepared in accordance with the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill of 1999, Senate Report No. 105-300, 105th Congress, September 8 (legislative day, August 31), 1998. Full text of S.R. 105-300 can be found at: ftp://ftp.loc.gov/pub/thomas/cp105/sr300.txt

programs, reduced criminal activity, increased savings rates, better health, lower mortality rates, and increased life expectancy.

The chapter also explores the macroeconomic benefits of education to a country's economy. It notes that since research has found that education makes workers more productive and leads to higher levels of income for individuals, it should also be related to better macroeconomic performance at the country level. While it is still too early to declare that a consensus has been reached on the precise effect of education on macroeconomic growth, most studies that have been done to date have found some positive relationship between education and economic growth.

As countries end child labor and improve education and long-term productivity—in short, when countries increase their levels of development—they also create economies that can make stronger contributions to the world economy. The chapter suggests that these countries are more likely to be become active and productive trading partners, which could both expand opportunities for workers and firms involved in the export of goods and services from the United States, and make available a wider variety of goods and services to be consumed at low cost by U.S. consumers.

C. Why Children Work

Given the benefits of education to individuals and to society, it is natural to ask why so many children continue to work instead of going to school. Chapter III discusses real world factors that lead families and their children to opt for child labor even though schooling may be in the long term interest of the child. The chapter groups these factors under three main categories: (1) a poverty of resources; (2) a poverty of opportunities; and (3) the availability of work for children. Each class of factors defines barriers to the removal of children from work.

1. Barriers Related to a Poverty of Resources

Financial poverty, defined as a lack of financial means to support a family without resorting to child labor, can create a number of barriers to the elimination of child labor and the increased enrollment of children in school.

- Poor countries have the highest incidence of child labor. Pervasive poverty in an economy is a barrier to lowering child labor.

- In wealthier economies with child labor, there is also an issue of equality of resources. The poorest families send their children to work, while wealthier families do not. In these settings, inequality in the distribution of income, or more generally, the distribution of resources, is a barrier to lowering child labor.

- The inability of parents to support their families from their own earnings or wealth is a source of pressure leading to child labor, and is also a barrier to lowering child labor and increasing school enrollment.

- The loss of income from children not working, and the out-of-pocket costs of schooling, or both, can be significant barriers that keep children in work and out of school.

- Poor families may use child labor as a risk management strategy to insure against interruptions in the earnings of other members of the household. The perception that child labor is a necessary means of minimizing risks to family welfare presents a barrier to moving children out of work.

- Poorly educated parents are more likely to send their children to work and less likely to send them to school. Poor parental education is associated with low family incomes, and low family incomes can be one barrier to moving children from work to school; the perception among less educated parents that education is not beneficial may represent another.

2. Barriers Related to a Poverty of Opportunities

Another set of barriers to the removal of children from work and their enrollment in school can be attributed to a lack of alternatives to work for children. Often, children's opportunities are restricted because they lack access to quality schooling. In some cases this may apply to all children in a geographical location. In other cases, it may apply only to children from certain groups.

- Lack of access to schools creates a barrier keeping children in work and out of school because schooling is not a viable alternative. Families may be unable to pay for school related expenses; schools may be too few or too far from where children live; or they may be unavailable altogether.

- Schools that are of low quality or of little relevance also present a barrier to the movement of children from work to school because if schooling does not raise the income prospects of children over the course of their lifetimes (or is perceived not to do so), there is little incentive for families to forgo the income that could be generated from their children's labor.

- Gender roles can create barriers to the removal of girls from work and to their enrollment in school. In many cultures, girls are still expected to perform domestic activities, for which formal schooling is perceived to be unnecessary.

- Ethnicity and/or social class can create barriers to the movement of children from work to school in situations where there is a privileged ethnic or social class, and in particular where there are attitudes suggesting that some groups are meant to work with their hands while others are more suited to working with their minds.

- Educational instruction carried out in unfamiliar languages makes it difficult or impossible for some children to benefit from schooling. In such instances, schooling loses its relevance and language becomes a barrier keeping children out of school.

- Lack of access to credit can be a barrier to removing children from work and transitioning them to school because it leaves families with no alternative but to finance education or other income producing investments using their current income.

3. Barriers Related to the Availability of Work

These barriers are related to the fact that work for children is available and that this work would have to be done in some other way if children no longer did it.

- The fact that children are generally "cheaper" to employ may create a demand for their labor that acts as a barrier to the reduction of child labor. If the return to the employer on a unit of child labor is higher than on a unit of adult labor, the employer will prefer to employ children. If however, children are a less expensive source of labor than adults because they are commensurately less productive, employers will not have a particular preference for child labor. Whether the "cheapness" of child labor is a barrier *per se* to the removal of children from work is a major unsettled empirical question.

- Production processes that require the use of an abundant pool of unskilled labor, that do not use labor saving devices, or both, can create a demand for child labor. This factor—the production technology used—can pull children into work and create a barrier to their attendance at school.

D. Knocking Down the Barriers

Chapter IV considers policy strategies and programs that seek to lower barriers so that children will be more likely to leave work and attend school. The chapter describes how national policies and international standards can promote positive change for working children and their families by improving the economic and social environments in which they live.

In addition, the chapter considers targeted initiatives that focus on the specific needs of working children and their families and aim to encourage broader action on child labor. The chapter draws primarily on the experience of the International Labor Organization's International Program on the Elimination of Child Labor (ILO/IPEC) to provide examples of the kinds of efforts that can be taken to address child labor. The demonstration projects supported by IPEC are meant to benefit specific groups of working children. But on a larger level, they are intended to support and encourage broader action by national governments and other actors within countries where child labor persists and the political will exists to address the problem.

1. Overcoming a Poverty of Resources

Policies geared towards macroeconomic growth lay the foundation for the elimination of the most obvious obstacle to eliminating child labor—namely, financial poverty. But growth is not enough if it fails to ensure that the income of all families, particularly the poorest families, rises sufficiently and fast enough. National policies stimulating macroeconomic growth often need to be complemented by policies aimed at improving the financial prospects of the poorest families.

Targeted projects can also play a role in helping working children and their families overcome barriers created by financial poverty. In Chapter IV, two general approaches are highlighted using examples of IPEC supported projects:

- Giving families *the tools* to generate additional income and end their reliance on child labor; and

- Providing families with *direct subsidy payments* to help replace income previously earned through the labor of children.

The chapter suggests that, for subsidies to be effective, a long-term and large financial commitment may be necessary.

2. Overcoming A Poverty of Opportunities

Some children may work, at least in part, because they lack alternative opportunities. Effectively addressing child labor means not only withdrawing children from work, but ensuring that alternatives to work exist. National education policies that seek to make primary education universal and free complement efforts to end child labor by offering working children accessible alternatives. Similarly, by increasing expenditures on primary education, building schools in rural areas, improving teacher training and enhancing school quality and relevance, governments help working children and their families choose school over work.

Targeted projects often seek to promote schooling by focusing on the special problems of working children. For many working children, *lack of access to school* is the most immediate problem needing to be addressed. Schools may be too expensive, too few, lack adequate resources, be located too far from where children live, or be unavailable altogether. In such cases, the first step for targeted projects generally involves helping children attend school, in some cases through the provision of nonformal or transitional educational opportunities.

Attracting children to school and retaining them there, however, requires that children and their parents perceive schooling to be a worthwhile investment of children's time and a family's limited financial resources. Targeted projects often seek to *raise the quality* and *enhance the relevance* of education as one way to encourage children to attend school.

In some cases, particular groups of children may face special barriers to their participation in school. Discrimination based on gender, ethnicity, and/or social class can be a major factor restricting the ability of certain groups of children to access educational opportunities. At the local level, projects may seek to raise awareness about how discrimination contributes to child labor and discourages schooling. Targeted projects also may play a role in opening up educational opportunities for such marginalized groups of children.

More generally, cultural attitudes about the roles and responsibilities of children can affect decisions about whether children work or attend school. Targeted projects frequently attempt to address such attitudes through awareness raising campaigns that focus on the extent and nature of child labor in a country or region, the costs child labor imposes on children, and the benefits children often forgo in terms of schooling.

Another way targeted projects seek to expand opportunities available to working children is by providing families with access to credit. This strategy aims to empower parents to pursue profitable investments that help them support themselves without relying on the labor of their children.

3. Availability of Work

Of course, in order for child labor to exist, not only must children be willing to work, but employers must be willing to hire them. The decision to hire a child is affected by many factors, including local child labor laws; cultural attitudes; the perceived savings from hiring children as opposed to adults; the availability of adult workers; and the availability of children for work.

International efforts that set standards for the employment of children can provide an important framework for reducing and ultimately eliminating the *demand* for child labor. For example, the recently adopted ILO Convention 182 on the Worst Forms of Child Labor calls on countries "to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labor as a matter of urgency." Such international efforts seek to encourage and help speed the pace of progress within countries.

Nationally, labor laws that make illegal the employment of children under a specified age and under certain circumstances—in particular, circumstances that are hazardous to children's health and development—provide a crucial tool for curbing demand for the work of children.

At the industry or sector level, targeted projects seek to reduce demand for child labor by encouraging employers to be less willing to employ children, either because of legal penalties or by convincing them that employing children is either unnecessary, undesirable, or unprofitable. Such projects generally include a monitoring and enforcement component to ensure that children leave work and that industries do not hire child workers in the future.

In some cases, projects may provide employers or families with technological innovations that eliminate reliance on child labor. For example, in a gold mining community in Peru, an IPEC-supported project introduced an electric winch that carried minerals to the surface, eliminating the need to use children to haul heavy loads from deep within mines.

4. Multi-Faceted Approaches to Addressing Child Labor

In many cases, children and their families face a combination of barriers when seeking to transition children from work to school. A multi-faceted approach involves combining strategies to increase the impact of child labor efforts. At the national and international level, efforts that aim to reduce poverty, promote schooling, and curb demand for child labor can be complementary and mutually reinforcing. At the project level, efforts often include a variety of strategies used together to meet the specific needs of working children and their families.

E. Conclusions

The conclusions of the report can be summarized in three points.

- ***Education pays.*** For most children, most societies, and the world, education is an economically sound investment, and child labor should not be allowed to interfere with the pursuit of this investment.

- ***Work can get in the way of education.*** Child labor often results in insufficient schooling for children. Even though education is a profitable investment, there are many factors that can lead a child into the world of work. These factors can also simultaneously act as barriers to moving children from work to school. Child labor is a complex phenomenon precisely because different combinations of these barriers occur in different contexts. For example, financial poverty may be the primary factor in one family's decision to send a boy to work, but in another family, a predetermined gender role may be the main factor, or at least an important part of the equation, determining why a girl works and is denied the opportunity to pursue an education.

- ***Something can be done.*** Appropriate macroeconomic and national education strategies are a critical part of the fight against child labor. Such strategies can also benefit from targeted efforts that seek to address the many barriers faced by working children and their families. Complementary policies and strategies for addressing child labor are the most effective means for promoting the transition of working children from work to school and for preventing children from entering abusive and exploitative work situations in the first place. In addition, efforts to address child labor would benefit greatly from better data on child labor and improved evaluation of initiatives aimed at confronting this global problem.

Chapter I: Introduction

A. Overview

The United States Department of Labor's Bureau of International Labor Affairs (ILAB) has been reporting on international child labor issues since 1993.[1] This is the sixth report in ILAB's *By the Sweat and Toil of Children* series.

Each of ILAB's reports has examined a specific aspect of child labor. This year's report, as requested by the Congress, examines:

> the economic benefits that could be realized from the elimination of abusive and exploitative child labor and the increased enrollment of these children in school. The study should look at the economic benefits to individual countries and to possible global benefits, in particular U.S. trade.[2]

According to the International Labor Organization, approximately 250 million children between the ages of five and 14 work, 120 million of whom work full time.[3] Tens of millions of children work under harmful conditions, in circumstances that are detrimental to their physical, moral, and intellectual development. Children work in mines, crawling underground through small, unlit and unventilated passageways. Children, mostly girls, work long days as domestic servants and often suffer physical and emotional abuse. They are sold as carpet weavers to repay their parents' debts. Children do hard labor in rock quarries, breaking and carrying heavy stones. They toil on commercial plantations, often exposed to dangerous pesticides. Girls are sold into the nightmare of prostitution. Many children work long hours of work, often in excess of ten hours per day.[4]

Not all work is detrimental to children. In this report, the concern is exploitative work that endangers the health and development of children and undermines their access to educational opportunities. There is widespread agreement that the worst forms of child labor are indefensible and need to be abolished. But even when working children are not forced to endure harsh conditions, child labor entails sacrifice because children give up the opportunity to be engaged in other activities. The principal activity that children could and should be doing instead of working is going to school. This report provides a detailed analysis of the benefits that could be gained through having children attend school rather than work. It considers the barriers that keep many children from realizing these benefits and initiatives intended to lower these barriers.

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[1] The previous volumes are: *By the Sweat & Toil of Children (Volume I): The Use of Child Labor in U.S. Manufactured and Mined Imports* (1994); *By the Sweat & Toil of Children (Volume II): The Use of Child Labor in U.S. Agricultural Imports & Forced and Bonded Child Labor* (1995); *The Apparel Industry and Codes of Conduct: A Solution to the International Child Labor Problem?[Also referred to as "By the Sweat & Toil of Children (Volume III)"]* (1996); *By the Sweat & Toil of Children (Volume IV): Consumer Labels and Child Labor* (1997); and *By the Sweat & Toil of Children (Volume V): Efforts to Eliminate Child Labor* (1998). ILAB also published *Forced Labor: The Prostitution of Children* (1996), proceedings from a symposium on the prostitution of children, and *Report on Labor Practices in Burma* (1998), which contains a chapter on child labor.

[2] This report has been prepared in accordance with the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill of 1999, Senate Report No. 105-300, 105th Congress, September 8 (legislative day, August 31), 1998. Full text of S.R. 105-300 can be found at: ftp://ftp.loc.gov/pub/thomas/cp105/sr300.txt

[3] *Child Labour: Targeting the Intolerable* (Geneva: International Labor Organization, 1996) 7.

[4] Kaushik Basu, "Child Labor: Cause, Consequence and Cure, with Remarks on International Labor Standards," *Journal of Economic Literature* 37 (1999) 1083 [hereinafter "Child Labor: Cause, Consequence, and Cure"].

Chapter II of this report provides an overview of the benefits and costs of education. It considers empirical evidence from studies of over 90 countries and finds that for both individuals and society, education is generally a profitable investment. The chapter also suggests that the benefits of moving children from work to school would go not only to countries that reduce child labor, but also to the countries with which they trade.

Chapter III starts by noting what is at first a puzzling fact: many children still work even though schooling is likely to be more beneficial for them, their families, and society over the long term. The chapter identifies some of the factors that must be overcome before working children can access the benefits of education. The chapter groups these factors into three general classes of barriers: a poverty of resources, a poverty of opportunities, and the availability of work for children.

Chapter IV describes policy strategies and provides examples of specific projects aimed at eliminating child labor. The analysis shows how such initiatives can help lower the barriers identified in Chapter III. Because of its prominence in the area of child labor elimination, much of the discussion in this chapter focuses on program sponsored by the International Labor Organization's (ILO) International Program on the Elimination of Child Labor (IPEC). Finally, Chapter V presents some summary conclusions.

The report also contains two appendices. Appendix A is a technical companion to Chapter II. It provides a more detailed description of the economic analysis leading to the conclusion that education is a profitable investment.

Appendix B presents highlights of child labor data from countries for which the ILO made data available. For two countries, tabulations of data based on World Bank Living Standards Measurement Surveys are also presented.

The remainder of this introduction seeks to place the report's analysis of child labor and schooling into a global context. It includes a discussion of the worst forms of child labor as identified in Convention No. 182, recently adopted by the ILO, and the trade-off between work and schooling.

B. The Worst Forms of Child Labor

Child labor takes many forms, some with significantly greater costs to children than others. Within the international community, consensus has grown that the worst forms of child labor must be eradicated without delay. In June 1999, the 174 member countries of the ILO unanimously adopted a new Convention (No. 182) on the Worst Forms of Child Labor.[5] The Convention defines the worst forms of child labor to include:

> (a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict;
>
> (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances;

[5] As an international organization representing governments, employers, and workers in 174 countries, the ILO establishes and supervises the application of international labor standards—including child labor standards.

> (c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties;
>
> (d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.[6]

Convention No. 182 commits ratifying countries to "take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour as a matter of urgency."[7]

Addressing delegates to the International Labor Conference in Geneva on June 16, 1999, President Clinton stressed the need for urgency in addressing the worst forms of child labor:

> [W]e must wipe from the Earth the most vicious forms of abusive child labor. Every single day tens of millions of children work in conditions that shock the conscience. There are...children handling dangerous chemicals; children forced to work when they should be in school, preparing themselves and their countries for a better tomorrow. Each of our nations must take responsibility.[8]

Speaking in support of this Convention, U.S. Labor Secretary Alexis Herman urged:

> Let us agree that no child should be placed into forced or bonded labor . . . brutalized by exploitation in the commercial sex trade . . . abducted into militias for armed conflict . . . or subjected to other harmful and dangerous work. Through the new Convention . . ., we can help make sure that our children are nurtured not neglected—educated not exploited—helped not harmed.[9]

On December 2, 1999, President Clinton signed Convention 182, calling it, "a victory for the children of the world."[10] The President linked addressing child labor with promoting children's education. "If we want to slam the door shut on abusive child labor," he stated, "we must open the door wide to education and opportunity. After all, nations can only reach their potential when their children can fulfill theirs."[11]

As the President and Secretary both point out, the worst forms of child labor are performed at the cost of children's education. In addition, each stresses that these costs are compounded by the type of work, and the conditions of work, that children involved in the worst forms of child labor must endure.

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[6] "C182 Worst Forms of Child Labour Convention, 1999" (http://ilolex.ilo.ch:1567/scripts/ convde.pl?C182) Article 3.

[7] *Ibid*. at Article 1.

[8] President William J. Clinton, "Remarks by the President to the International Labor Organization Conference, United Nations Building, Geneva, Switzerland, June 16, 1999 ," for full text, *see* www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/1999/6/17/1.text.1.

[9] Secretary of Labor Alexis M. Herman, "Statement of Secretary of Labor Alexis M. Herman, Conference of the International Labor Organization, Geneva" (June 15, 1999) [document on file].

[10] President William J. Clinton, "Remarks by the President at signing of ILO Convention No.182, the Convention Concerning the Prohibition and Immediate Action for Elimination of the Worst Forms of Child Labor, at Bell Harbor International Conference Center in Seattle, Washington, December 2, 1999," for full text, *see* http://www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/1999/12/2/7.text.1.

[11] *Ibid*.

Due to limitations within the existing data and literature, studies of child labor are typically not focused on the worst forms of child labor. To the extent that data exists, they allow a look at child labor more generally. The working definition of child labor employed for this report is any work that prevents a child from attending school or leads to their obtaining insufficient schooling.[12] Of course, this definition includes the worst forms of child labor, but it is not limited to these forms. The report shows that it can be convincingly argued that schooling yields higher benefits than child labor for children in general. As this result holds when no distinction is made among the forms of child labor, it must hold for the worst forms of child labor, since it is these forms that involve the greatest costs for children.

C. The Relationship between Child Labor and Schooling

As shown in Box I-1, there is a clear inverse relationship between child labor and school enrollment. Countries with higher incidences of child labor have lower school enrollment rates and vice versa.

Specific evidence from several countries also suggests that children may work instead of going to school.[13]

- A study in Botswana reported only 44 percent of boys seven to nine years old enrolled in school, and among those out of school, 34 percent were found engaged in income earning activities.[14]

- Research in Paraguay found that although schooling is compulsory to age thirteen, 28 percent of all twelve year olds are already out of school, and of these, 19 percent are working in the formal labor market.[15]

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[12] This definition is consistent with ILO Convention No. 138 (the Minimum Age Convention), Article 7, which states, " National laws or regulations may permit the employment of persons 13 to 15 years of age in light work which is—(a) not likely to be harmful to their or development; and (b) not such as to prejudice their attendance at school..." ILO Convention No. 138 permits countries whose economy and educational facilities are insufficiently developed to initially specify a minimum working age of 14 (rather than 15), and reduce from 13 to 12 years the minimum age for light work. Convention No. 138 defines "light work" as work that is not likely to harm children's health or development, or prejudice their attendance at school. The convention prohibits all children under the age of 18 from undertaking hazardous work—that is, work that is likely to jeopardize their health, safety, or morals. *See By the Sweat & Toil of Children (Volume V): Efforts to Eliminate Child Labor* (Washington, D.C.: U.S. Department of Labor, 1998) 204.

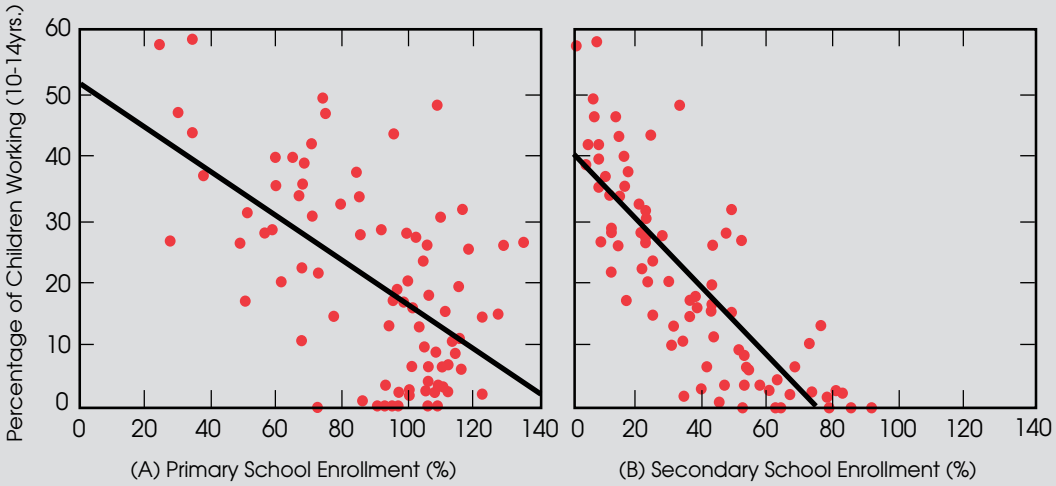
[13] It should be noted that the report is concerned not only with work that is performed instead of any schooling, but also work that interferes with the ability of a child to take full advantage of schooling. That many children both work and go to school is a well documented phenomenon. *See*, e.g., C. Grootaert and H. A. Patrinos (eds.) *The Policy Analysis of Child Labor* (New York: St. Martin's Press, 1999). Some studies even suggest instances when working does not have an effect, or a big effect, on educational enrollment. *See*, M. Ravallion and Q. Wodon, "Does Child Labor Displace Schooling?" (Washington, D.C.: World Bank Human Development Network, 1999); and H. A. Patrinos and G. Psacharopoulos, "Family Size, Schooling and Child Labor in Peru" *Journal of Population Economics* 10(4) (1997) as cited in "Child Labor: Cause, Consequence and Cure" at 1093. The authors of these studies are careful to point out a number of caveats to the interpretation of their results. Patrinos and Psacharopolous note that their conclusion likely holds only in *some* cases. Basu extends this sentiment to comment that presumably it can only be the case that schooling does not suffer because of work when children work "part time." Ravaillon and Wodon (p. 16) note that even though enrollment may not suffer much because of working, education may suffer in other ways, e.g., "[w]ork may well displace time for doing homework or attending after school tutorials." Even when children both work and go to school, their education may still suffer because of child labor.

[14] D. Chernichovsky, "Socioeconomic and Demographic Aspects of School Enrollment and Attendance in Rural Botswana," *Economic Development and Cultural Change* 32(2) (1985) 319-332. It is important to keep in mind that income earning activities are only a subset of all activities that could be classified as "economically active" or "working." In less developed economies that rely heavily on barter and a high degree of home production, "income earning" activities may be fairly uncommon.

[15] H. A. Patrinos and G. Psacharopoulos, "Educational Performance and Child Labor in Paraguay," *International Journal of Educational Development* 15(1) (1995) 47-60. Work in the formal labor market generally rules out work for which there is not direct monetary compensation. Thus, the caution expressed in the previous footnote applies.

BOX 1-1

School Enrollment is Higher in Countries where Fewer Children Work



The above scatterplots show the rate of economic activity among ten to 14 year olds in 1990 against gross enrollment rates for (A) primary, and (B) secondary education in the same year. Each diamond represents a country. Plot (A) includes available data for 86 countries, and plot (B) includes available data for 81 countries.* Both graphs illustrate that there is a strong inverse relationship between children's rate of economic activity and their school enrollment. Higher school enrollment in a country is associated with lower incidence of economic activity among ten to 14 year olds.

The economically active population (EAP) data are from the International Labour Organization, 1997, *Economically Active Population* (Electronic Database, Fourth Edition, Geneva). Data on gross enrollment rates are available from the United Nations Educational, Scientific and Cultural Organization (UNESCO) on the worldwide web (http://unescostat.unesco.org/Indicator/Indframe.htm). The "gross" enrollment rate is the number of children in a country enrolled in a particular school level (primary or secondary) over the total number of children of typical age for that level of schooling. Ratios can exceed 100 percent if children enrolled in a particular schooling level include children not of typical age for that level. Both primary and secondary school enrollments were considered because in many countries younger children in the 10-14 age range are in primary school, while older children in this age range are in secondary school. It was not possible to obtain data on school enrollment of 10-14 year old children *per se.* Countries that did not report economic activity or gross enrollment statistics were not included in this analysis.

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* The Pearson correlation coefficient for EAP rate and gross enrollment is -.577 at the primary level and -.817 at the secondary level. These values are statistically significant. The Pearson coefficient measures the linear relationship between two variables. Its values range between -1 and 1; the closer the absolute value of the coefficient is to one the stronger the relationship between the two variables. The sign of the coefficient indicates the direction of the relationship (i.e., a negative coefficient means that the higher the economically active rate, the lower the gross enrollment rate). While causality cannot be determined from this analysis, Pearson coefficients of between -.577 and -.817 demonstrate that high economic activity among 10-14 year olds is strongly associated with a low gross enrollment rate.

- Evidence from Bolivia suggests that children who work, on average, attend two years less of school,[16] and that boys aged seven to 13 years who do not attend school work an average of fifty-one hours a week.[17]

- In Tanzania, research based on detailed analysis of how children use their time, found a clear trade off between the amount of time spent studying and the time spent working.[18]

While it is not possible to determine the exact extent or degree of the trade off, this evidence suggests that a trade off between work and schooling exists for many children. This report is concerned about those children for whom this trade off is made in favor of work, what it costs them, and in exploring ways to tip the balance in favor of school.

D. The Value of Investing in Children

This report analyzes the benefits that accrue from withdrawing children from work and placing them in schools. As a humanitarian concern, few in the international community debate the need to address child labor. The recent unanimous adoption of ILO Convention 182 on the Worst Forms of Child Labor reinforces this point.

In this report, an economic consideration of child labor is provided. The report draws on economic data and studies that compare the costs and benefits of work as compared to those for schooling. As the report finds, the evidence generally supports the proposition that education is the best investment that can be made in children. Children stand to benefit, but so do their families, society, and the world through the mechanism of international trade. Moreover, removing children from the worst forms of child labor, such as sexual exploitation or forced and bonded labor, stands to bring even greater benefit given the loss suffered by children subjected to such abusive conditions.

Despite these findings, working children continue to face formidable barriers in moving from work to school. The report examines these barriers and considers a variety of policies and strategies aimed at addressing them. Such efforts at the international, national, and local levels can play an important part in addressing the problem of exploitative child labor. The report also describes IPEC projects as examples of the kinds of targeted action that can be taken to address the various barriers faced by working children and their families. These projects seek to help specific groups of working children, but are also intended to serve as models to promote broader action on child labor within countries. Since they are meant to serve as models for future action, evaluation of these efforts is critical for ensuring that the most effective are expanded or duplicated. IPEC is currently working with the support of the U.S. Department of Labor to enhance its evaluation process.

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[16] George Psacharopoulos, "Child Labor versus Educational Attainment: Some Evidence from Latin America," *Journal of Population Economics* 10 (1997) 379.

[17] K. Cartwright and H. A. Patrinos, "Child Labor in Urban Bolivia," in C. Grootaert and H. A. Patrinos (eds.) *The Policy Analysis of Child Labor: A Comparative Study,* (New York: St. Martin's Press, 1999) 116.

[18] H. Akabayashi and G. Psacharopoulos, "The Trade-Off Between Child Labor and Human Capital Formation: A Tanzanian Case Study," *Journal of Development Studies* (1999) forthcoming.

Chapter II: The Economic Cost of Child Labor

A. Introduction

The costs of child labor are many. To children who are enslaved, prostituted, forced to engage in illicit activities or very harmful work, the costs of child labor start with the suffering they endure in their daily lives. For working children more generally, the costs of child labor often include giving up the opportunity to go to school. To the extent that working leaves little or no time for school, the economic cost of child labor can, in part, be measured in terms of the forgone economic benefits of education.

For a full consideration of child labor, the costs of children working need to be weighed against the possible benefits. Child labor does provide some income to children and their families. The evidence in this chapter, however, makes it clear that in most instances these economic benefits are overshadowed by the costs associated with not going to school.

This chapter discusses how children are generally better off over the course of their lifetimes if they pursue education while young. It also discusses the benefits of education not only to the individual child but to society, and explores the economic benefits of education to a country's economy. Finally, the chapter suggests that international trade provides a mechanism by which the increased enrollment of children in school and a decreased level of child labor in one country can also benefit the countries with which it trades. The emphasis throughout most of the chapter is on summarizing the main theories and empirical studies. A more detailed discussion of both is provided in Appendix A.

Photo by: Shirley J. Smith

B. Education as an Investment

Literacy and basic numeracy are two of the most fundamental tools that all children need to develop in order to reach their full potential. There is no better way to work towards achieving this goal than by making sure that children have the opportunity to go to school. Schooling is vitally important to the development of young children. It prepares children for the future and helps them as adults to make informed decisions for themselves and their families, and to play productive roles in society.

In addition to the obvious moral arguments for sending children to school instead of work, there is a strong economic basis for supporting a child's right to education. Economic theory treats time spent in education as an investment in a child's future productivity and earnings potential. The basis of this theory, known as the Theory of Human Capital, is that by spending time and money in the present to pursue an education, individuals will be more productive and receive higher income in the future.[1] The key implication is that through education families can make an investment in their children that will pay dividends throughout the rest of their lives.

1. The individual benefits and costs of education

As with any investment, there are certain basic economic benefits and costs that parents generally consider in deciding whether or not to commit their money and their children's time to education. From a financial perspective, the decision is based on whether future rewards from schooling are expected to be high enough to justify current sacrifices. (*See* Box II-1 for a discussion of the implications of parents acting or not acting in their children's best interests in making decisions about work and school.)

The sacrifices or costs incurred by an individual child or family when a child goes to school can include both out of pocket expenses for such things as tuition, books, school uniforms, transportation and supplies; and the income forgone because a child is in school rather than working.[2] These costs may be considered "up front" investments. The benefits take the form of higher earnings received over the course of a lifetime by children who become educated. If a family believes that these long term benefits are high enough to cover the up front costs, education will be seen as a profitable investment, and children are more likely to go to school.

In general, most studies agree that the individual benefits of education exceed its costs. A survey of 162 studies, covering more than 70 countries and spanning all levels of economic development, found that in 87 percent of the studies, the typical individual who receives a primary education earns more than enough to cover the up-front costs of their schooling. These studies imply that the average child almost anywhere can expect to profit from pursuing an education. (*See* Appendix A for details on the methodology supporting these assessments.)

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[1] The basis for this theory stems from T.W. Schultz, "Investment in Human Capital," *American Economic Review*, 51 (1) (March 1961) 1-17 ; and Gary S. Becker, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (New York: Columbia University Press, 1964). Although numerous extensions and modifications of the theory have been pursued, the basic decision-making process wherein an individual treats education as an investment and assesses whether the return justifies the investment is always the same. *See* Appendix A for a broader discussion on the Human Capital Theory.

[2] "Income" can be earned in cash or kind. It includes monetary payments, goods and services produced by the child for the direct use of the child or family, or for barter for other goods and services.

BOX II-1

Deciding to Send a Child to School

It is obvious that parents usually decide whether their children go to school. What is not so obvious is whether in making this decision parents always do what is best for their children. The key issue here is that up front costs to the family of educating children are borne largely by the parents, but the benefits may accrue only to the children and the households they live in as adults. If the parents expect to live with, or otherwise be supported by, their adult children, they may anticipate sharing in the benefits of their children's education when they reach old age. But this may not be the case. Adult children may not support their parents in their old age. In such instances, if parents consider only the interests of their current household, and ignore the interests of their children, they may decide not to send their children to school even though it would be in the interests of the children to do so. In some instances, the failure of parents to look out for their children's best interests may explain why some children engage in child labor.*

If parents consider their children's interests as equal to or more important than their own, however, they will make decisions that will leave their children as well off as possible. In general, the literature on the economic costs and benefits of education does not distinguish between who makes the decision and who goes to school. This is equivalent to assuming that decision making parents act in the best interests of their child. For ease of exposition, this chapter maintains this assumption. It is recognized, however, that in some instances child labor may result in part from the failure of parents to choose the best option for their children.

Source: Kenneth A. Swinnerton, "An Essay on Economic Efficiency and Core Labour Standards," *World Economy* 20(1) (January 1997) 83.

* For example, see the discussion of gender issues in Chapter 3.

2. The social benefits and costs

In addition to the costs and benefits that accrue to individuals from education, there are costs and benefits to society. For example, the costs of many children's education is at least partly financed by society in the form of public schooling. The total *social cost* of educating children—i.e., the total costs of their education regardless of who pays for it—should include the sum of the costs paid directly by the individual children or their families *plus* the costs borne by the rest of society in the form of public schooling or other subsidies to education.[3]

Similarly, the total social benefits of educating children equal the sum of the benefits that accrue individually to the children and their families *plus* benefits to society that arise from the interaction of educated individuals. Over the long term, investments in children's education may be associated with:

- increased participation in the political process because educated individuals are more likely to vote and less likely to feel a sense of social alienation;

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[3] George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education" (Washington, D.C.: Bureau of International Labor Affairs, 1999) 44, unpublished (document on file) [hereinafter "Benefits of Education"].

- greater charitable donations;
- reduced dependence on social support programs;
- reduced criminal activity;
- intergenerational effects as greater educational attainment in one generation carries over into the next;
- increased savings rates;
- more rapid changes in technology following from increased investments in research and development;
- better health and lower mortality rates among men married to educated women;
- lower fertility among the daughters of educated parents, in some cases, possibly due to more effective contraceptive use and family planning; and
- increased life expectancy.[4]

Photo by: Shirley J. Smith

All of these benefits contribute to an improvement in the well-being of a country. In effect, all people (even those who do not to go to school) can benefit from living in a better educated society. But the social benefits must be larger than the social costs of education for society as a whole to be better off.

Within the labor market, the removal of children from work may also provide a spillover benefit in the form of higher adult wages for the workers with whom the children might be competing if they were in the labor market.[5] Among other things, this effect depends on the degree to which children may be substituted for adult workers, and the relative sizes of the child and adult labor forces.

In comparisons of social costs and benefits of education, social costs are generally easier to measure because calculating them

[4] B. Wolfe and S. Zuvekas, "Nonmarket Outcomes of Schooling," *International Journal of Educational Research* 27 (6) (1997) Table 1.

[5] K. Basu and P. H. Van, "The Economics of Child Labor," *American Economic Review*, 88 (3) (1998) 423.

involves simply adding public expenditures on education to total individual expenditures on education. It is far more difficult to assign a monetary value to many of education's social benefits. For this reason, most studies that seek to compare the social costs and benefits of education actually end up comparing the sum of the individual benefits against the social costs, ignoring social benefits. However, even though these calculations underestimate the total social benefits of education, it is still usually the case that the benefits that are measured outweigh the social costs (see Appendix A). This is enough to conclude that most societies are better off when their children are educated. If all the social benefits could be measured, the difference between benefits and costs would make an even stronger case for education.[6] (Box II-2 explores further the implications of these conclusions.)

BOX II-2

Should Society Invest in Education?

A strong economic case for public schooling or other public subsidization of education can be made because society enjoys benefits from education in addition to those enjoyed by individuals. Public investment in education seeks to ensure that enough education is pursued so that the extra benefits that society as a whole enjoys are realized.

Consider a family deciding whether its child should become a doctor. The family considers the forgone earnings of the child while in school plus tuition and other out of pocket expenses it must pay. Against this, the family weighs only the income that is expected to accrue to the child who becomes a doctor. It does not consider that the future doctor may discover a vaccine that yields public health benefits. The family which considers only the benefits and the costs the family itself experiences, may choose not to educate the child to become a doctor when society could be better off if the family chose otherwise.

To avoid missing out on an important extra social benefit, society might offer free public schooling or other subsidization of education. This would lower the costs borne privately by the individual family, making it more likely that the family will send the child to school. In general, the economic rationale for public intervention in the education of children is to ensure that families are not guided solely by their individual benefit-cost considerations when deciding on education for their children.

The chapter indicates that the majority of existing empirical assessments of social costs against social benefits ignore the extra benefits of education that are important in determining whether society should invest public funds in education. However, the long list of these extra benefits, along with the conclusion that the total benefit to individuals exceeds the total social costs of education, supports strongly the *presumption* that public investments in education are worthwhile.

Source: George Psacharopoulos, *The Opportunity Cost of Child Labor: A Review of the Benefits of Education* (Washington, D.C.: Bureau of International Labor Affairs, 1999) 48-49.

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[6] Empirically, however, we do not know if they would really translate into monetary benefits.

C. Education and Macroeconomic Growth

As individual citizens become more productive, the average level of productivity and income in an economy should increase. Research has found that education makes workers more productive and leads to higher levels of income for individuals. As this suggests, education should also be related to improved macroeconomic performance, for example, in the form of higher levels or growth rates, or both, of per capita income at the country level. In fact, there may be a virtuous cycle of greater investments in education leading to higher economic growth which in turn provides financial support for even greater investments in education. There may also be a vicious cycle in which inattention to education ensures that a country remains poor.

The histories of East Asia and Latin America may provide illustrations of how a virtuous cycle and a vicious cycle can work. Since the late 1960s and early 1970s, several East Asian countries have invested in education as a development strategy. By making educational investment a development priority, these countries sought to prepare the average East Asian worker to contribute more productively in the workplace and to adapt better to new technologies. On a macroeconomic level, more productive East Asian workers may be responsible for the region's superior economic growth. Completing this virtuous cycle, superior economic growth has, in turn, encouraged greater investments in education in East Asia. Access to education has also become more equitable in East Asia, both along income and gender dimensions.[7] By contrast, a vicious cycle may have been at work in areas of the world such as Latin America. In Latin America, relatively poor economic growth performance has been explained by some researchers as resulting, in part, from income inequality and a record of limited and unequal access to education.[8]

Debate among economic researchers continues on the best method for measuring directly the effect of education on macroeconomic performance.[9] Single country studies show that in almost every case education makes a positive contribution to growth, but the results of cross-country comparisons are mixed. Still, the majority of these cross-country studies have found some positive relationship between education and economic growth.

The main issue over which researchers disagree is exactly which aspects of education affect economic growth. Evidence from some studies suggests that the *level* of education held by the members of a country is directly associated with economic growth. Others present evidence implying that economic growth is caused by *increases* in the levels of education individuals achieve. Still others demonstrate the existence of threshold effects: a certain amount of education needs to be obtained by the population before growth can be expected. Another group of studies concentrates on the question of identifying which of primary, secondary, or higher levels of education are more important to growth.[10]

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[7] N. Birdsall, D. Ross, and R. Sabot, "Education, Growth and Inequality," in *Pathways to Growth: Comparing East Asia and Latin America* (Washington, D.C.: The International Development Bank, 1997) 124.

[8] N. Birdsall and J. L. Londoño, "No Tradeoff: Efficient Growth Via More Equal Human Capital Accumulation," in N. Birdsall, C. Graham and R. H. Sabot (eds.) *Beyond Tradeoffs: Market Reform and Equitable Growth in Latin America* (Washington, D.C.: The Brookings Institutions, 1998) 126.

[9] *See* Appendix A for more details and specific citations.

[10] There is even a minority, but well known, group of studies that finds that increases in education may have a negative effect on growth.

In summary, it is still too early to declare that a consensus has been reached on the precise channel through which education affects macroeconomic growth. As explained further in Appendix A, the issue is not that most experts think that the relationship between education and growth is negative–most believe that education spurs growth. Rather, much of the confusion relates to technical issues of choice of data, methodology, or both. That is, the measurement of the benefits and costs of education at the macroeconomic level is not nearly as well understood as the measurement at the individual level (see Box II-3). For this reason, the strongest intellectual foundation for expecting education to spur economic growth is that education benefits each person individually, so it must benefit the collective of individuals that is society.

BOX II-3

A Macroeconomic View of Social Investments in Education

In the late 1980s and early 1990s, research in macroeconomic theory explored the insight that societal benefits of education come about primarily from the interaction of educated individuals. Based on this insight, it can be shown mathematically that changes in a country's level of education should lead to changes in economic growth that exceed those that would be expected based only upon an assessment of individual benefits and costs.* From an empirical standpoint, it should not be necessary to assess a monetary value individually to each of the extra social benefits identified earlier in the chapter. Instead, it should only be necessary to look at the overall relationship between growth and education to determine if social benefits exceed social costs. Furthermore, it should be possible to subtract off from the total social benefits the sum total of the private benefits of education to establish how large a monetary value extra social benefits yield in the aggregate. This information is critical to the question of whether society should invest public resources in education.

It was not until recently that attempts were made to implement this methodology to assess the full value of social benefits against the full value of social costs. The few studies that have done so generally do find some evidence tending to support the need for public investments in education. However, because of general concerns over limitations imposed by data and inherent methodological issues, the authors of these studies are reluctant to use their results to make too strong a case. Rather, they appear to be more comfortable pointing to the evidence on individual benefits and costs of education, the acknowledgment that a variety of societal benefits are plausible, and the widely believed macroeconomic theories that education does yield extra social benefits, as the most persuasive argument for public investments in education.

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* *See*, for example, Robert Lucas, "On the Mechanics of Economic Development," *Journal of Monetary Economics* 22 (1) (July 1988) 3-42; and Paul Romer, "Two Strategies for Economic Development: Using Ideas and Producing Ideas," *Proceedings of the World Bank Annual Conference on Development Economics*. (Washington, D.C.: The World Bank, 1992) 63-91.

D. The Effect on Trade of Ending Child Labor and Promoting Education

There is strong evidence, much of it discussed in this report, that education is an important determinant of individual income levels. Empirical evidence suggests that the return to education is particularly strong at the primary-school level—the level of education most likely to be hampered if children are pressed into full-time work. The relationship between education and income seems likely to hold at the macroeconomic level as well. Ending child labor, and providing meaningful alternative educational opportunities, will increase the future welfare of these individuals and should also have important long-term benefits for development.

As a country takes effective steps to promote its development—in part, by ensuring that children grow into productive adults—this can have beneficial effects that extend beyond the home country. Trading partners that enjoy access to more stable and efficient economies, both as exporters and importers, can benefit as well.

By and large, the empirical trade literature shows that similar levels of national income and geographic proximity are significant factors in explaining trade flows between any two countries.[11] For the United States, some simple statistics bear this out.[12] Roughly two-thirds of our trade is with other member countries of the Organization for Economic Cooperation and Development (OECD), a group of 29 of the world's most industrialized and wealthiest nations. Although non-OECD countries account for the remaining third, the 48 least developed countries account for less than one percent of the total. Indeed, a striking empirical regularity in trading patterns of the United States is that our trading partners tend to be countries that are industrialized or developing rapidly.[13]

It should come as no surprise that developed countries, which tend to have larger consumer markets than poorer countries, tend to trade predominantly with other developed countries. First, trade can be especially beneficial when it helps countries reap the benefits of producing on a large scale. For some goods the average cost of production falls as more of the good is produced—hence the larger the market, the lower the cost. This gives firms an incentive to seek out foreign markets, especially large markets, to reach as many customers as possible.[14]

Second, and perhaps more fundamentally, countries that lack adequate physical, financial and appropriately educated or trained human resources to develop basic infrastructure and technical capacity, may face difficulties gaining access to international markets. At the same time, trade itself can help countries obtain these resources. In general, trade promotes economic growth and enhances living standards around the world.[15] In the United States, our export sector provides vibrant business and work opportunities, often at higher than average wages; the importation of goods and services allows U.S. residents to choose from a wider range of products at lower cost.[16]

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[11] *See* Simon Evenett and Wolfgang Keller, "On Theories of Explaining the Success of the Gravity Equation," National Bureau of Economic Research Working Paper #6529 (Cambridge, MA, April 1998) 1, 26.

[12] *See* Council of Economic Advisers, "America's Interest in the World Trade Organization: An Economic Assessment," November 1999 (http://www.whitehouse.gov/WH/EOP/CEA/html/wto/WTO-Final.pdf) 10, 33.

[13] Elhanan Helpman, "The Structure of Foreign Trade," Harvard Institute of Economic Research, Discussion Paper Number 1848 (Cambridge, MA, October 1998) 27, provides a more general view of trade patterns, "developed economies trade mostly with each other rather than with less-developed countries, and… trade within the group of less-developed countries is only a small fraction of total trade (about 15%)."

[14] *Economic Report of the President* 2000 (Washington, D.C.: United States Government Printing Office, 2000) 214.

[15] *Ibid*. at 201.

[16] *Ibid*. at 215.

International interest about child labor thus properly extends beyond shared concern for the welfare of children. As countries end child labor and improve education and long-term productivity—in short, when countries increase their levels of development—they also create economies that can make stronger contributions to the world economy. In turn, these countries are more likely to be become active and productive trading partners.

E. Summary and Conclusions

The vast majority of empirical studies reviewed for this report suggest that, regardless of a country's development circumstances, education is a profitable investment in the future of an individual child. This conclusion holds most strongly when considering those benefits and costs that accrue to the individual directly, but it also holds if other "social" costs, such as the expense of public education, are included.

There is also good reason to believe that education of an individual child yields benefits that spillover to members of society beyond the child and the child's family. The existence of these social benefits, and the presumption that they imply that the benefits society enjoys from education exceeds the sum of the benefits enjoyed by each child educated, provides a clear rationale for public interest and intervention in encouraging education. Public schooling is one policy that reflects this interest; compulsory schooling laws are another.

As countries end child labor and improve education and long-term productivity—in short, when countries increase their levels of development—they also create economies that can make stronger contributions to the world economy. The chapter suggests that these countries are more likely to be become active and productive trading partners, which could both expand opportunities for workers and firms involved in the export of goods and services from the United States, and make available a wider variety of goods and services to be consumed at low cost by U.S. consumers.

Photo by: Amity Bednarzik

Thus, it is possible to say that education of children is generally a profitable investment for individual children, the societies in which they live, and for the world. The logical question then is: why do so many children work instead of attending school? As the next chapter shows, for many children and their families, real-world factors present significant barriers to making the choice for schooling over work.

Chapter III: Why Children Work

A. Introduction

Even though schooling is a potentially profitable investment in most countries around the world, many children still work. This chapter explores the factors that lead children into the world of work and identifies the barriers that prevent them from moving from work to school. As the chapter illustrates, there is no single cause or set of causes that can explain child labor in all contexts or in all countries.

This chapter does not aim to identify all the possible causes of child labor, but rather to discuss some of the most commonly identified causes. In doing so, it groups factors into three categories: a poverty of resources, a poverty of opportunities, and the availability of work.

B. Poverty of Resources

Poverty seems to be most commonly identified as the catch-all cause of child labor.[1] A "poverty of resources" is defined here to mean those instances when child labor is thought to result from low adult wages, low family income, or lack of financial assets.

The logic linking child labor to poverty is clear. Some children work because they or their families could not survive without the income, goods, or services generated by the work of children. Lower income families spend a higher percentage of their total income on essentials like food and shelter, and in many cases, may depend on the earnings of children to provide for these basic needs. In these families, *not* having their children work may be a luxury which is sought only after survival of the child and the family is ensured.[2]

1. Evidence

a. Country Level

Evidence supporting the proposition that child labor is linked to poverty is available at the country and at the household levels.[3] In general, the poorer a country, the higher the incidence of child labor. The labor force participation rate of 10-14 year

[1] *See, for example, Child Labour: Targeting the Intolerable* (Geneva: International Labour Office, 1996) 17 [hereinafter *Targeting the Intolerable*]; World Bank, *World Development Report 1995: Workers in an Integrating World* (New York: Oxford University Press, 1995) 72; Richard Freeman, "A Hard-Headed Look at Labor Standards" [hereinafter "Hard-Headed Look at Labor Standards"], in G. K. Schoepfle and K. A. Swinnerton, eds., *International Labor Standards and Global Economic Integration: Proceedings of a Symposium* (Washington, D.C.: U.S. Department of Labor, 1994) 31 [hereinafter *International Labor Standards and Global Economic Integration Symposium].*

[2] K. Basu and P. H. Van, "The Economics of Child Labor," *American Economic Review*, 88 (3) (1998) 413 [hereinafter "Economics of Child Labor"].

[3] There is a vast amount of empirical evidence relating poverty either to child labor or to low levels of educational attainment. This discussion gives only a cursory introduction to that evidence. References containing either more detailed literature reviews or more specific examples include: Shahnaz Hamid, "A Micro Analysis of Urban Child Labour: Some Determinants of Labour and Its Conditions," *Pakistan Development Review* 33 (4) Part 2 (Winter 1994) 1249-69; George J. Mergos, "The Economic Contribution of Children in Peasant Agriculture and the Effect of Education: Evidence from the Philippines," *Pakistan Development Review* 31 (2) (Summer 1992) 189-201; S. Canagarajah and H. Coulombe, "Child Labor and Schooling in Ghana," Policy Research Working Paper No. 1844 (Washington, DC: World Bank,1997) [hereinafter "Child Labor and Schooling in Ghana"]; G. Psacharopoulos and H. Yang, "Educational Attainment among Venezuela Youth: An Analysis of its Determinants," *International Journal of Educational Development* 11 (4) (1991) 289-294 [hereinafter "Educational Attainment in Venezuela"]; H. A. Patrinos, E. Velez, and G. Psacharopoulos, "Language, Education and Earnings in Asuncion, Paraguay," *Journal of Developing Areas* 29 (October 1994) 57-68 [hereinafter "Education and Earnings in Paraguay"] ; Victor Lavy, "School supply constraints and children's educational outcomes in rural Ghana," *Journal of Development Economics* 51 (1996) 291-314 [hereinafter "Educational Outcomes in Rural Ghana"]. *See also* C. Grootaert and H. A. Patrinos (eds.), *The Policy Analysis of Child Labor: A Comparative Study* (New York: St. Martin's Press, 1999) [hereinafter *Policy Analysis of Child Labor*].

old children[4] is between 30 and 60 percent in countries with gross domestic product (GDP) per capita of $500 or less (in 1987 dollars) and 10 to 30 percent for countries with GDP per capita in the range of $500 to $1000. Above per capita GDP levels of $1000, the incidence of child labor declines as GDP per capita increases, but the rate of decrease is less marked.[5]

The fact that the incidence of child labor declines less rapidly in countries with per capita GDP above $1000 is perhaps explained by who is poor. In these countries, a positive relationship may be seen between the incidence of child labor and income inequality: the more unequal the distribution of income in a country, the higher the incidence of child labor.[6] More unequal distributions of income generally imply a greater disparity in the living standards of the "haves" and "have nots." This evidence suggests that even in countries that are not extremely poor by measures of *average* household or individual income, there may be households subsisting far below the average. In these households, child labor may still be a reality.

b. Household level

Within a household, the likelihood that a child works depends on other sources of income available to the family and the number of people for whom those income sources must provide. Higher parental income reduces household pressure to send children to work and makes schooling alternatives more affordable. Parents who work full time are better able to provide for basic needs than parents who work only part time or on an irregular basis, and are less likely to be reliant on the earnings of their children.[7] Conversely, when household income declines due to an adult's falling wages or reduced hours, children in that household are at greater risk of early employment.[8] In such instances, children are often forced to forgo schooling in order to supplement adult income in a household. A study in Brazil found that 48 percent of children who worked in order to supplement family income had dropped out of school early, as compared to a ten percent drop-out rate for all children in Brazil.[9]

i. Mothers as a source of income

Child labor can be particularly important in households where a parent is absent or deceased. The loss of a mother has been found to have a greater impact on children leaving school prematurely than the loss of a father. Moreover, the loss of a mother tends to have a particularly negative effect on girls who are frequently called upon to assume the domestic responsibilities previously carried out by their mother. In addition, mothers can provide a source of income that reduces the pressure for children to work. A rise in women's earnings has been found to have a significantly positive impact on children's education. One study in Egypt found that a ten percent increase in

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[4] Comparable and geographically comprehensive data covering labor force participation rates of children younger than this are not available.

[5] P. Fallon and Z. Tzannatos, *Child Labor: Issues and Directions for the World Bank* (Washington, D.C.: The World Bank, 1998) 3. *See also*, Alan B. Krueger, "Observations on International Labor Standards and Trade," National Bureau of Economic Research Working Paper #5632 (Cambridge, MA, 1996) 24.

[6] C. A. Rogers and K. A. Swinnerton, "Inequality, Productivity and Child Labor," Georgetown University Department of Economics Working Paper # 99-10 (Washington, D.C., 1999) 4. *See also* Priya Ranjan, "Credit Constraints and the Phenomenon of Child Labor" (Irvine, CA: University of California, October 1999) 18-19.

[7] Christiaan Grootaert, "Modelling the Determinants of Child Labor" in C. Grootaert and H. A. Patrinos, eds., *The Policy Analysis of Child Labor: A Comparative Study* (New York: St. Martin's Press, 1999) 19 [hereinafter "Determinants of Child Labor"].

[8] This factor was found to be particularly important amongst very poor households in Cote d'Ivoire. *See* Christiaan Grootaert, "Child Labor in Côte d'Ivoire" in *Policy Analysis of Child Labor* at 27.

[9] "Educational Composition of Labor Force" at 141-159.

women's market wages led to a 27 percent decline in employment among children between the ages of six and 11.[10]

ii. Family size

In households with large numbers of children, if income is insufficient to meet basic needs there will be pressure to send at least some children to work in order to supplement overall household income.[11] In some cases, however, being from a large family may provide children with the opportunity to go to school. A study in Botswana found that, on average, children from larger families actually are more likely to be enrolled in school and to complete higher levels of schooling. The study attributed these findings in part to the diminishing returns from each additional child's entrance into the workforce.[12] There may also be a kind of "specialization" within the household, whereby larger numbers of children allow some to attend school because of the contribution to household income made by those working.[13]

2. Household decisions about child labor

In very poor households, it can be argued that there is little or no choice about whether or not children work. Children must work to survive.[14] But the argument that these households face no other choice except to send their children to work probably holds true only for an extreme level of poverty.[15] The more nuanced notion that poor families weigh what they give up by foregoing child labor against what they get in return seems more generally applicable.

The income that children provide to a poor household can be important. For example, children who work in Colombia contribute, on average, about 19 percent to the total income of their households in urban areas and 35 percent in rural areas.[16] In urban Bolivia, working children aged seven to 12 years old contribute, on average, nearly 20 percent of the family income.[17] The contribution generated by children is not restricted to cash income. In-kind income—direct goods or services provided by the child for consumption of the family—can also be very important. The Ugandan Government reports that within its country, "Family labor shortage in subsistence agriculture and lack of access to amenities such as water and firewood and the absence of energy saving devices, are some of the major causes of child labour in Uganda."[18] In other

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[10] C. Grootaert and R. Kanbur, "Child Labour: An Economic Perspective," *International Labour Review* 134 (2) (1995) 193 [hereinafter "Child Labour: An Economic Perspective"].

[11] "Determinants of Child Labor" at 19.

[12] Dov Chernichovsky, "Socioeconomic and Demographic Aspects of School Enrollment and Attendance in Rural Botswana," *Economic Development and Cultural Change* 33 (2) (1985) 328 [hereinafter "School Enrollment and Attendance in Rural Botswana"].

[13] "School Enrollment and Attendance in Rural Botswana" at 328, as cited in H. A. Patrinos and G. Psacharopoulos, "Family size, schooling and child labor in Peru—An empirical analysis," *Journal of Population Economics* (Springer-Verlag, 1997) 10: 387-405 [hereinafter "Family size in Peru"]. Patrinos and Psacharopoulos employ the term "specialization" to refer to the finding described by Chernichovsky (p.328) in his piece on rural Botswana.

[14] "Hard-Headed Look at Labor Standards," in *International Labor Standards and Global Economic Integration Symposium* at 31; and Jagdish Bhagwati, "A View from Academia," in *International Labor Standards and Global Economic Integration Symposium* at 59.

[15] Kenneth A. Swinnerton, "An Essay on Economic Efficiency and Core Labor Standards," *World Economy* 20 (1) (1997) 83.

[16] Kimberly Cartwright, "Child Labor in Colombia," in *Policy Analysis of Child Labor* at 78.

[17] K. Cartwright and H. A. Patrinos, "Child Labor in Urban Bolivia", in *Policy Analysis of Child Labor* at 117 [hereinafter "Child Labor in Urban Bolivia"].

[18] "Uganda's Report and Position on Child Labor," (Kampala: The Republic of Uganda, Jan. 1998) 35 [hereinafter "Uganda's Report on Child Labor"].

words, children fetch water and wood, and do chores that no one else is available to do, or for which machines to speed the work along are not available.

In addition to the income forgone if children attend school rather than work (i.e. the "opportunity costs of schooling") households consider whether they can afford the out-of-pocket costs of education. The variety of these costs can be illustrated with an example from the Philippines, where despite tuition free education, families must pay for school supplies, uniforms, materials for projects, additional books, and contributions for special projects and activities, and in many cases, transportation.[19]

Meeting the costs of schooling is a particular challenge for poor households. High fees in combination with falling income have been related to low school enrollment and high levels of child labor.[20] A study in Ghana found the high cost of schooling, coupled with low school quality, greatly increased pressure to send children to work instead of school.[21] For many families in Zimbabwe, the direct and opportunity costs of schooling are prohibitive.[22] Among children who live in urban Bolivia, those living in areas with higher costs of schooling are significantly more likely to work than those where schooling is cheaper.[23]

Sometimes children work to finance the costs of schooling. In Zimbabwe, some children work in exchange for the opportunity to attend school;[24] they are required to complete a minimum amount of work or risk being withdrawn from school.[25] A study in Peru found no apparent trade-off between child labor and school enrollment. The authors concluded that working may provide the resources that make it possible for children to go to school.[26] For child labor and schooling to be complementary, however, children must have enough time and energy to attend and succeed in school. This suggests that there must be a limit to the time children spend working.[27] If working leaves children with insufficient time or energy to devote to studies, child labor has a negative effect on schooling.

3. Child Labor as Family Insurance

Another way that poverty affects how households make decisions regarding the allocation of children's time is by influencing a family's strategy for dealing with unanticipated interruptions in the earnings of its members.[28] Loss of income because of a poor harvest or the loss of work of a family member because of dismissal, injury, or sickness is a significant threat to families whose ability to provide basic necessities is marginal. This vulnerability to risk makes the short-term returns of child labor more attractive to lower income households, as long as the interruption of one family

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[19] F. Angeles-Bautista and J. Arriola, *To Learn and To Earn: Education and Child Labor in the Philippines* (Manila: ILO/IPEC, 1995) 14.

[20] J. Hallak and F. Caillods, ed. *Educational Planning: The International Dimension* (Geneva: UNESCO, 1995) 146.

[21] "Child Labor and Schooling in Ghana" at 27.

[22] Bjørne Grimsrud and Liv Jorunn Stokke, *Child Labour in Africa: Poverty or Institutional Failure? The Cases of Egypt and Zimabawe* (Norway: Fafo Institute for Applied Science, 1997) 16 [hereinafter *The Cases of Egypt and Zimabawe*].

[23] "Child Labor in Urban Bolivia" at 123.

[24] L. M. Sachikonye, *Child Labour in Hazardous Employment: The Case of Zimbabwe*, Consultancy Report Series no. 18 (Harare: Zimbabwe Institute of Development Studies, 1991) as cited in *The Cases of Egypt and Zimabawe* at 15.

[25] Rene Loewenson, *Child labour in Zimbabwe* (Harare: Study Report, 1992) as cited in *The Cases of Egypt and Zimabawe* at 15.

[26] "Family size in Peru" at 387-405 as cited in Kaushik Basu, "Child Labor: Cause, Consequence, and Cure with Remarks on International Labor Standards," *Journal of Economic Literature* 37 (September 1999) 1093 [hereinafter "Child Labor: Cause, Consequence, and Cure"].

[27] "Child Labor: Cause, Consequence, and Cure" at 1093.

[28] "Child Labour: An Economic Perspective" at 194 .

Photo by: Roger Kramer

member's income can be somewhat offset by the others.[29] Working children, in effect, provide a means for diversifying risk. The more members in a household that work or can work, and the more diverse the sources of their income, the less vulnerable the family is to the loss of income from any one member.[30] Poorer families also generally have fewer income generating assets, such as a cattle, that would allow them to reduce their risks.[31]

Child labor is apparently used as a risk management strategy by rural households in India. Broad fluctuations in household income, and hence more chance of big disruptions of income, are associated with lower incidence of school attendance than narrow fluctuations.[32] The notion of child labor as a form of insurance is also consistent with evidence that very poor households in Cote d'Ivoire, during a recent recession, increased the participation of secondary earners, primarily children.[33] For similar reasons, concerns about increased child labor were raised by the financial crisis that affected Southeast Asian countries in 1997 and 1998.[34]

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[29] In instances where, for example, entire families work the same land, a poor harvest may mean that all family members' income is disrupted. Child labor, while it may be necessitated for other reasons, is probably not a means of diversifying risk in examples such as these.

[30] "Determinants of Child Labor" at 6.

[31] *Policy Analysis of Child Labor* at 6, 20.

[32] H. Jacoby and E. Soufias, "Risk, Financial Markets and Human Capital in a Developing Country", Mimeo, World Bank Policy Research Department (Washington, D.C.: World Bank, 1994) as cited in "Child Labour: An Economic Perspective" at 194.

[33] Christiaan Grootaert, "Child Labor in Cote d'Ivoire" in *Policy Analysis of Child Labor* at 25-27 [hereinafter "Child Labor in Cote d'Ivoire"].

[34] *See* Eddy Lee, *The Asian Financial Crisis: the Challenge for Social Policy* (Geneva: International Labor Office, 1998) 48.

4. A Cycle of Poverty and Child Labor

From Chapter II, it is clear that children who do not attend school earn less as adults than children who do. Child labor that completely or partly displaces schooling thereby imposes this cost on children who work. But the effect of not educating one generation of children also tends to have a costly effect on the incidence of poverty and child labor in the next, leading to a cycle of poverty that perpetuates itself.

Children can be affected in many ways by the level of schooling completed by their parents. More educated parents generally earn more and are better able to provide for their families, reducing the likelihood that their children will need to work. Better educated parents are also likely to place a higher value on education and to be more supportive of investment in their children's education. Studies in Paraguay,[35] Cote d'Ivoire,[36] Colombia,[37] Bolivia,[38] and the Philippines[39] reveal that higher levels of educational attainment by either the father or mother, or both, lowered the probability of their children working, or raised the probability of their children going to school, or both.

Available evidence most often suggests that poorly educated parents are less likely to allocate their children's time to school, and more likely to allocate it to work. In a sense, child labor can be traced back to the work versus education decision made on behalf of a child's parents by the child's grandparents, and perhaps even further. And since less educated persons tend to have lower incomes and wealth, a decision to send children to work made by one generation helps to make poverty more likely in future generations of the family. Through this mechanism, child labor can be seen as a contributing factor to a cycle of poverty.

C. Poverty of Opportunities

To this point, poverty has been portrayed in a very traditional way—as a lack of financial wherewithal. In considering child labor, it is necessary to consider another sort of poverty: poverty that arises because the choices for children are so restricted that few options aside from working are available to them. This poverty of opportunities can be closely related to financial poverty. Financially poor families are likely to have or perceive few alternatives to work for their children. But it is important to make a distinction between poverty of resources and poverty of opportunities. While the generation of financial wealth may address the causes of child labor due solely to financial poverty, it may not be sufficient to address a lack of alternatives to working for many children. The elimination of financial poverty may also not be sufficient to ensure that opportunities are offered to *all* children.

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[35] A study in Venezuela found that parental education has a significant and positive effect on children's completion of years of schooling; *see* "Educational Attainment in Venezuela" at 292. A study in Paraguay found that parental education has a negative influence on whether children work; *see* "Education and Earnings in Paraguay" at 57-68.

[36] "Child Labor in Cote d'Ivoire" at 45. In urban Cote d'Ivoire, each additional year of a father's education raises the probability that a child only goes to school or combines work and school; a mother's education has a significant effect on the probability of a child combining work and school, but also reduces the number of hours worked by a child. In rural areas, a father's education raises the probability of a child combining work and school and also raises the number of hours that a child is likely to work. A mother's education raises the probability of a child attending school and not working and of a child combining work and school. *Ibid*. at 44-45, 50-51.

[37] Kimberly Cartwright, "Child Labor in Colombia," in *Policy Analysis of Child Labor* at 96. Cartwright finds that children are less likely to work the more educated either parent.

[38] "Child Labor in Urban Bolivia" at 122. Cartwright and Patrinos find that the more educated a child's mother, the lower the probability that the child works.

[39] C. Sakellariou and A. Lall, "Child Labor in the Philippines," in *Policy Analysis of Child Labor* at 145 [hereinafter "Child Labor in the Philippines"]. Sakellaiou and Lall find that in urban areas the less educated a head of household, the more likely children in that household will work.

This section discusses four issues related to a poverty of opportunities that affect many working children and their families: (1) a lack of appropriate schooling; (2) discrimination; (3) cultural attitudes; and (4) restricted access to credit.

1. Availability of appropriate schooling

Whether available schooling is appropriate depends on its accessibility, quality and relevance.

a. Access to school

Schooling is not an option for a child if it is not accessible.[40] If available schools are too far from where a child lives, the child's family is not likely to consider schooling as a feasible use of the child's time. For every additional kilometer that a Nepalese child must walk to school, it has been estimated that the likelihood of school attendance drops by 2.5 percent.[41] In rural areas of Cote d'Ivoire, children are more likely to attend school if it is located in their village rather than far away.[42] The same is true for rural Ghana, with the probability of school attendance declining with distance from a school.[43] A survey in Zimbabwe's mining regions found that only those children who live near schools attend.[44] Low population density in rural areas and long distances to schools often mean that there are few alternatives to child labor in these areas.[45]

A survey of 1,221 rural Indian parents found that about 50 percent of rural Indian out of school working children worked fewer than 3 hours on the day preceding the survey, while only around 18 percent worked 8 hours or more. The analysts conducting this study concluded that the light work load carried by these children should make school attendance possible *if* appropriate schooling were available to them.[46] Children in rural areas of Cote d'Ivoire may face a similar phenomenon. In comparisons among rural regions of Cote d'Ivoire, the Savannah region was found to have the highest incidence of working children and this higher incidence was linked to the fact that the "educational infrastructure in Savannah lags far behind the rest of the country, as it has for generations."[47] A similar conclusion holds in a study of the Philippines, where the improvement of the availability and quality of schooling is identified as a particular need in rural and remote areas.[48]

b. School quality

Where schools are available but education is of poor quality, children also face a lack of real opportunity because their education is unlikely to give them the skills and competencies needed to command higher wages in the labor market. With the pay-off to education so restricted, working may be seen as a better use of children's time.

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[40] For a more complete look at the issue of educational access, *see By the Sweat and Toil of Children, Volume V: Efforts to Eliminate Child Labor* (Washington,D.C.: U.S. Department of Labor, 1998) Chapter IV.

[41] *State of the Worlds Children* 1999 (New York: UNICEF, 1999) 33.

[42] "Child Labor in Cote d'Ivoire" at 57.

[43] "Educational Outcomes in Rural Ghana" at 303.

[44] *The Cases of Egypt and Zimabawe* at 39.

[45] The tabulations in Appendix B illustrate a general pattern of higher economic activity among rural children.

[46] Kiran Bhatty, et. al., "Class Struggle," *India Today* 22 (1997) 69-73 as cited in "Child Labor: Cause, Consequence, and Cure" at 1089.

[47] "Child Labor in Cote d'Ivoire" at 57.

[48] "Child Labor in the Philippines" at 151.

Low quality schooling can manifest itself in many ways. In many countries, classrooms tend to be roughly constructed with rooms that are poorly lit and inadequately equipped. Overcrowding, especially in urban areas, is also common. In Bangladesh for example, teachers are reported to have as many as 67 pupils in a classroom, while in Equatorial Guinea there may be as many as 90.[49] In India, 28 percent of schools have only one teacher who teaches an average of three to four classes.[50]

Another feature of poor quality education is inadequately trained teachers. In Uganda, the Ministry of Planning and Economic Development found that 30 percent of the country's teachers were untrained.[51] Evidence from Egypt suggests that an overall increase in school quality has a major impact in terms of retaining children in school,[52] and that low quality schooling contributes to a perception that schooling is ineffective.[53]

c. Relevance of schooling

Schooling may not be seen as a real opportunity for children if it is not perceived as being relevant. Families will want to send their children to school if they see the potential for education to result in higher earnings later in life. But if better paying jobs that require the skills derived from schooling are few, parents are unlikely to see the value of investing in formal education. For example, in Kenya the formal economy is estimated to be unable to absorb even one quarter of the country's secondary school graduates.[54] Graduates of primary school in Uganda are believed not to be equipped with practical skills needed to raise their earnings potential.[55] If the payoff from education in terms of better, higher paying jobs does not exist, the incentive for children to go to school is weak.

2. Discrimination

For girls and children from certain ethnic and social classes, discrimination may exacerbate the costs of child labor by further restricting their access to educational opportunities.

a. Gender

Gender plays a major role in determining opportunities available to children within a household. The available statistics on child labor around the world show that in most countries young boys are more likely to be classified as working than girls.[56] In fact, in all but two of the countries for which data are presented in Appendix B, boys were found to be more likely than girls to be classified as economically active.

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[49] *State of the Worlds Children* 1999 (New York: UNICEF, 1999) 9.

[50] "Education: Sector Strategy Paper" 1996-1998 (Bangalore: ACTIONAID, 1996) 16.

[51] "Uganda's Report on Child Labor" at 39.

[52] E. A. Hanushek and V. Lavy, "Dropping Out of School: Further Evidence on the Role of Schooling Quality in Developing Countries," University of Rochester Center for Economic Research, Working Paper No. 345 (Rochester: March 1993) 28.

[53] *The Cases of Egypt and Zimabawe* at 31.

[54] U.S. Embassy-Nairobi, unclassified cable No. 005357, May 05, 1999.

[55] "Uganda's Report on Child Labor" at 39.

[56] The ILO estimates that worldwide about 27 percent of boys five to 14 years old are economically active, compared to 22.3 percent of girls. "Statistics on Child Labor in Brief" (http://www.ilo.org/public/english/120stat/actrep/childhaz.htm).

Photo by: Marcia Eugenio

But one of the major problems of child labor statistics is that not all forms of work are counted as "economic activity." In most cases, domestic work that could be considered child labor is usually excluded. Since girls are much more likely to perform that type of work than boys, they may be undercounted in estimates of child labor. In two of the ten countries presented in Appendix B, Nepal (Table B-5) and Turkey (Table B-9), data were available showing the extent to which boys and girls performed domestic chores separately from their economic activity rates. In both cases, boys were more likely to be economically active, while girls were more likely to perform domestic housekeeping/homemaking services. Taken together, with "working" defined to include economic activity and housekeeping, girls were more likely than boys to be working. Likewise, in Tanzania where domestic activities were included in economic activity rates, girls were more likely to be economically active than boys (Table B-10).

Girls are often viewed as essential to the running of households in developing countries. When mothers work outside the home, girls frequently take responsibility for domestic work.[57] Girls are also often called upon to assume household responsibilities in the case of an ill or deceased mother. A study in Pakistan found that girls were less likely to attend school when there are younger children in the household, illustrating the important role played by girls in caring for younger siblings.[58]

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[57] This is less likely to be the case in higher income families and in households with more highly educated mothers since such households are less likely to need to rely on girls to assume responsibility for domestic work. "Child Labour: An Economic Perspective" at 192; *see also* C.O.N. Moser, "Adjustment from Below: Low-Income Women, Time and Triple Role in Guayaquil, Ecuador," in H. Afshar and C. Dennis (eds), *Women and Adjustment Policies in the Third World* (New York: St. Martin's Press, 1992) 99. *See also* C. Grootaert and H. A. Patrinos, "The Policy Analysis of Child Labor" in *Policy Analysis of Child Labor* at 5 [hereinafter "Policy Analysis"].

[58] S. Cochrane, V. Kozel, and H. Alderman, "Household Consequences of High Fertility in Pakistan," World Bank Discussion Paper No. 111 (Washington, D.C.: World Bank, 1990) as cited in "Policy Analysis" at 4.

There is an interesting gender aspect in the relationship between parental education and child labor. The impact of parental education is particularly great for girls, since well educated parents are more likely than non-educated parents to enroll their daughters in school.[59]

In some instances, mothers and daughters may function as complements in the labor market. In Cote d'Ivoire, an increase in the education of mothers was found to coincide with increased contemporaneous participation of their daughters in the workplace. Up to a certain level of schooling, more educated mothers who initiated enterprises tended to draw their daughters out of schooling to contribute to their new business.[60] Likewise, a study in India found that increased female wages led to a reduction in children's schooling time.[61] In general, it would be expected that at some level of education mothers would begin to command higher wages in the labor market and to be better positioned to invest in the education of all their children, including their daughters.[62]

As a result of the roles played by girls within the household, gender can be a major factor in determining the educational opportunities open to children. In countries where patrilineal marriages are the norm, parents may be less inclined to invest in a daughter's education since the resulting benefits are seen to flow from the family that invests in its daughters to the family whose son marries their daughter.[63] In some countries, education of girls is also seen to conflict with traditional notions of women's role in the community.[64]

b. Ethnicity or social class

Ethnicity or social class can be another dimension along which opportunities for some groups of children are restricted. In India, the caste system not only reinforces the roles of certain groups, but in effect, dictates the educational opportunities and likelihood of certain children working prematurely. A study of the granite and limestone industries of India's Andhra Pradesh state found that religion and caste had an important influence over which children worked in these industries.[65] More generally, India has been portrayed as a society where child labor has flowed from the class biased nature of government education policy:

> India's policy makers have not regarded mass education as essential to India's modernization. They have instead put resources into elite government schools, state-aided private schools, and higher education in an effort to create an educated class that is equal to educated classes in the West . . .[66]

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[59] *Priorities and Strategies for Education: A World Bank Review* (Directions in Development) (Washington, D.C.: World Bank, 1995) as cited in "Policy Analysis" in *Policy Analysis of Child Labor* at 5.

[60] "Child Labor in Cote d'Ivoire" at 47. *See also Policy Analysis of Child Labor* at 5.

[61] M. R. Rosenweig and R. E. Evenson, "Fertility, schooling, and the economic contribution of children in India: An economic analysis," *Econometrica* 45 (1977) 1065-1079, as cited in E. Skoufias, "Labor Market Opportunities and Intrafamily Time Allocation in Rural Households in South Asia," *Journal of Development Economics* 40 (1993) 293.

[62] *Policy Analysis of Child Labor* at 5.

[63] Santosh Mehrotra, *Education For All: Policy Lessons From High-Achieving Countries*, UNICEF Staff Working Papers, Evaluation, Policy and Planning Series (New York: UNICEF, 1998) 11.

[64] A. Bequele and J. Boyden, eds., *Combatting Child Labor* (Geneva: ILO, 1988) as cited in Cartwright, Kimberly, "Child Labor in Colombia,"as cited in F. Siddiqi and H. A. Patrinos, "Child Labor: Issues, Causes and Interventions," Human Resources Development and Operations Policy Working Paper #56 (June 1995) 8.

[65] G. Mohan Kumar, "Child Labour in Mosaic Chip Industries and Limestone Kilns in Kurnool District of Andhra Pradesh" in R. Anker, S. Barge, S. Rajagopal, and M. P. Joseph, eds., *Economics of Child Labour in Hazardous Industries of India* (Baroda, India: Centre for Operations Research and Training, 1998) 187 [hereinafter *Child Labour in Hazardous Industries of India*].

[66] Myron Weiner, *The Child and the State in India* (Princeton: Princeton University Press, 1991) 5.

This belief system suggests that some people, even as children, are meant to work with their hands, while others are meant to work with their minds.[67]

In Latin America, ethnicity also affects the incidence of child labor among certain groups of children. A child from an indigenous group is twice as likely to work as a child who is not of indigenous heritage.[68] In Bolivia, ethnicity also affects *where* children work. Working children from indigenous groups are more likely to be excluded from formal sector work, leaving for them mostly informal sector—and generally less desirable—work.[69]

Language can also be a factor restricting opportunities for children from indigenous populations. In many of the English, French, and Portugese-speaking African countries, for example, lessons are still conducted in the former colonial language. This increases the chances that a child who speaks only the indigenous language will drop out of school, particularly when the child's parents are illiterate.[70]

3. Cultural attitudes that support child labor

Factors such as poor schools, discrimination, and financial costs can be insurmountable barriers for families who want to keep their children out of work and in school. These barriers can also help form or reinforce an additional barrier: a cultural attitude in the community that children should work and that they are better off doing so.

Child labor was once common and considered morally acceptable in many industrializing societies. Attitudes about work and childhood have undergone a great transformation since the late 18th century, however, and in many countries, the notion that children should work has been rejected. Within the developing world where child labor remains prevalent, such attitudes about childhood and child labor often still persist.[71]

For example, a study in Colombia found that some adults continue to regard children as 'mini-adults,' therefore making them responsible for tasks that only adults in other societies would carry out.[72] In India, a 1991 study documented a "near universal belief" among educated Indians that child labor is a 'harsh reality' of life among the poor, where children must work.[73]

This attitude makes it more difficult for families to keep their children in school or to prevent them from working. They perceive work to be good for their children, a sound alternative education process. Even "non-poor" families send their children to work in the diamond industry in India because they believe these jobs are good training ground for their children in order to qualify for relatively well-paying jobs they may

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[67] A similar phenomenon exists in Nepal, where children from the lowest social class–the so-called "untouchables"–are denied the right to attend the same schools as upper-caste children. *See State of the Rights of the Child in Nepal 1998: Country Report Released by CWIN* (Kathmandu: Child Workers in Nepal Concerned Center, January 1998) 18.

[68] "Child Labor in Urban Bolivia" at 127.

[69] *Ibid.*

[70] *State of the World's Children* 1999 (New York: UNICEF, 1999) 41.

[71] Alec Fyfe, *Child Labor* (Oxford: Polity Press: 1989) 12, 28.

[72] C. Turbay and E. Acuña, "Child Labor and Basic Education in Colombia" in M. Salazar, W. Glasinovich, eds., *Child Work and Education: Five Case Studies from Latin America* (Florence: UNICEF International Child Development Center, 1998) 41 [hereinafter *Child Work and Education*].

[73] D. Levison, R. Anker, S. Ashraf, and S. Barge "Is Child Labor Really Necessary in India's Carpet Industry?" in *Child Labour in Hazardous Industries of India* at 99.

Photo by: Gregory K. Schoepfle

obtain as adults.[74] One study in Ecuador also found that work was considered an educational opportunity for the young. Parents saw it as an opportunity for children to learn a skill or trade and to acquire a sense of responsibility. Parents defended child work as being instructive, teaching children to be responsible and to appreciate the value of things and the effort required to obtain them. Other parents believed that work enabled the young to learn an occupation or trade with which to support themselves as adults.[75] While in Brazil, one study concluded that some adults still consider child labor to be a part of the socialization process and a form of education.[76]

These attitudes may be a reflection of other barriers a family faces. Concerns regarding the family's economic options or the quality of the educational opportunities can lead families to the belief that their child is better off working than going to school. Regardless of its validity, however, this perception can become another barrier to be overcome.

4. Restricted Access to Credit

When seeking a loan, a borrower can go either to a *formal* lender, such as a bank, or to a variety of *informal* lenders, such as a landlord, a merchant, or an employer, whose primary activity is not lending money. In developing countries, especially in rural areas, poorer families whose children are at risk of child labor frequently have difficulty gaining access to formal lenders. Banks in developing countries often do not maintain networks in rural areas, leaving residents of these areas with access only to informal lenders.[77] Additionally, banks are less likely to lend small amounts of

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[74] *Child Labour in Hazardous Industries of India* at 20.

[75] Maruicio García-Moreno, "Child Work and Education in Ecuador" *in Child Work and Education* at 91 .

[76] I. Rizzini, I. Rizzini, F. Borges, "Brazil: Children's Strength is Not Their Work,"in *Child Work and Education* at 35.

[77] Correspondence from Bernd Balkenhol, Head, Social Finance Unit, Employment Sector of the International Labor Organization to U.S. Department of Labor Official (November 12, 1999) [document on file].

money to borrowers because small borrowers often have insufficient collateral; are unable to demonstrate an ability to repay loans; and may be seen as one-time borrowers who might be less concerned about failing to repay a loan since they have no intention of borrowing again in the future. Furthermore, legal means to punish small borrowers for nonpayment may be ineffective or nonexistent.[78]

Because formal lenders are unavailable or unwilling to lend to poor, rural families, in many instances, the only option available to such families is to turn to informal lenders. To see what families are up against if they seek to borrow from such informal lenders, however, consider Table III-1. The table presents interest rates offered on loans by formal and informal lenders in a selected sample of countries. Informal interest rates range from 1.6 (Vietnam) to 33.3 (Nigeria) times greater than formal ones. As the table suggests, lack of access to formal lenders makes borrowing an expensive proposition and undoubtedly discourages it for many families who end up sending their children to work.

Restricted access to credit can be related to child labor in several ways: making it more difficult for families to find ways to afford schooling for their children; restricting families from pursuing possible income generating activities; and making extreme forms of indebtedness such as bonded labor more likely.

If families do not have the opportunity to borrow, they are forced to pay educational expenses for their children out of their current income or wealth. The more limited these sources, the less likely it is that their children will go to school and the more likely that they will work. If a family expects an investment in a child's education to be profitable, they might want to borrow to cover schooling costs. Unfortunately, borrowing to pay educational expenses may simply not be an option available in many developing countries.[79] Furthermore, if families have to pay extremely high interest rates on loans taken out from the informal sector, it is unlikely that most will view education as a profitable enough investment to justify the expense.[80]

If credit is not available, families cannot borrow to finance activities such as small businesses. Such enterprises are a potential source of future income for families that could allow them both to support themselves without sending their children to work and to pay the out-of-pocket costs of schooling. In fact, informal sector interest rates discourage many forms of investment. Lack of access to formal sources of financing has been identified as a restraint on small enterprise creation and growth in many countries.[81] There is concern that women in particular lack access to financing.[82] If families cannot borrow at rates that allow them to pursue profitable income-generating activities, one route out of poverty is closed off to them. Earlier in the chapter, low family income—particularly a mother's income—was identified as a possible determinant of whether children work. It follows that any restriction of opportunities to generate income may also be related to child labor. Lack of access to credit, or access to credit only on terms that make it effectively unavailable, clearly represents one example of such a restriction.

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[78] Inter-American Development Bank, *Facing Up to Inequality in Latin America* (Baltimore: Johns Hopkins University Press, 1998) 167-168 [hereinafter *Facing Up to Inequality*].

[79] M. Woodhall, "Designing a Student Loan Program for a Developing Country: The Relevance of International Experience," *Economics of Education Review*, 7 (1) 1 (1988) 153-61; and Lars Ljungvist, "Economic Underdevelopment: The Case for Missing Markets for Human Capital," *Journal of Development Economics*, 40 (2) (April 1993) 220. *See also*, Priya Ranjan, "An Economic Analysis of Child Labor," *Economics Letters* 64 (1999) 99-105.

[80] *See* Appendix A.

[81] For a review of evidence from Latin America example, *see Facing Up to Inequality* at 166.

[82] *Ibid.* at 164. *See also Social Finance Unit Annual Report 1998: The Social Dimension of Poverty Alleviation, Employment and Social Integration* (Geneva: International Labor Organization, 1998).

TABLE III-1

Formal and Informal Interest Rates in Selected Countries[a]

Country	Informal Interest Rate (%)	Formal Interest Rate (%)	Informal/ Formal
Africa			
Ethiopia	70	12	5.8
Ghana	70	6	11.7
Ivory Coast	150	10	15.0
Nigeria	200	6	33.3
Sudan	120	7	17.1
Sierra Leone	75	12	6.3
Asia			
Afghanistan	33	9	3.7
India	25	9	2.8
Indonesia	40	14	2.9
Jordan	20	7	2.9
Malaysia	60	18	3.3
Pakistan	30	7	4.3
Philippines	30	12	2.5
Republic of Korea	60	6	10.0
Sri Lanka	26	5	5.2
Thailand	29	9	3.2
Vietnam	48	30	1.6
Latin America			
Bolivia	100	9	11.1
Brazil	60	15	4.0
Chile	82	14	5.9
Colombia	48	24	2.0
Costa Rica	24	8	3.0
El Salvador	25	10	2.5
Haiti	140	15	9.3
Honduras	40	9	4.4
Mexico	60	10	6.0

[a] All Rates are Nominal Interest Rates.

Source: S. Haggblade, C. Liedholm, and D. C. Mead, *The Effect of Policy and Policy Reforms on Non-Agricultural Enterprises and Employment in Developing Countries: A Review of Past Experiences,* E.E.P.A. Discussion Paper No. 1 (Washington, D.C.: U.S. Agency for International Development, March 1986) 21.

Finally, if credit is available only on the most exorbitant terms, families that avail themselves of it may find themselves at risk of bonding their children into labor. The effect may actually be to ensure child labor rather than avoid it. *Debt bondage* occurs when labor is pledged in return for a loan.[83] Landless households in impoverished rural areas may become vulnerable if they are unable to meet their daily needs with their current resources. In some cases, parents may pledge their own labor or their children's for an indefinite period of time. Lacking in education and negotiating power, they may agree to terms that include low wages, high interest rates, or both. The net effect is that it becomes impossible for them ever to pay-off the loan. Even if only the parent's labor was originally pledged to work off the loan, the responsibility can eventually be inherited by their children and passed on to subsequent generations.[84] In situations such as these, lack of access to formal credit markets does not just keep families from making themselves and their children better off, it actually forces them into situations that make them worse off.

D. Availability of Work

The discussion so far has focused on why children are made available for work. But in order for child labor to exist, work must also be available for children. It is useful then to consider the factors that create work for children. Two questions are addressed: (1) do employers profit from employing children instead of adults; and (2) what is the role of technology in creating work for children?

Photo by: Marcia Eugenio

[83] *See also* Box III-1.

[84] *By the Sweat and Toil of Children, Volume II: The Use of Child Labor in U.S. Agricultural Imports and Forced and Bonded Child Labor* (Washington, D.C.: U.S. Department of Labor, 1995) 81-82.

1. Profits from employing children

One argument frequently made to explain the existence of child labor is that firms employ children because they are a "cheaper" source of labor than adults. While it is generally observed that children are paid less than adults, even when they perform the same jobs, it is not clear why.[85] There are two competing theories that explain why children's wages are generally less: a) children's productivity and quality of work are lower than that of an adult, or b) children are easier to exploit.

If children produce at a slower pace or at a lower quality than adults because of less skill, experience, education, stamina, or dexterity, the wages paid to children should be lower. If children earned as much as or more than adults, the firm would be better off employing only adults, who for the same cost, would produce more or at a higher level of quality. This suggests that child labor can only exist if the wage paid to children is lower than that of adults by at least enough to offset the productivity differences.[86] For example, if wages are paid on an hourly basis, and if under identical conditions, a child making a carpet can stitch *half* as many knots of identical quality as an adult in one hour, the employer would only hire the child at a wage equal to or less than *half* that received by the adult.

But lower wages are not the only factor explaining demand for child labor. Children may be compensated less for their work than adults in other ways. Children are often described as more compliant than adults in the workplace. They are less likely to complain about poor working conditions or to organize to improve them. Insomuch as this reduces an employer's expenditure on workplace conditions, employment of children may be less costly. This argument suggests that even if children are equally productive, children will be paid less than adults. Another factor worth consideration is that absenteeism among child workers tends to be lower than among adults.[87] These factors increase incentives for firms or employers to hire children, but they also demonstrate the inherent danger to children of being exploited in the workplace.

Both of these explanations lead to the prediction that children will be paid less than adults. In the first case, firms are not necessarily exploiting children, but merely treating them as other low-skilled workers. In the second case, employers may prefer to hire children precisely because they can exploit them and earn more profit. While it is not possible with the current research to determine the extent to which either or both explanations are true, it is certain that simply analyzing the difference between the wages of children and adults does not show whether employers prefer to employ children.

2. Technology and Child Labor

a. Children as suited to certain forms of work

Usually, the superiority of children for certain jobs is identified as related to physical attributes such as size or agility. For example, boys are portrayed as superior to men for work in mines or as chimney sweeps because their size makes it easier for them to maneuver in small spaces. Similarly, children are portrayed as more desirable

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[85] A. Bequele and J. Boyden, eds., *Combatting Child Labor* (Geneva: ILO, 1988) as cited in "Child Labour: An Economic Perspective" at 195.

[86] "Economics of Child Labor" at 416-419.

[87] D. Levison, R. Anker, S. Ashraf, and S. Barge, "Is Child Labour Really Necessary in India's Carpet Industry?" in *Child Labour in Hazardous Industries of India* at 100 [hereinafter "Is Child Labor Really Necessary?"].

Photo by: Roger Kramer

than adults for the work of weaving high quality carpets because their "nimble fingers" make it possible for them to tie smaller, tighter knots.[88]

Available evidence appears to go against the notion that child labor exists because children possess special attributes that makes them superior to adults for some types of work. For example, a study of the Indian carpet industry found that children did not weave a higher proportion than adults of carpets with the difficult designs that require tighter knots. Children, in fact, did not dominate any particular difficulty level of the industry's carpet production.[89]

Studies of other Indian industries reinforce the notion that children do not possess unique attributes that make them better suited for certain occupations or tasks than adults. In India's glass industry, an argument is sometimes made that children are essential to production because their small size enables them to move about the glass factory faster and with greater ease than adult workers. A study of the glass industry in Uttar Pradesh, however, found that rather than being unique in the work they performed, children worked alongside adults. It demonstrated that children generally performed the lowest skill jobs, where worker substitution could most easily occur.[90]

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[88] "Child Labour: An Economic Perspective" at 195-196.

[89] The survey included data from the two districts in India (Uttar Pradesh, and Mirzapur and Sonbhadra) in which 80 percent of India's carpets are produced. "Is Child Labour Really Necessary?" at 95, 108-115.

[90] S. Barge, R. Anker, S. Ashraf, and D. Levison, "Child Labour in Glass-Bangles Industry of Ferozabad—Uttar Pradesh: An Economic Analysis" in *Child Labour in Hazardous Industries of India* at 63-64.

Children are also thought to be better suited for diamond polishing because the work requires acute eyesight; however, a study of India's diamond industry also found children working alongside adult workers in all stages of diamond processing.[91] In India's gem stone industry, a study found that a majority of children performed unskilled work where they could easily be replaced by adult workers, and in fact, many adults were engaged concurrently in these tasks with working children.[92] In the granite and limestone industries of India's Andhra Pradesh state, children perform mainly low skill, manual labor that could be done easily, and equally well, by adults.[93]

If employment of children cannot be traced to children possessing unique attributes or skills, then working children should be considered to be part of the same pool of labor as adult workers. In the cases described above, children and adults function as replacements for one another. Children are not irreplaceable in these work environments. Rather, like adults, children are found working where their skill level allows them to contribute to the earnings of their employers.

b. Children as unskilled labor

Children may work because the prevailing organization of production requires a large pool of unskilled labor and the pool of available adult laborers is not large enough to meet this requirement. This is often the case in agricultural areas during peak labor seasons, such as planting or harvesting. In other cases, unskilled labor in the form of children may come as a sort of "package deal" when parents are employed in a job. Parents may bring children to work because they lack schooling or child care options and cannot afford to miss work to care for their children themselves. According to an ILO/IPEC survey of Southeast Asian manufacturing industries, employers explained the employment of child labor as driven, not by lower costs associated with children's wages, but rather, by the relative abundance of child workers and the resulting ease involved in hiring them.[94]

If child labor can be traced to a work organization that makes use of an abundance of unskilled labor, then technological change that replaces unskilled labor with machines or skilled workers should reduce child labor. During the industrial revolution in the United States and Great Britain, the introduction of machines for spinning and weaving brought about a decreased demand for child labor.[95] The green revolution in India brought about a variety of labor-saving changes in agriculture that led to a decrease in child labor and an increase in school attendance.[96] Similarly, a fall in child labor has been linked to the expanded use of tractors and modern irrigation techniques in Egyptian agriculture.[97] In the Philippines, the introduction of electricity in a commu-

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[91] The survey focused on certain sections of Surat city where the diamond processing industry is centered. Ranjana Kolhe Saradhi, "Economics of Replacing Child Labour in Diamond Industry of Surat" in *Child Labour in Hazardous Industries of India* at 82-83.

[92] The survey focused on gem stone processing in the city of Jaipur. Nisha Lal, "Economics of Eliminating Child Labour in Gem Stone Industries" in *Child Labour in Hazardous Industries of India* at 159-161.

[93] G. Mohan Kumar, "Child Labour in Mosaic Chip Industries and Limestone Kilns in Kurnool District of Andhra Pradesh" in *Child Labour in Hazardous Industries of India* at 189.

[94] In 1995-1996, ILO/IPEC's South-East Asia Office in Bangkok collaborated with the ILO's Manila-based Multidisciplinary Advisory Team for South-East Asia and the Pacific (SEAPAT) on "A survey of child labour in South-East Asian manufacturing industries." The survey included studies of the informal manufacturing sectors for garments, rattan furniture, footwear, and gemstone polishing. *See Programme to combat Child Labor in the Footwear sector in South-East Asia (Indonesia, the Philippines and Thailand) (Phase II):* Multi-bilateral Programme of Technical Cooperation (Geneva: ILO/IPEC, October 1993) 3.

[95] D. Galbi, "Child Labour and the Division of Labour" (Cambridge, U.K.: Kings's College Centre for History and Economics, 1994) as cited in "Child Labour: An Economic Perspective" at 196.

[96] Mark R. Rosenzwieg, "Household and Non-Household Activities of Youths: Issues of Modelling, Data and Estimation Strategies," in G. Rodgers and G. Standing, eds., *Child Work, Poverty and Underdevelopment* (Geneva: International Labor Office, 1981) as cited in "Child Labour: An Economic Perspective" at 196.

[97] Victor Levy, "Cropping Pattern, Mechanization, Child Labour, and Fertility Behavior in a Farming Economy: Rural Egypt," *Economic Development and Cultural Change* 33(4) (1985) as cited in "Child Labour: An Economic Perspective" at 195-196.

nity has been associated with a fall in child labor in market-based activities, and the availability of electricity in homes has similarly led to a reduction in time spent in home production.[98] And in Bogotá, Colombia, the use of children in the quarries was reduced after the introduction of wheelbarrows eliminated the need for carrying stones one at a time.[99]

E. Conclusions

This chapter discussed different possible explanations for why children work. The purpose of this discussion was to lead up to an explicit identification of the barriers to the removal of children from work and their increased participation in school. It should be kept in mind that not all barriers operate in all contexts. The anecdotal nature of the evidence examined in this chapter suggests that child labor in one country may be traced to a totally different set of barriers than child labor in another country.

1. Barriers Related to a Poverty of Resources

Financial poverty, which was defined as a family's inability to survive financially without child labor, is associated with a number of barriers to lowering or eliminating child labor and increasing enrollment of children in school:

- Inability of parents to support their families from their own earnings or wealth;
- Inequality in the distribution of income or resources;
- Lost income from children not working, or high out-of-pocket costs to their schooling, or both;
- The use of child labor as insurance against interruptions in the earnings of other members of the household; and
- A cycle of poverty within a family resulting from repeated generations of children working instead of going to school.

2. Barriers Related to a Poverty of Opportunities

Another set of barriers to the removal of children from work and enrolling them in school can be traced to a lack of alternatives to work for children or groups of children:

- Inaccessible schools;
- Low quality schools or education that is of little relevance;
- Cultural patterns that prevent or discourage the enrollment of girls;
- Attitudes suggesting that certain ethnic or social class groups are meant to work with their hands while others are more suited to working with their minds;

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[98] D. S. DeGraff, R. E. Bilsborrow, and A. N. Herrin, "The Implications of High Fertility for Children's Time Use in the Philippines," in C. B. Lloyd, ed., *Fertility, Family Size and Structure – Consequences for Families and Children* (New York: The Population Council, 1993) as cited in "Child Labour: An Economic Perspective" at 196.

[99] Maria Cristina Salazar, "Child Labour in Colombia: Bogotá's Quarries and Brickyards," in Assefa Bequele and Jo Boyden, eds., *Combatting Child Labour* (Geneva: International Labor Office, 1988) 51-52, as cited in "Child Labour: An Economic Perspective" at 196.

- Educational instruction carried out in unfamiliar languages that make it difficult for children to grasp the concepts conveyed; and

- Lack of available credit markets.

3. Barriers Related to the Availability of Work

Finally, there are barriers related to the fact that work is available for children to do, and that it would have to be done some other way if child labor were eliminated:

- Children might be "cheaper" to employ than adults because they are more pliable and less likely to resist poor working conditions, although it is still unclear whether or not this is true; and

- Production processes that do not rely on labor saving devices and/or an abundant pool of unskilled labor can create a demand for child labor.

From this chapter's discussion, it is clear that there is no single set of causes of child labor that is operable in all contexts. Rather, the factors that create barriers to the removal of children from work and their enrollment in school can vary from country to country.

Having identified the barriers to moving children from work to school, it is natural to ask what can be done to lower them. The next chapter focuses on this question by describing policy strategies and initiatives that should reduce the incidence of child labor.

BOX III-1

Forced Child Labor

Bonded child labor, the sale of children, and child prostitution are practices that are inherently exploitative and explicitly and internationally recognized as among the worst forms of child labor. Their existence can be traced back to all three classes of causes discussed in the chapter. Financial poverty or a poverty of opportunities can lead families to give up control over what their children do in the belief, usually mistaken, that the employer or landholder to whom they cede control will provide the child with a better life. Once children are controlled by an employer or landholder, however, they are often deprived of opportunities that might have been made available to them if they were free. Finally, the power that the employers or landholders have over their young charges allows them to gain more from those relationships than they would from a relationship with a free worker.

The characteristics of forced child labor can be gleaned from a few examples of how it is practiced in the world today:

- In return for a small loan and believing that their children will be better off in the new situation, some poor families in Benin allow their children to be taken to destinations as far away as Nigeria or Gabon to become domestic servants. The children typically never see their families again. They work from early morning to late at night to pay off the loan, and the costs of the transportation, food, and clothing incurred during their trip.

- Child prostitution, usually the forced prostitution of girls, is a recognized problem in Southeast Asia. "At the root of the commercial sexual exploitation of children in many countries lies poverty—the inability of rural and urban families to support and educate their children. In some cases ethnic origin, cultural practices and social discrimination render children from indigenous populations, minority groups and the lower castes especially vulnerable. They may not speak the same language, they may not have rights to citizenship and education and, once forced into this situation, they are isolated and unable to communicate with the outside world."

- In Burma, soldiers surround schools and take boys away to be porters for the military. The boys are forced to carry ammunition and food supplies to the front lines, sometimes in areas controlled by ethnic minorities. Children are often killed while working as porters and are reported to be treated cruelly.

The above examples confirm that forced or bonded labor situations commonly share the following elements:

- Vulnerability of poor families because of their desperation for survival;

- Vulnerability of certain marginalized social groups because of restricted opportunities;

- Power of the bond holder to exact more from the bonded child worker, or to provide less in the form of wages or in-kind compensation, than what the child or the child's family thought was the original agreement; and

- Some form of compulsion, e.g., beating, control of migration documents, fences, placement in a foreign land, and other barriers to escape, that keeps the child worker from leaving the situation.

The fact that compulsion is a necessary element in the existence of bonded labor or child prostitution suggests that such situations are not in the best interests of the children involved, nor are they necessary to the functioning of the economies in which these practices exist. If the situations bonded children or prostitutes find themselves in were indeed preferable to their old way of life, or to other alternatives they could pursue if they were free, compulsion would not be necessary to keep them in these situations.

Sources: "Convention Concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor" (Geneva: International Labor Organization Convention 182, 1999) Article 3. In June 1999, the convention was unanimously passed by the 174 member nations of the ILO. *Debt Bondage* (London: Anti-Slavery International, 1998) 4-5. Lin Lean Lim, "Child Prostitution" in Lin Lean Lim (ed.) *The Sex Sector: the Economic and Social Bases of Prostitution in Southeast Asia* (Geneva: International Labor Office, 1998) 170-173. *Targeting the Intolerable* at 16-17. *Report on Forced Labor in Burma* (www.dol.gov/dol/ilab/public/media/reports/ofr/burma/main.htm.#CH4). This source contains a comprehensive description of the practice of forced labor, of both children and adults, in Burma. "Practical Action to Eliminate Child Labor" (www.ilo.org/public/english/90ipec/conf/oslo/act_bg.htm). Kenneth A. Swinnerton, "An Essay on Economic Efficiency and Core Labor Standards," *World Economy* 20 (1) (1997) 77.

Chapter IV: Knocking Down the Barriers

A. Introduction

As discussed in Chapter II, children, their families, and society at large stand to benefit from sending children to school instead of work. Nevertheless, child labor remains a persistent problem in many countries. Chapter III described some of the factors that lead children to work. As the chapter outlined, the causes of child labor can be broadly traced to three main issues: a poverty of resources, a poverty of opportunities, and the availability of work for children. This chapter identifies broad policies and targeted strategies that are indicative of the types of action that can be taken to overcome specific barriers to children leaving work for school. The chapter describes how national and international initiatives seek to address child labor, and at the local level, considers examples of targeted action projects.

Numerous targeted efforts to end abusive and exploitative child labor are supported by governments and NGOs around the world. As illustrated in Volume V of the Department of Labor's *By the Sweat & Toil of Children* series, the importance and value of these efforts cannot be overemphasized.[1] This chapter, however, draws primarily on the diverse experience of one initiative—the International Labor Organization's International Program on the Elimination of Child Labor (ILO/IPEC)—to illustrate how targeted projects can be designed to address various barriers to withdrawing children from exploitative work and placing them in school. The U. S. Department of Labor has funded ILO/IPEC child labor programs since 1995. As such, the focus on ILO/IPEC examples in this chapter draws upon the Department of Labor's significant experience in this area. It is important to note that many other agencies and organizations such as the U.S. Agency for International Development (USAID),[2] the United Nations Educational, Scientific, and Cultural Organization (UNESCO),[3] and the United Nations Children's Fund (UNICEF)[4] are also active in promoting educational opportunities for children in developing regions.

The ILO/IPEC projects described in this chapter generally represent ongoing efforts. Accordingly, it is too early in most cases to evaluate their full impact. Evaluation of the outcomes of these child labor projects is critical for determining which strategies are most effective and which should be replicated in future projects. At present, IPEC is working to enhance its evaluation process with support from the U.S. Department of Labor.

Policies and strategies that target child labor can be carried out at many levels: internationally, nationally, and at the local or project level. This chapter is intended to promote further discussion on the most effective means at each level for addressing the

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[1] *See By the Sweat & Toil of Children, Volume V: Efforts to Eliminate Child Labor* (Washington, D.C.: U.S. Department of Labor, 1998) 51-54, 71-79, 83-108 [hereinafter *By the Sweat and Toil of Children, Volume V*].

[2] USAID supports education activities in over 30 countries, including funding for basic education in support of primary and secondary education. USAID's Center for Human Capacity Development seeks to help countries develop comprehensive policies for improved learning environments and universal completion of basic education with a special focus on improving opportunities for girls, underserved and disadvantaged populations. For further detail, *see* http://www.info.usaid.gov/educ_training/

[3] UNESCO seeks to promote exchange of information on education worldwide by collecting data on education and disseminating it through a network of almost 40 thousand organizations and institutions. Its goals include to "share ideas, encourage innovation and reform, and promote international co-operation in education." For further detail, *see* http://www.unesco.org/

[4] UNICEF carries out programs in over 161 countries, areas and territories, promoting children's access to immunization, routine health services, better sanitation, safe water, and improved schooling. For further detail, *see* http://www.unicef.org/programme/

various barriers that exist to withdrawing children from exploitative work and offering them better alternatives for the future.

BOX IV-1
ILO/IPEC

The International Labor Organization (ILO) created the International Program on the Elimination of Child Labor (IPEC) in 1992 to implement technical cooperation activities in countries with significant numbers of working children. IPEC's objective is to support the progressive elimination of child labor. The program focuses primarily on children working under forced or bonded conditions, children working in hazardous circumstances or occupations, and especially vulnerable children, such as working girls and children under the age of 12.

IPEC seeks to act as a catalyst to sustained and broader action by national actors— governments, worker and employer organizations, and other nongovernmental organizations—against child labor. IPEC attempts to do this by increasing understanding about the extent, nature, and dangers of child labor, and through concrete demonstration projects that seek to withdraw specific groups of children from exploitative work and provide them with educational alternatives. IPEC's demonstration projects are intended as examples to promote broader action within countries. Evaluation of these efforts is critical for ensuring that strategies chosen for duplication or expansion are effective. As part of its efforts, IPEC also seeks to enhance the capacity of local governmental and nongovernmental partners to address child labor. IPEC applies a phased and multisectoral strategy which includes the following steps:

- motivating a broad alliance of partners—governments, worker and employer organizations, and other nongovernmental organizations—to acknowledge and act against child labor;
- carrying out surveys and diagnostic studies to learn about specific child labor problems in a country;
- assisting with developing and implementing national policies to eliminate child labor;
- strengthening existing organizations and promoting the establishment of institutional mechanisms to address child labor issues;
- creating awareness about child labor nationwide, in communities and workplaces;
- promoting the development and application of legislation that protects underage children from exploitative child labor;
- supporting direct action projects to assist child workers or potential child workers;
- replicating and expanding successful projects; and
- mainstreaming child labor issues into a country's socioeconomic policies, programs and budgets.

As an international program, IPEC is unique in terms of the large number of projects it supports, the various countries where it operates, and the types of child labor it addresses. By October 1999, 37 countries had become members of IPEC— Benin, Burkina Faso, Egypt, Kenya, Madagascar, Mali, Senegal, South Africa, Uganda, United Republic of Tanzania, Bangladesh, Cambodia, India, Indonesia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand,

Albania, Turkey, Argentina, Bolivia, Brazil, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Venezuela. When a country becomes a member of IPEC, its government commits itself to develop a national policy and a plan of action to combat exploitative child labor, harmonize national legislation with international standards, and develop the necessary institutional capacity to investigate and address instances of exploitative child labor. In 1999, the U.S. Government, through the Department of Labor, provided nearly $30 million for ILO/IPEC projects and international child labor activities, bringing the total U.S. contribution to the program since 1995 to $37.1 million. The U.S. Government has committed an additional $30 million for international child labor activities, including IPEC, in fiscal year 2000.

Sources: "IPEC at a glance" (www.ilo.org/public/english/90ipec/about/glance.htm). (hereinafter "IPEC at a glance").

IPEC action against child labor: Achievements, lessons learned and indications for the future (1998-1999) (Geneva: ILO, October 1999).

B. Overcoming a Poverty of Resources

> Child labor and poverty are inevitably bound together, and if you continue to use the labor of children as the treatment for the social disease of poverty, you will have both poverty and child labor to the end of time.
>
> *Grace Abbott*
> *First Director of the Department of Labor's Children's Bureau (1924)*[5]

Financial poverty is the most often cited cause of child labor. For many children and their families, a lack of financial resources makes it difficult, if not impossible, to choose school over work. But as Grace Abbott responded during testimony before the U.S. House of Representatives three-quarters of a century ago when similar arguments were being made, poverty is also exacerbated and perpetuated by child labor.[6] As such, the two phenomena cannot be dealt with separately since one inevitably contributes to the other.

There is no one solution to financial poverty. It requires appropriate policies at the international, national, and local levels. This section begins by briefly addressing the potential impact on child labor of macroeconomic policies that promote economic growth. The chapter then provides examples of targeted action projects that seek to address the barriers created by a poverty of resources.

1. Policies for Economic Growth

Macroeconomic policies that seek to promote economic growth can be effective in addressing the most commonly cited cause of child labor—namely, financial poverty. Economic growth can create more and better-paying jobs. This in turn increases household income, making child labor less likely and schooling easier to afford. There is widespread consensus that the most effective long term approach to eliminating child

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[5] U.S. House of Representatives, Sixty-Eighth Congress, First Session: "Proposed Child Labor Amendments to the Constitution of the United States," (Washington, D.C.: Government Printing Office, 1924) Serial 16, p. 268.

[6] *Ibid.*

Photo by: Gregory K. Schoepfle

labor is through poverty reduction.[7] Macroeconomic policies that encourage increased investment and savings and keep inflation low and employment high, can pave the way for economic growth and development.[8] Through the pursuit of sound macroeconomic policies, governments can help lay the necessary foundation to support long-term solutions to the problem of abusive and exploitative child labor. The long-term nature of such policies, however, suggests the need for short-term strategies that can make a difference today in the lives of the millions of children currently working under brutal conditions. Such strategies, particularly when they encourage schooling, can, in turn, promote long-term economic growth. In much the same way that financial poverty and child labor contribute to each other, policies that promote economic growth and reduce child labor can be mutually supportive.

The international community plays an important role in encouraging countries to follow sound macroeconomic policies. Organizations such as the International Monetary Fund (IMF) and the World Bank frequently require countries to implement certain policies as a condition for obtaining financial support. These policies are generally referred to as "stabilization" and "structural adjustment policies" (SAPs) and, in tandem, they seek to correct macroeconomic imbalances[9] and restore the conditions necessary for economic growth. Stabilization policies generally focus on reducing or eliminating balance of payments deficits by reducing government expenditures and devaluing currencies. SAPs generally include components such as reducing barriers to

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[7] P. Fallon and Z. Tzannatos *Child Labor: Issues and Directions for the World Bank* (Washington, D.C.: The International Bank for Reconstruction and Development, 1998) vi, 10 [hereinafter *Child Labor: Issues and Directions*].

[8] For more on the connection between macroeconomic policies, growth, and development, *see generally* World Bank, *World Development 1999/2000 Entering the 21st Century: The Changing Development Landscape* (Oxford: Oxford University Press, 1999).

[9] "Macroeconomic imbalances" may include sizeable domestic budget deficits, balance of payments deficits, and interest and exchange rates which do not reflect market conditions.

foreign trade and investment, removing domestic price controls and subsidies, privatizing and reforming state owned enterprises, and reforming the financial sector.[10]

Critics believe that these macroeconomic policies can have a negative impact on the most vulnerable sectors of society, particularly in the short term. According to UNICEF's 1997 *State of the World's Children Report*, the costs of structural adjustment programs often fall hardest on the poorest members of society, those most likely to resort to child labor. In Zimbabwe, for example, both the government and the ILO have linked the large increase in child labor to structural adjustment programs.[11] In the Republic of Tanzania, the ILO reports that only 15-20 percent of the urban population is benefitting from increased foreign and domestic investment, and only an established upper class and small middle class are achieving higher standards of living. The remaining 80-85 percent has actually experienced a marked decline in living standards, accompanied by growing numbers of children engaged in child labor.[12]

Countries implementing SAPs often cut spending on public education. A recent study of 16 Sub-Saharan African countries undergoing IMF programs found that 12 of these countries had cut public spending on education.[13] The study noted that the IMF's regional program in Sub-Saharan African, the Enhanced Structural Adjustment Facility (ESAF), has been associated with a one percent per year reduction in per capita spending on education by the 24 countries involved. In several countries, including Zambia and Zimbabwe, governments have reduced educational spending by over 20 percent.[14] An IMF study also showed decreases in average annual change in real per capita spending on education and health in many countries in Africa under SAF/ESAF supported programs.[15]

In response to criticism that the poor were suffering disproportionately from the short term costs of adjustment, the Bank and the IMF have put greater emphasis on minimizing adverse effects on the poor, such as by providing for well-targeted social safety nets.[16] The IMF states that "to ensure sustainable per capita income growth and reduce poverty, IMF supported programs have also increasingly provided for an increase in the level and quality of public expenditures in social services, including primary education and health."[17]

This change is reflected in the IMF's description of their structural adjustment policies as generally seeking "to accelerate growth by boosting national savings, achieving and maintaining single digit inflation, accelerating structural reforms, and shifting the composition of fiscal expenditure in favor of health, education, and other priority sectors."[18]

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[10] James H. Weaver, "What is Structural Adjustment?" in Daniel Schydlowsky, ed., *Structural Adjustment: Retrospect and Prospect* (Westport, CT: Preager Publishers, 1995) 8-11 [hereinafter "What is Structural Adjustment?"].

[11] *The State of the World's Children, 1997* (New York: UNICEF, 1996) 28.

[12] "ILO/IPEC Programme in United Republic of Tanzania" (www.ilo.org/public/english/ 90ipec/action/ 33africa/ tanzan98.htm) [hereinafter "ILO/IPEC in Tanzania"].

[13] Kevin Watkins, *The IMF: Wrong Diagnosis, Wrong Medicine* (Oxford: Oxfam International, 1999) 1.

[14] *Ibid*. at 5.

[15] "The IMF and the Poor," Fiscal Affairs Department Pamphlet Series No. 52 (Washington, D.C.: International Monetary Fund, 1998) 10, Figure 1.

[16] "What is Structural Adjustment?" at 15 and *Social Dimensions of IMF's Policy Dialogue*, Pamphlet Series No. 47 (Washington, D.C.: International Monetary Fund, 1995) 2 [hereinafter *Social Dimensions of IMF's Policy*].

[17] *Social Dimensions of IMF's Policy* at 2. Another IMF publication states, "[T]here is an increasing recognition that much more can and should be done in both Bank and Fund supported programs to ensure a better integration of economic policies and social objectives." "Status Report on Follow Up to the Reviews of the Enhanced Structural Adjustment Facility" (www.imf.org/external/np/esaf/status/index.htm) V, 1. [hereinafter "Reviews of Enhanced Structural Adjustment Facility"].

[18] "Reviews of Enhanced Structural Adjustment Facility" at II.

While the debate over the actual impact of these policies on the poorest sectors continues, there is wider agreement that policies for economic growth promoted by international institutions and national governments are not enough. The economic growth that is the goal of these policies does not in and of itself ensure that poor households will be made better off. According to the World Bank,

> Vital to achieving progress against harmful child labor are (i) effective efforts to reduce poverty generally and (ii) the economic and social policies, programs and results that are the underpinning for success in poverty reduction. *But these broad measures, while important, take time and are not sufficient by themselves. Additional actions focused specifically on child labor per se are also needed* (Emphasis added).[19]

Because the benefits of macroeconomic policies may not directly reach working children during their school years, a need may exist for targeted strategies that help the families of working children earn enough income in the short term to be able to afford schooling for their children. The next section provides examples of several targeted projects that seek to address the financial poverty that affects working children and their families.

2. Targeted Strategies for Addressing A Poverty of Resources

Families of working children frequently resort to child labor to supplement household income to meet their family's basic needs. To help alleviate such extreme economic need, targeted projects employ a number of strategies. Some projects provide skills training for families with working children or promote alternative income generating activities that aim to reduce reliance on income earned by children. Other projects provide direct subsidies to families that withdraw their children from work in the form of stipends, scholarships, or school meal programs.

a. Alternative Income Generation

Alternative income generating opportunities can take many forms. Projects may provide skills training for adult family members or assist families in acquiring income producing assets, such as livestock, in order to help these families generate income without relying on children's labor.

- In Guatemala, an IPEC project targeting children at work in stone quarries trained approximately 60 families in income generating activities.[20] Families were shown how to earn income through activities such as sewing, running a

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[19] *Child Labor: Issues and Directions* at vi. The World Bank stresses this point again noting that poverty reduction is "a lengthy process that, even when successful, will in practice tend to raise the incomes of the poor unevenly, thus leaving room for a substantial incidents of child labor for some time to come." *Ibid.* at 10.

[20] In the stone quarries of Retalhuleu, Guatemala, children as young as five work chipping stones into pieces and carrying heavy loads on their backs to transport areas. Since quarries pay low wages, children are often forced to work long hours to help their families. These children face risks such as the loss of eyesight, bronchitis and other lung diseases, skin diseases, and the loss of limbs. If accidents occur, prompt medical attention is rare since hospitals and medical centers are often located miles away from the stone quarries and transportation is seldom readily available. Few children attend school, and many are illiterate. In part, this is because schools are located far away and the school curriculum is frequently inadequate." *See Informa Ejecutivo: Programa de Acción Local Niñez Trabajadora Picondo Piedra—Retalhuleu, Guatemala* (Guatemala City: ILO/IPEC, July 1999) 2-4 [hereinafter *Programa de Niñez Trabajadora Picondo Piedra—Retalhuleu, Guatemala*].

bakery, and starting a stone chipping business.[21] The project also provided families with training in administrative, accounting, and marketing techniques.[22]

- In Peru, an IPEC project targeting children working in the gold mining industry[23] supported income generating activities in a number of ways. In the community of Mollehuaca, the project trained women in jewelry making and weaving.[24] In Santa Filomena, the project bought kneading machines and ovens for a local women's group. The project trained members of the group to use the machines and helped them start a bakery. As a result, the members of the group prepare bread daily, supplementing their families' diets and at the same time increasing their income through sales of baked products.[25]

- In the Brazilian state of Bahia, a project begun in 1996 by IPEC in collaboration with the Union of Rural Workers of Retirolândia provided goats to families that agreed to send their children to school instead of work. The project provided over 60 goats to approximately 30 families that had previously relied on income earned by their children working in the sisal industry. The project trained families to breed goats, and as part of the arrangement, parents agreed to use goat milk to feed their children. Families earned income from the livestock, offsetting income previously earned through child labor. The project helped more than 100 children leave hazardous work in the sisal industry and attend school.[26]

- In Bangladesh, a project targeting children working in the garment industry[27] supports income generating activities for the families of working children. Currently, the project provides adult family members with three to six months of training in skills such as basic tailoring, carpentry, electronics assembly, and motor vehicle maintenance.[28] Projects are also being planned that will provide potential entrepreneurs with training on how to start small-scale businesses.[29]

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[21] *Combating Child Labour in Central America*, Programme Report (Geneva: ILO/IPEC, April 1999) 5 [hereinafter *Combating Child Labour in Central America*].

[22] *Local Familias Piedrineras Retalhuleu, Ficha de Seguimiento de programa de acción* (Geneva: ILO/IPEC) Response to DOL follow up questions (San Jose: ILO/IPEC Nov. 1999) [hereinafter *Local Familias Piedrineras Retalhuleu*].

[23] In Peru, as many as 100,000 children and adolescents may be involved in the mining industry. They carry food and tools, assist in drilling and blasting operations, work with mercury in the amalgamation process, and haul heavy loads of ore from deep in the mine's interior. The work places their health at risk daily and prevents many children from attending school. *Program to prevent and eliminate child labor in small-scale traditional mining in South America,* Project Document (Geneva: ILO/IPEC, 1999) 2 [hereinafter *South America Mining Project Document*].

[24] U.S. Embassy - Lima, unclassified telegram no. 03383, June 3, 1999 [hereinafter Lima telegram no. 03383].

[25] *Programa de erradicación del trabajo infantil en el caserío minero artesanal Santa Filomena* (Lima: CooperAcción con el apoyo de ILO/IPEC, 1999) 49 [hereinafter *Programa, Santa Filomena*].

[26] *Prevenção do trabalbo Infantil: Experiência do Sindicato dos Trabalhodores Rurais de Retirolândia* (Retirolândia/ Bahia: Sindicato dos Trabalhodores Rurais de Retirolândia, 1996) 7.

[27] In Bangladesh, the garment industry has grown dramatically over the past twenty years, from fewer than 50 factories and 10,000 employees in 1983 to over 2,500 factories and 1.4 million employees in 1998. Unfortunately, part of this growth was based on the labor of children. As reports from various agencies documented the widespread use of child labor in this sector, Bangladesh's garment industry came under increasing pressure to address the problem. On July 4, 1995, the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), the International Labor Organization, and UNICEF signed a Memorandum of Understanding to take actions to eliminate child labor in this industry.

[28] Electronic correspondence from Rijk Van Haarlem of the ILO to U.S. Department of Labor Official (October 27, 1999) [hereinafter Electronic correspondence, Van Haarlem, October 27, 1999].

[29] *Ibid*. *See also* "Progress Report BGMEA/ILO/UNICEF, Child Labor Project, January-June 1999" (7/13/99) 14 [document on file][hereinafter "BGMEA progress report, July 1999"].

- Working with IPEC, the Development Foundation of Turkey (DFT) trained the families of 56 boys in income producing activities such as beekeeping, turkey breeding, and greenhouse agriculture. [30] Prior to the start of this project, these boys had been rented out to affluent families for periods of up to five months to herd livestock, work with tobacco, and do chores such as cutting wood.[31] The additional income earned from the IPEC initiated activities helped replace—and in many cases even exceeded—the income previously earned through the renting out of children.[32]

b. Subsidies

Subsidies are another way in which child labor projects can try to encourage and enable families with limited resources to choose school over work for their children. This form of economic incentive is intended to make education more affordable by directly offsetting income lost when children leave work to attend school. Some subsidies come in the form of direct payments—or stipends—to families that transition their children from work to school. Others include tuition scholarships and school meal programs that help offset the costs associated with sending children to school.[33] Debate remains, however, about the effectiveness and efficiency of such incentives, as illustrated by the following IPEC examples.

- In India, an IPEC-supported project initially used stipends, but ultimately determined that they were not essential for achieving the project's goals. IPEC found that incentives did not always reach the desired target group. In some cases, financially better-off parents actually sent their children to work so that they could take part in IPEC's project and gain financially from stipends intended for lower income families.[34]

- In Brazil, an IPEC-supported project initially used stipends to provide assistance to children working on sugar cane plantations. During the project's first six months, children received a monthly stipend equal to US $30. Overall, the project succeeded in enrolling 330 children in public schools, but IPEC decided to end the stipend component because it was considered unsustainable without IPEC support. The project instead focused on income generating activities for families, vocational training for children over 14 years, and the strengthening of NGO capacity to administer the project—activities IPEC saw as having impacts lasting beyond the length of the project.[35]

- In Indonesia, a project provided former working children with school meals. IPEC found, however, that nonformal education centers[36] that provided free

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[30] Interview with Sule Caglar, Director, ILO/IPEC Ankara, by U.S. Department of Labor official (April 23, 1998). Interview with Ahmet Saltik, Coordinator for Rural Development, and Nilufer Dersan, Economist, Development Foundation of Turkey, by U.S. Department of Labor official (April 30, 1998). *See also Vocational Training for Rural Child Labour: Final Output Report* (Ankara: Development Foundation of Turkey, 1996) 2.

[31] *Child Labor in Rural Turkey: The Example of Dura_an* (Ankara: ILO/IPEC-DFT, undated) [information sheet on file].

[32] Electronic correspondence from Sule Caglar, Director, ILO/IPEC Ankara, to U.S. Department of Labor Official (September 3, 1998).

[33] School meal programs have the added benefit of improving the health of children that participate in these programs.

[34] *Implementation Report: Review of IPEC Experience 1992-1995* (Geneva: ILO/IPEC, 1995) 19 [hereinafter *IPEC Implementation Report 1992-1995*].

[35] *IPEC in action across four continents,* Fact Sheet (Geneva: ILO/IPEC, January 1997) 2.

[36] In many cases, working children may be unable or have difficulty in transitioning directly into *formal* school settings. They may be unfamiliar with the expectations of a formal classroom or be much older than other students at their grade level. *Nonformal* education, in such instances, may help to bridge the gap between working children and schooling. Nonformal education may include drop-in centers or mobile educational units, and may provide for flexible schooling hours or specialized curriculum geared to the needs of working children. *See* N. Hapsels and M. Jankanish, *Action against child labour* (ILO-IPEC, Geneva, 1999) 175, 181 [unpublished].

meals became competition for the formal schools that did not have any food programs for children. Children already enrolled in formal schools actually began switching to nonformal schools because of the meal program.[37]

These examples illustrate some of the potential weaknesses of subsidies as a strategy. In general, subsidies may require a long-term commitment to be effective, perhaps until children complete their educational requirements. Partnerships with either government or other local partners may be needed to ensure such financial assistance can be continued until children complete educational requirements. Similarly, restricting the provision of economic incentives to families with working children may actually encourage poor families whose children do not work to send their children into the workforce in order to gain access to such programs. To avoid this, subsidies may need to be made more widely available, for example, by offering them to all poor families.

Photo by: Amity Bednarzik

C. Overcoming A Poverty of Opportunities

While financial poverty creates formidable barriers to educating working children, children may also work because they lack alternatives. Effectively addressing child labor means not only withdrawing children from work, but ensuring that alternatives to work exist and are accessible to these children. This section provides examples of policies and strategies that seek to broaden the opportunities available to children and their families. It begins by considering the impact that national education policies can have in promoting schooling as the best option for children. It then describes several targeted projects that seek to increase opportunities for working children and their families.

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[37] *IPEC Implementation Report 1992-1995* at 19.

1. National Education Policies

At a national level, education policies can play an important role in making primary schooling a more attractive and accessible option for families. Laws or policies that establish primary education as universal and free promote schooling and provide alternatives to children withdrawn from work. The argument is often made, in fact, that efforts to eliminate child labor in a country can only succeed once primary education has been made mandatory.[38] In addition, as discussed in Chapter II, since returns to schooling are likely to accrue not only to individuals but to society more generally, governments have a vested interest in ensuring that investments in primary education occur.

There also needs to be consistency between national laws that establish schooling requirements and child labor laws since discrepancies can create loopholes that may actually encourage children to work. For example, if children in a given country are required to stay in school through the age of 15 but can legally begin full time work at age 14, they may be encouraged to join the workforce early, neglecting their studies or dropping out of school altogether. By contrast, consistent schooling and minimum work age laws can actually reinforce one another and support the goals of reducing child labor while promoting schooling.[39]

Public funding for education can make schooling more accessible for families, particularly those in financial need who would find it most difficult to afford tuition and other school related fees. While national spending on education does not necessarily indicate a country's relative success in promoting children's education, it does provide a reflection of the emphasis a country places on education as a national priority and can provide a measure of a country's commitment to policy objectives such as achieving universal primary education. Table IV-1 presents recent indicators on educational expenditures for sixteen countries.[40] As the table indicates, funding for education varies widely across countries.

Funding levels offer one indicator of national priorities, but *where* educational funding goes—for example, which educational levels and which educational needs are made priorities—can also determine its effect on children and their families. Directing more resources toward primary education can have an important impact on child labor. In many countries, building schools in rural areas can provide rural children with their first opportunity to attend school. Programs that enhance the quality and relevance of instruction through teacher training, meanwhile, can help make school a more valuable and attractive option for many children and their families.

While national policies are important for creating an environment supportive of schooling, the barriers that working children face are often difficult to overcome without more focused strategies. The next section considers examples of targeted projects that aim to make schooling more accessible for working children.

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[38] According to UNICEF Executive Director Carol Bellamy, "If you provide a community with universal primary education, you essentially immunize it against the worst excesses of child labour. When children are in school, they're simply not available to the most pernicious forms of child labour." *See* "Schooling seen as solution to child labour," UNICEF Press Release (September 3, 1999) (www.unicef.org/newsline/99pr36.htm). *See also* A. Bequele and W. E. Myers, *First Things First in Child Labour: Eliminating Work Detrimental to Children* (Geneva: ILO/UNICEF 1995) 123. *By the Sweat and Toil of Children, Volume V* at 55-79, 112.

[39] *By the Sweat and Toil of Children, Volume V* at 56-60.

[40] *Ibid*. at 64.

TABLE IV-1

Educational Expenditures for Selected Countries

Country	*Public expenditures on education as a % of GNP (1993-97)[a]*	*Education spending as a % of total government expenditures (1993-97)[a]*	*Primary school spending as a % of total public education expenditures (1990-97)[a]*
Bangladesh	2.9	9	45
Brazil	5.5	15	50
Egypt	4.8	15	67
Guatemala	1.7	18	56
India	3.4	12	40
Kenya	6.6	17	59
Mexico	4.9	23	41
Nepal	3.1	14	49
Nicaragua	3.6	12	66
Pakistan	3.0	8	48
Peru	2.9	19	18
Philippines	3.1	15	48
South Africa	7.9	24	42
Tanzania	5.0	11	42[b]
Thailand	4.1	20	50
Turkey	2.2	15	43

Source: By the Sweat and Toil of Children, Volume V at 64.

Notes: [a] Each estimate refers to the most recent available estimate within the time range indicated.
[b] Estimate for 1989.

2. Targeted Strategies for Addressing a Poverty of Opportunities

a. Increasing Access to Schools

In many communities, especially in rural areas, schools are not easily accessible. Lack of schools or inadequate school facilities can leave children with few options to child labor.

- In Retalhuleu, Guatemala, schools were located far away from quarry sites where children lived and worked, and school curriculums were often inadequate. Children who worked in the stone quarries seldom attended school and were often illiterate. An IPEC funded project targeting these children used mobile educational units set up near the quarry sites to reduce the distance children needed to travel to attend school. The project provided children with

nonformal education and skills training. In addition, depending on their economic need, some families receive financial support to facilitate school attendance.[41]

- In the gold mining town of Mollehuaca in Peru, children could not attend secondary school because the nearest school was twelve kilometers away. To overcome this obstacle, an IPEC supported project acquired a van that now carries children from the town of Mollehuaca to secondary school every day.[42] The projects also provided scholarships for approximately 500 school age children in the community of Mollehuaca to help make education a more affordable option for families.[43]

- In India, IPEC works in collaboration with an Indian trade union, the Rashtriya Khan Mazdoor Union (RKMU), to support a project combating child labor in stone quarries and brick kilns through the building of schools. In the stone quarries of Faridabad, one reason children accompanied their parents to work was a lack of schools close to the quarries.[44] As part of this project, RKMU set up six schools in the stone quarries of Faridabad and two schools at the brick kilns of Lohari in Meerut District of Uttar Pradesh. The project also appointed teachers, supplied educational materials, and supplemented the nutritional needs of children enrolled in the program. During the project's first phase, RKMU withdrew 327 children from hazardous work, provided them with nonformal education for eight months, and helped them transition into regular schools. During the project's second phase, another 300 children were withdrawn, and these children are now participating in nonformal education programs.[45]

b. Raising the Quality and Increasing the Relevance of School

Ensuring working children access to school is a critical first step to transitioning them from work to school, but what those children are exposed to *while in school* is at least as important as helping them to get there. Schooling that is of poor quality or that lacks relevance to children's lives may not be considered a worthwhile investment either of children's time or of a family's limited financial resources.[46]

To enhance school quality, many targeted projects support the training of teachers, often placing particular emphasis on the special needs of working children.

- In India, the M. Venkatarangaiya (MV) Foundation, with government funding and the support of various organizations including IPEC, supported teacher training workshops that addressed specific problems faced by working children.

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[41] The program also provided income generating alternatives to families, medical services, and built the capacity of 13 communities involved to take action against child labor. "Guatemala: Programme success for removing children from stone quarries" IPEC Fact Sheet 20 (Geneva: ILO/IPEC, July 1999).

[42] *Programa de Eradicación del Trabajo Infantil en la Comunidad Minera Artesanal de Mollehuaca* (Lima: Agencia Espa_ola de Cooperación Internacional and IPEC, 1999) 38.

[43] Lima telegram no. 03383; *see also South America Mining Project Document* at 2.

[44] Work in the stone quarries involves stacking stones, loading stones, and breaking stones into pieces. Children performing such work regularly inhale dust and are sometimes injured when hammers are accidentally dropped or when stone pieces splinter. Under India's Child Labor (Prohibition and Regulation) Act of 1986, stone quarrying is considered a hazardous occupation. Electronic correspondence from M.P. Joseph, ILO/IPEC, to U.S. Department of Labor official (December 9, 1999).

[45] Electronic correspondence from M.P. Joseph, ILO/IPEC, to U.S. Department of Labor official (December 9, 1999). *See also* "Children in Mining and Quarries," fact sheet from *Abolishing Extreme Forms of Child Labour*, (Geneva: ILO/IPEC, 1998).

[46] *The State of the World's Children 1999* (New York: UNICEF, 1998) 8-9.

Photo by: Shirley J. Smith

The workshops aimed to make education more relevant for children attending schools for the first time.[47] The MV Foundation also sought to make instruction more relevant for children enrolled in its "bridge camp." The camp teaches all of the subjects prescribed by the government, but involves children in developing the curriculum. Children help steer lessons to topics which they find particularly interesting, enjoyable, and useful.[48]

- In Guatemala, IPEC's stone quarries project has sought to improve the quality of education children receive by providing training to over 700 local teachers.[49]

c. Overcoming Discrimination

i. Gender roles

As discussed in Chapter III, children's gender is an important determinant of the kinds of work they are likely to do and the sorts of barriers they are likely to face. Given the special barriers girls often face in schooling, many targeted projects make girls a special focus (*See* Box IV-2). For example, ILO/IPEC identifies girls as one of its priority target groups.[50] A critical first step in helping working girls is raising awareness

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[47] For example, math and statistics may be taught by having students conduct a survey of the number of houses and water buffalo in the local village. In this way, the program seeks to make subjects enjoyable and relevant to children's lives. *Ibid*. at 48. *See also By the Sweat and Toil of Children, Volume V* at 105-107.

[48] Meeting with Shanta Sinha, Executive Director, MV Foundation, Ranga Reddy District, Andhra Pradesh, India (May 14, 1998) [document on file].

[49] *Combating Child Labour in Central America* at 6. *See Programa de Niñez Trabajadora Picondo Piedra—Retalhuleu, Guatemala* at 2.

[50] "IPEC at a glance."

Photo by: Shirley J. Smith

within communities about the hazards child labor poses for girls, the value of educating them, and the kinds of social and cultural constraints that girls face in trying to pursue an education. The following discussion provides examples of strategies that can be employed by targeted projects to withdraw girls from exploitative work, promote their attendance in school, and ensure their equal participation once there.

- In North Thailand, a project implemented by the Development and Education Programs for Daughter and Communities Center (DEPDC), with the support of IPEC, organized activities to prevent commercial sexual exploitation of girls.[51] DEPDC provided education relevant to the lives of these girls, including job skills training, as an alternative to prostitution.[52] The project offered school scholarships for girls at risk, safe shelter in schools, jobs and general counseling services, and stipends for traveling between home and school for the girls who did not need shelter.[53] The project also promoted the active participation of teachers and the local community. It developed classroom materials about child labor, its effects on children's health and safety, and information on applicable laws. IPEC also supported an assessment of the educational needs and interests of these girls as a basis for redesigning curriculum. As a result, teachers have been trained to identify girls at high risk of being trafficked for sexual exploitation and to conduct face to face campaigns with parents and children to encourage them to explore alternatives to prostitution. Girls identified as high risk have been given places to continue their education or vocational training.[54]

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[51] "Thailand: education makes a difference in preventing child trafficking and sexual exploitation," Fact Sheet 9 (Geneva: ILO/IPEC, July 1999) [hereinafter "ILO/IPEC Fact Sheet 9"].

[52] "Daughters' Education Programme" (Mae Sai: DEP, undated) [document on file].

[53] Electronic correspondence from Chongcharoen Sornkaew to U.S. Department of Labor Official (November 25, 1999).

[54] "ILO/IPEC Fact Sheet 9" (Geneva: ILO/IPEC, July 1999).

- In Nairobi, Kenya, an IPEC supported project sought to help girls working in the streets by creating a safe environment for the girls it served. It established a rescue center known as "Peace House" that served as a temporary place of safety for street girls who worked under hazardous conditions. The project provided girls with counseling and guidance services, clothing, food, medical care, and shelter. The youngest girls are placed in nursery schools, while those who are old enough are placed in primary schools, and those beyond primary school age receive vocational training in existing nonformal institutions. These girls learn home economics, carpentry, and garment making. They are also provided with career guidance and entrepreneurship training.[55]

ii. Ethnicity, social class, and language

Other forms of discrimination that create barriers for children leaving work to pursue schooling may be based on either ethnicity or social class. Targeted projects aim to expand and enhance educational opportunities for such children.

- In Romania, a recently approved IPEC country program will target children from the Rroma (Gypsy) ethnic group, a group amongst whom child labor tends to be particularly common. The program aims to improve the quality of education for Rroma children by accounting for their special needs, including the learning of the dominant Romanian language. Since their native language is not Romanian, Rroma children often require additional attention to overcome this potential language barrier. Rroma children are also affected by cultural attitudes within Romanian society. To address this issue, the program will place particular emphasis on integrating Rroma children into classrooms that include many non-Rroma children.[56] In addition, the program calls for the development of a

BOX IV-2

Girls and Child Labor

In Hyderabad, India, a 15-year-old girl named Manju shares her ideas and opinions when the teacher asks a question. This girl was illiterate one year ago. Manju had worked as a flower picker, beginning her days at 5:00 a.m. and working until early evening. For this, she earned only 28 cents a day.

Manju was like many young girls in Hyderabad. Her parents had little interest in educating a daughter who might be married off by 13 years of age; after which time, she would be part of her husband's family.

Manju's future changed, however, when she started to attend a night school in her village run by volunteers from the MV Foundation. After a couple of classes, she decided to continue her education at a special MV Foundation camp set up just for girls. The camp provided students with room and board, clean clothes, and schoolbooks. Manju wants to run her own business one day and realizes school is her only hope. She sees school as offering her a way out of poverty.

Source: Laura Lorenz Hess, "In India, girl labourers quit work for school," UNICEF Feature Service, Feature # 168 (www.unicef.org/features/feat168.htm).

[55] Electronic correspondence from Paschal Wabiya, to U.S. Department of Labor Official (November 25, 1999).

[56] Electronic correspondence from Klaus Guenther, ILO/IPEC, to U.S. Department of Labor official (December 6, 1999) [on file].

new curriculum that will specifically focus on the needs of Rroma children and help make education more accessible to them.[57]

d. Community Awareness Raising Initiatives

In many countries, cultural attitudes are a major determinant of whether children work or attend school. Targeted projects can be used to address social attitudes through awareness raising campaigns that focus on the extent and nature of child labor, the cost it imposes on children, and the benefits forgone in terms of schooling. By changing attitudes that accept or encourage child labor, such projects aim to encourage families and communities to withdraw children from exploitative work and support investment in children's education.

- In Tanzania, IPEC supported projects provided 36 members of the media from rural areas with training on child labor issues. The project provided five-day training workshops for discussion of strategies to encourage local community involvement in defining child labor problems, formulation of community based intervention, and preparation of newspaper supplements and radio programs on child labor in rural settings.[58] Training was also given to community development workers to encourage them to address child labor issues when drawing up plans for community development.[59] By working closely with groups at the community level, these IPEC supported efforts sought to change attitudes that played a role in keeping children in rural Tanzania working and out of school.

- In IPEC's gold mining project in Peru, awareness raising activities took place in schools. Children in primary school painted pictures about the types of work they had done. The project also supported a photography exhibit dedicated to child labor issues, the health risks that children encounter in mines and the importance of women in development.[60] These efforts attempted to raise community awareness about the dangers of child labor and the benefits of children attending school.

- In Indonesia, a public forum on National Children's Day, supported by IPEC, sought to raise awareness and encourage support in the fight against child labor. Students, teachers, parents, and representatives of government and nongovernmental organizations, took part in the event, which included a video illustrating types of work in which children are engaged in Indonesia and the kinds of hazards these children face. IPEC also organized a press campaign and stickers with a child labor message were produced and placed on public buses.[61] These efforts aimed to raise the profile of child labor problems in Indonesia and encourage support to confront the problem at a national level.

- In Nepal, IPEC supported several awareness raising efforts. One project involved a radio serial broadcast by Radio Nepal that dealt with child labor and bonded labor issues. Another effort used songs and stage plays to raise awareness about the trafficking of girls and the plight of children working under

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[57] *National Action for the Prevention and Elimination of Child Labor in Romania*, Project document (Geneva: ILO/IPEC, February 1999) 13-14.

[58] Electronic correspondence from William Mallya, National Program Coordinator for Tanzania, ILO/IPEC, to U.S. Department of Labor International Child Labor Program (Nov. 29, 1999) [hereinafter Electronic correspondence, Mallya].

[59] "ILO/IPEC in Tanzania."

[60] *Programa, Santa Filomena* at 46-47.

[61] *IPEC Implementation Report 1992-1995* at 122.

bonded conditions. One activity involved students at a women's college staging a musical play at a prominent theater in Kathmandu on the problem of trafficking in girls and prostitution.[62]

Organizations such as trade unions can play an important role in raising awareness about the dangers of child labor.

- In India, the Central Board for Workers' Education (CBWE), with support from IPEC, sought to raise worker awareness about child labor. The CBWE developed and incorporated child labor modules into all its ongoing worker training programs; the CBWE trains approximately 150,000 workers every year in 48 regional centers.[63]

- In Kenya, the Central Organization of Trade Unions (COTU) has set up a Child Labor Section at the national level, conducted a survey of child labor practices, and integrated child labor issues into the educational programs of the COTU.[64]

These examples illustrate some of the concrete ways child labor projects attempt to raise awareness about child labor and promote schooling as the best investment in children's future.

e. Enhancing Access to Credit

By providing the families of working children with the opportunity to access credit to start small businesses or other income generating enterprises, certain targeted projects aim to help families overcome dependence on child labor.

- In the Dominican Republic, an IPEC project uses a credit fund to help children leave hazardous agricultural work in the municipality of Constanza. The project established a committee to administer a rotating fund and provided committee members with training on how to select beneficiaries. Only families who have enrolled their children in school and demonstrated a commitment to eliminate child labor—for example, by attending project meetings—are eligible for loans. Loans vary in amount from $200 to $500. The committee has already received 57 applications for loans, including proposals to start businesses selling prepared foods and a motorcycle "taxi" service to a town where bus service is currently unavailable.[65]

- IPEC's Guatemala stone quarries project also included a credit access component intended to help families of working children earn alternative income and enable them to send their children to school. The project allocated $61,000 for a revolving credit fund. Under the program, to receive a loan, families must promise to withdraw their children from work and enroll them in school.[66] Among those helped by the project, a group of ten families borrowed jointly to purchase a stone chipping machine and start their own business.[67]

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[62] "IPEC in Action: Asia—Major steps towards the elimination of child labour in Nepal" (www.ilo.org/ public/english/ 90ipec/action/31asia/nepal.htm).

[63] *IPEC Implementation Report 1992-1995* at 107.

[64] *Ibid*. at 123. *See also* Joseph J. Mugalla, "Combating Child Labour in Kenya—COTU's Approach" (May 24, 1995) [document on file].

[65] Telephone interview with César Peña, IPEC Dominican Republic Country Director (Oct. 28,1999).

[66] *Local Familias Piedrineras Retalhuleu Ficha de Seguimento de programa de acción* (Santose: ILO/IPEC, November 1999). *See also* "Budget—Guatemala" (4/7/98) [document on file].

[67] *Combating Child Labour in Central America* at 5.

Strategies to promote credit access and provide skills training are also being replicated in new IPEC projects.

- A recently funded project in Indonesia, Thailand, and the Philippines will provide training and credit access to families as part of efforts to withdraw 4,500 children from the informal footwear industry. First, the project will assess the skills of adults in these children's families and offer employment related training. A feasibility study will then assess the market for products and services that these individuals might be able to provide. Finally, the project will seek to improve access to credit for families that withdraw their children from work.[68]

f. Summary

This section dealt with strategies for expanding opportunities available to working children and their families. These strategies aim to make education accessible, affordable, and valuable for children and their families. Where barriers are related to discrimination, cultural attitudes, or a lack of access to credit, projects seek to ensure that children are given the opportunity to pursue available schooling. These examples are indicative of the kinds of strategies targeted projects use in seeking to overcome barriers related to a poverty of opportunity.

Photo by: Gregory K. Schoepfle

D. Availability of Work

In order for child labor to exist, not only must children be willing to work, but employers must be willing to hire them. The decision to hire a child is affected by many factors, including child labor laws; what is acceptable in the community; the perceived savings from hiring children as opposed to adults; and the availability of children for work. Efforts to address the demand for child labor are underway at the international, national, and community level. The following discussion considers how strategies at each of these levels can have a significant impact in reducing the availability of work that exploits children and puts them in harm's way.

[68] *Program to Combat Child Labor in the Footwear Sector in South East Asia*, Project Document (Geneva: ILO/IPEC, 1999) 16, 24.

1. International and National Initiatives

At the international level, bodies such as the ILO can help focus public scrutiny on the problem of child labor and send a unified signal as to what are and are not acceptable activities for children. The unanimous adoption by the ILO of Convention 182 on the Worst Forms of Child Labor on June 17, 1999, sends a clear signal that child labor is a global issue that can neither be denied nor ignored. The Convention identifies the types of child labor that should be illegal and requires that ratifying countries "take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labor as a matter of urgency."[69] This type of international action is an important step towards eliminating child labor. Earlier conventions such as the ILO's Minimum Age Convention (No. 138) and the United Nations' Convention on the Rights of the Child similarly assert the importance of protecting children from exploitative work. These international agreements, by raising awareness about child labor, establishing minimum standards, and encouraging action by governments, maintain pressure within the international community to address this global problem.

On a national level, the passage and enforcement of laws prohibiting employment of children to work under a specified age and particularly in hazardous industries can also make it more difficult to hire children. Child labor laws provide an institutional framework for addressing child labor within a country. Minimum work age laws can contribute even more effectively to the elimination of child labor when combined with mandatory education laws.

2. Initiatives Addressing the Demand for Children's Work

While international and national efforts to address the demand for child labor help create an environment conducive to change, targeted projects can often provide more immediate action in sectors where child labor is particularly prominent or harmful to children. In the most extreme forms of child labor, such as the commercial sexual exploitation of children, rescuing children may be the highest priority (*See* Box IV-3). In general, projects utilize a variety of strategies to reduce demand for child labor. The following section considers three of the most prominent: (a) collaborative efforts with employers to remove children from exploitative work; (b) monitoring of such collaborative efforts to ensure positive results; and (c) promoting technological alternatives to child labor.

a. Collaborative Efforts

By encouraging collaborations with industry, employer, and worker organizations, targeted projects seek to address the hiring practices that permit recruitment of children. Such projects also help make employers more aware of the extent and nature of child labor in their industry, the dangers to which working children are exposed, and the benefits that working children forgo by not attending school.

- For example, as part of the IPEC country program in Tanzania, the Association of Tanzania Employers has promoted dialogue on child labor with employers from tea and coffee plantations. Workshops on child labor were organized to enlist cooperation and collaboration in addressing child labor.[70] The workshops involved discussions on a variety of topics, including the causes and hazards of child labor on plantations, the role plantation owners can play and the strategies

[69] International Labor Organization, Convention 182, Article 1.

[70] "ILO/IPEC in Tanzania."

they can use to prevent child labor, and how to formulate and implement plans of action.[71]

- On July 4, 1995, the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), the ILO, and UNICEF signed a Memorandum of Understanding to take actions to eliminate child labor in Bangladesh's garment industry. The project initially aimed to withdraw approximately 10,000 child workers under 14 years of age from 2,000 garment factories and provide them with educational opportunities.[72] Since it started, the BGMEA project has enrolled about 8,281 ex-garment child laborers in nonformal schools.[73]

- In Pakistan, industry groups have been actively involved in efforts to eliminate child labor in the soccer ball industry. In February of 1997, the Sialkot Chambers of Commerce and Industry, the ILO, and UNICEF signed a Partner's Agreement to Eliminate Child Labor in the Soccer Ball Industry in Pakistan. The agreement included a provision to withdraw children from work once educational alternatives were available for them. The project established a monitoring system to ensure that industry members did not employ children in violation of the agreement. Initially, 22 manufacturers participated in the program; a figure that has since grown to 52 manufacturers.[74]

- In Kenya, the Federation of Kenyan Employers (FKE) has worked in collaboration with IPEC to establish a Child Labour Unit. This unit has conducted research on the hazardous conditions children face working on sugar, coffee, and rice plantations. The project has sought to make employers aware of the need to reduce their reliance on child labor and improve working conditions. FKE members have also worked with the Kenyan government towards promoting children's attendance in school; incorporation of universal compulsory primary education into the country's Education Act; and improvements in work conditions through the provision of health care, longer rest periods, the use of protective clothing, and the establishment of day care centers.[75]

By encouraging collaboration with trade unions, some projects seek to promote the inclusion of labor standards within collective bargaining agreements with employers.

- In Brazil, IPEC supported the efforts of the National Confederation of Workers in Agriculture (CONTAG) to organize an awareness raising program providing training for unionists, workers, and the general public in 88 municipalities. The program focused on training unionists on how to include child protection clauses in the collective agreements with employers. The union also disseminated anti-child labor messages on over 200 radio stations in rural areas.[76]

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[71] Electronic correspondence, Mallya.

[72] *Verification and Monitoring System for the Elimination and Prevention of Child Labour in BGMEA Factories and the Placement of Child Workers in School Programmes—Project Document* (Geneva: ILO/IPEC, January 24, 1996).

[73] Electronic correspondence from Rijk Van Haarlem to U.S. Department of Labor Official (September 22, 1999) [document on file].

[74] *Elimination of child labor in the soccer ball industry in Sialkot, Pakistan*, Project Document (ILO/IPEC, 1997); *Report on Progress of the Monitoring Component* 7/26/99–8/25/99 (Sialkot: ILO, 1999) [document on file].

[75] *Implementation Report: Review of IPEC Experience 1992-1995* (Geneva: ILO/IPEC, 1995) 43-44, 122-123.

[76] *Ibid*. at 103.

BOX IV-3

Rescuing Children from the Worst Forms of Child Labor

In confronting situations where children are engaged in particularly harmful and dangerous work, such as prostitution or the trafficking of illegal goods, rescuing these children may be the most immediate concern. In these instances, targeted projects generally seek to remove children from work, place them in rehabilitation programs, and try to prevent other children from ever entering such work. The following examples are of IPEC-supported projects in Nepal and Costa Rica targeting children in the commercial sex industry.

Thousands of women and girls from Nepal are reportedly sold to brothels in major Indian cities. It is estimated that the number of Nepalese women and children presently working in the commercial sex market in India is about 200,000, of which 40,000 are under 16 years old.

In 1997, IPEC established a project to eliminate the trafficking of girls and the commercial sexual exploitation of children from Nepal. This program involved awareness raising efforts, collaboration with government law enforcement, and the establishment of a prevention camp in a trafficking-prone district. The camp is administered by Maiti Nepal, a nonprofit social organization that works for the welfare of girls and women who are the victims of the commercial sexual exploitation. Every six months, Maiti Nepal admits 30 girls and provides them with in-house nonformal education and vocational training as well as food, clothing, lodging and basic health services. Some of the girls who have left the program have joined the police force, others found employment with the Maiti Nepal project, and 18 received sewing machines to help them earn income. The project is also working with some of these girls to set up microbusinesses. Since the program began, 150 girls have entered the prevention camp and avoided the dangers of prostitution.

In Costa Rica, it is estimated that over 2,000 children work in prostitution in the capital city alone. This number is rising as children are sold as part of sex tour packages to foreign tourists. These children are placed at risk of early pregnancy, sexually transmitted diseases, and even death.

In 1998, IPEC began a project in Costa Rica to withdraw children from prostitution and prevent others from starting. The project first worked with police and other governmental and nongovernmental agencies to map out areas of the capital city where the incidence of sexual exploitation of children was particularly high. Night visits were then made to identify child prostitutes. The project has reached 122 girls who are now receiving medical attention, access to counseling services, and nonformal schooling. The project is also helping these girls to move into regular primary and secondary schools.

Sources: "ILO-IPEC Action Programme: Setting Notional Strategies for the Elimination of Girls' Trafficking and Commercial Sexual Exploitation of Children in Nepal," Progress Report as of June 30, 1999 (Geneva: ILO/IPEC, 1999) 6; *Combating child labour in Central America*, Project Document (Geneva: ILO/IPEC, 1998); Electronic correspondence from Carmen Moreno to U.S. Department of Labor official (November 8, 1999).

b. Monitoring

An important part of collaborative agreements with industry groups is the establishment of a monitoring component that is reliable and transparent. In many cases, monitoring efforts are critical to withdrawing children from exploitative work and ensuring that children are not rehired in the future.[77]

- In Pakistan, soccer ball manufacturers agreed to shift production from homes to stitching centers to allow for more systematic and effective monitoring. Manufacturers then developed an agreed upon system of internal and external monitoring.[78] By August 1999, 799 stitching centers had been opened. Ninety-three percent of soccer ball production by member manufacturers had been successfully transferred from unmonitored manufacturing sites to these ILO-monitored centers.[79]

- In Bangladesh, the ILO has identified quality monitoring as critical to the success of its garment manufacturing project. Monitors have maintained pressure on industry partners and encouraged their continuing commitment to the project's goals. Since the project began, the occurrence of child labor in BGMEA member factories has dropped dramatically. Originally, child labor was found in 34.1 percent of member factories, while in 1999, child labor was reported in only 3.2 percent of these factories. During the first six months of 1999, monitors reported 293 instances of children working in violation of the agreement. By contrast, 795 cases had been reported during the same period in 1998.[80] Over 17,000 visits have been conducted since regular monitoring began. Information from these visits has been entered into a database on the prevalence of child labor in BGMEA factories that is used to chart the project's progress and performance.[81]

- In Indonesia and the Philippines, programs are being established in collaboration with IPEC that aim to monitor the use of child labor in certain sectors of the fishing industry. In the Philippines, fleet owners contract crews, including children, to work on fishing vessels for a period of ten months. IPEC plans to monitor crews when they come ashore in the two key cities, Puerto Princesa and Quezon, on Palawan. As part of the government's 1999 action plan, the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) is already inspecting crews before they board fishing vessels. IPEC monitoring will be conducted in close cooperation with BFAR.[82] Through their combined efforts, IPEC and BFAR aim to raise awareness about the extent of child labor in the Philippine fishing industry and to pressure employers to avoid future recruitment of children.

- In Indonesia, IPEC will support the ongoing efforts of the labor inspectorate under the Program of the Governor of North Sumatra. The labor inspectorate has already begun monitoring and inspecting of the fishing platforms (*jermals*)

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[77] While IPEC monitoring components are tailored to individual projects, all are based on the same core principle—monitoring exists to ensure that projects achieve their desired outcomes. Alex Fyfe, *Child Labor: A Guide to Project Design* (Geneva: ILO, 1993) 43-44.

[78] *Elimination of child labor in the soccer ball industry in Sialkot, Pakistan*, Project Document (ILO/IPEC, 1997).

[79] *Elimination of child labor in the soccer ball industry in Sialkot, Pakistan*, Project Document (ILO/IPEC, 1997). *Report on Progress of the Monitoring Component* 7/26/99–8/25/99 (Sailkot: ILO, 1999) 1-2.

[80] "Electronic correspondence, Van Haarlem , October 27, 1999"and BGMEA progress report, July 1999 at 5.

[81] BGMEA progress report, July 1999 at 3.

[82] *Programme to Combat Child Labor in the Fishing Sector, Indonesia and the Philippines (Phase 1)*, Project Document (Geneva: ILO/IPEC 1999) 16-17.

where children currently work. IPEC will set up a data base system to record information gathered during government monitoring visits and advise the inspectorate on how to make their monitoring system more efficient and effective. By collaborating and supporting an already existing monitoring system, IPEC aims to improve law enforcement efforts and encourage industry compliance with national laws.[83]

c. Technological Innovation

In some industries and sectors, technological innovation offers a practical method for reducing the demand for child labor. Demand for child labor often results from an industry's need for inexpensive, low skilled labor. By introducing labor-saving technologies, targeted projects aim to remove children from work and free up time for them to pursue schooling.

- In Turkey, a project focused on girls who worked at home, spending up to three hours a day cutting wood to heat water for other chores such as washing dishes. To enable these girls to focus on school, the project purchased twenty solar powered water heaters.[84] The introduction of this new technology played a significant role in advancing the project's main goal of increasing girls' school attendance.

- In Santa Filomena, Peru, an IPEC supported project targeting children working in the gold mining industry installed an electric winch to carry minerals. The winch eliminated the need for children to carry heavy loads from mine shafts up to 200 meters below the surface.[85]

- As described earlier, IPEC's stone quarry project in Guatemala used a revolving credit fund to help families start their own enterprises, including the purchase of a stone chipping, or "titration", machine by a group of ten families. The titration machine cuts more stones than either children or adult workers could cut by hand and produced higher quality stone chips. As explained earlier, the parents agreed to withdraw their children from work and enroll them in schools as part of the loan agreement.[86]

As these examples illustrate, technologies that take the place of children in the workplace can help to reduce demand for child labor. Combined with other strategies, such technologies can help families earn more income, while freeing children from work and creating time for them to reap the benefits of schooling.

E. Multi-Faceted Approaches to Addressing Child Labor

Chapter IV has outlined examples of policies and strategies intended to help children overcome *specific* barriers to transitioning from work to school. Often, however, children and their families face a *combination* of barriers. The most effective approach to child labor, in such cases, may involve combining complementary strategies. Several of the targeted projects described in this chapter utilize this multi-faceted approach to help working children and their families.

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[83] *Ibid*. at 15-16.

[84] Interview with Sule Caglar, Director, ILO/IPEC Ankara, by U.S. Department of Labor official (April 23, 1998).

[85] *Programa, Santa Filomena* at 47. *See also Manuel de uso del Winche* (Lima, Peru: CooperAcción con el apoyo de ILO/IPEC, 1999).

[86] *Combating Child Labor in Central America*, Programme Update (Geneva: ILO/IPEC, April 1999) 5. *Local Familias Piedrineras Retalhuleu.*

Photo by: Shirley J. Smith

In Retalhuleu, Guatemala, the IPEC-supported stone quarries project sought to eliminate hazardous child labor by promoting income-generating activities and credit access and introducing new technology. These components were supplemented with mobile educational units, teacher training, and health related assistance for the families of working children.[87]

IPEC-supported projects in two Peruvian mining communities provided families of working children with economic alternatives to child labor and introduced new technology in the form of an electric winch to reduce the need and demand for working children. The projects also sought to raise awareness about child labor; make education more affordable for families; provide teacher training; and support classes for children on the dangers of mining.[88]

In Bangladesh, a multi-faceted approach was similarly used in the BGMEA garment sector project. The project involved collaboration among employers, the ILO, and UNICEF to withdraw children from work and place them in educational settings. It also included income-generating opportunities for families and a monitoring component to identify where children worked and prevent further hiring of children.

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[87] The project built a community based pharmacy, trained health promoters, and provided families with health and first aid training. *Informe Ejecutivo, Programa de Acción Local Niñez Trabajadora Picando Piedra – Retalhuleu, Guatemala* (Guatemala: ILO/IPEC, 1999) 2-4. *Local Familias Piedrineras Retalhuleu.* Electronic correspondence from ILO/IPEC to U.S. Department of Labor official (San Jose: ILO/IPEC Nov. 18, 1999).

[88] *South America Mining Project Document* at 3-4; *see also* Lima telegram no. 03383.

F. Conclusion

As the chapter has shown, overcoming the many barriers faced by working children and their families requires effective policies and strategies that address the causes of child labor and support education as the single best alternative for children. Such efforts can take place on many levels. International initiatives to establish enforceable standards on child labor encourage progress within countries. National policies can be effective in creating economic, educational, and legal environments that curb child labor while promoting investments in children's education. These international and national efforts can also be supplemented with targeted projects that seek to address the more immediate needs of working children and their families.

This chapter has used ILO/IPEC demonstration projects as examples to illustrate the kinds of strategies that can be used in seeking to address barriers created by a poverty of resources, a poverty of opportunity, and the availability of work. Such demonstration projects can help encourage broader responses to allocate the necessary resources to deal effectively with national child labor problems. Emphasis must be placed on evaluation of these projects to ensure that only the most effective and efficient strategies are replicated. With this goal in mind, IPEC is working with the support of the U.S. Department of Labor to enhance its project evaluation process.

Chapter V: Conclusion

Around the world children follow different paths to adulthood. In the developed world, childhood is typically devoted to the pursuit of education. In poorer countries, children are more likely to sacrifice schooling so that they may go to work. These divergent experiences are both caused by, and reinforcing of, the income differences between families in developed and developing countries. In developing countries, many children do not go to school because they have to work to help support their families. But as adults, they remain poor because they have not been educated to develop the skills they need to be more productive and earn more in the workplace. Their children go to work because they are poor. Education is key to breaking this cycle, if only barriers to providing and accessing schooling can be removed.

A. The Economic Cost of Child Labor

The second chapter of this report showed that the economic costs of child labor include the benefits foregone because working children do not or cannot avail themselves of the opportunity to pursue an education. It reviewed the extensive literature establishing that children are economically better off over the course of their entire lifetimes if they pursue an education while young. The reason is simple: better educated children grow into more productive and better paid adult workers. With few exceptions, this is as true in a developing country as it is in a developed one.

The benefits of education are also likely to be greater than just what accrues to educated individuals. Chapter II examined various ways that education of children can benefit society as a whole. These societal benefits of education seem to sum up to more than just the benefits that accrue to each educated individual. Some of this is related to how much individuals earn, while the rest is related to how individuals interact with one another. A society of educated citizens benefits from individuals who are healthier, more involved in the political process, less dependent on social support programs, less inclined to a life of crime, more likely to save, and more likely to innovate.

As countries end child labor and improve education and long-term productivity—in short, when countries increase their levels of development—they also create economies that can make stronger contributions to the world economy. The chapter suggests that these countries are more likely to be become active and productive trading partners, which could both expand opportunities for workers and firms involved in the export of goods and services from the United States, and make available a wider variety of goods and services to be consumed at low cost by U.S. consumers.

B. Why Children Work

If education makes children and the societies in which they live better off, while having children go to work instead causes them to be worse off, why do children work rather than go to school? Chapter III tackled this question by identifying a myriad of factors that create barriers which keep children in work and out of school. In some cases, families are forced to sacrifice their children's futures in order to meet their current needs for survival. The barriers implied by this trade-off are related to a "poverty of resources." In other cases, children work instead of going to school simply because school is not an option available to them. These children suffer from a "poverty of opportunities." In still other cases, the very availability of work can create a barrier to the schooling of children. And sometimes, the plight of an individual child laborer can be traced to all of the above.

1. Barriers Related to a Poverty of Resources

If a family does not have the resources to survive without the labor of its children, it suffers from a poverty of resources. This poverty is an obvious barrier to schooling for these children. It can arise in many forms. For example:

- Pervasive poverty among households in an economy;
- Inequality in the distribution of income, or the distribution of resources;
- Income lost due to children not working, or high out-of-pocket costs for schooling, or both;
- The use of child labor as insurance against interruptions in the earnings of other members of the household;
- A cycle of poverty within a family resulting from repeated generations of children working instead of going to school.

2. Barriers Related to a Poverty of Opportunities

Some children work because it is the best, or only, option available to them. Alternatives to work for children, or certain groups of children, are restricted by:

- Inaccessible schools;
- Low quality schools or education that is of little relevance;
- Cultural patterns that prevent or discourage the enrollment of girls;
- Attitudes suggesting that certain ethnic and/or social class groups are meant to work with their hands while others are more suited to working with their minds;
- Educational instruction carried out in unfamiliar languages;
- The lack of available credit markets for education or other investments that would yield income allowing the financing of education.

3. Barriers Related to the Availability of Work

These barriers are related to the fact that work is available for children, and that the work would need to be done another way if child labor were eliminated. The barriers relate to the possibility that:

- Children may be "cheaper" to employ than adults because they are more pliable and less likely to resist poor working conditions; and
- Production processes that rely on an abundant pool of unskilled labor, employ few labor saving devices, or both, can create a demand for child labor.

C. Knocking Down the Barriers

How can the barriers that keep children in work instead of in school be overcome? Chapter IV suggested that these barriers can be addressed through a combination of broad policy approaches that encourage macroeconomic growth, national investments in education, and appropriate legal structures that promote schooling while discouraging child labor. In addition, targeted initiatives that focus on the specific needs of working children and their families can help address their immediate needs while encouraging broader action on child labor. Chapter IV focused on the work of one international organization, ILO/IPEC, to illustrate this type of targeted action.

In Chapter IV, a variety of targeted actions were grouped according to the barriers they are expected to overcome: a poverty of resources, a poverty of opportunities, and the availability of work. In any specific context, however, child labor can have causes that span these three categories. As such, effectively addressing child labor may require a comprehensive approach that blends together ingredients from each of these categories.

1. Poverty of Resources

Policies geared towards macroeconomic growth lay the foundation for the elimination of the most obvious obstacle to eliminating child labor—financial poverty. But growth is not enough if it fails to ensure that the income of all families, particularly the poorest families, rises fast enough. Policies stimulating macroeconomic growth may need to be complemented by targeted actions aimed at improving the financial prospects of the poorest families.

Chapter IV described IPEC supported projects to illustrate two general approaches to overcoming the poverty that keeps children out of school. The first approach involved giving families the *tools* to generate additional income that could replace the income given up when children went to school. For example, projects might provide adult family members with training to help them become more productive in their work. The second approach involved *direct subsidy payments* made to families. These subsidies are intended to cover the income that children might have earned by working instead of attending school. For subsidies to be effective, a long-term and large financial commitment may be necessary.

2. Poverty of Opportunities

In many cases, children work because appropriate schooling is not available. National policies that promote education are an important step toward eliminating the poverty of opportunities many working children and their families face. By making primary education universal and free, increasing educational expenditure at the primary level, building schools in rural areas, improving teacher training and enhancing school quality and relevance, national policies can make education the most attractive alternative for children.

Targeted projects use a variety of strategies to promote children's access to training and schooling. Projects may involve building new schools, developing specialized curricula, training teachers, supporting multilingual education programs, bringing education and training directly to children's work sites, or providing additional tutoring for former working children. Projects also frequently target discrimination based on gender, ethnicity, and social class; discrimination that in many cases restricts the educational opportunities available to certain groups of children. In general, projects seek to raise awareness about the plight of working children and the sacrifice they make in

terms of forgone schooling. Finally, by providing families with access to credit and/or training, targeted projects aim to empower parents to pursue profitable investments that can help them to support themselves without the labor of their children.

3. Availability of Work

Efforts to set national and international standards for the employment of children provide an important basis for addressing the *demand* for child labor. For example, the recent unanimous adoption of Convention 182 on the Worst Forms of Child Labor by delegates to the ILO's International Labor Conference in June 1999 sent a clear signal to the international community that such forms of child labor will not be tolerated. National labor laws prohibiting the employment of children under a specified age and in hazardous industries also make it more difficult to hire children.

In addition, targeted projects seek to reduce demand for child labor by making employers less willing to employ children, either because of legal penalties or because they come to believe that employing children is either unnecessary, undesirable, or unprofitable. Some projects may include a monitoring and enforcement component to ensure that industries do not hire child workers. Other projects may provide employers with simple technological innovations that allow them replace children with machines in their production processes.

D. Final Comments

Child labor remains a problem of great global concern. The good news is that the commitment to doing something about it has been strengthened substantially in recent years. The unanimous adoption of Convention 182 on the Worst Forms of Child Labor and the ever growing participation of countries in IPEC shows that governments around the world agree that children's work should not lead them to sacrifice their futures. Work that interferes with education means that children, their families, their employers, and their societies will not receive the maximum economic and social benefits from the work children will do as adults.

While the concern is global, the responsibility for addressing this concern ultimately rests at the national and local levels. It is at these levels that barriers to eliminating child labor and increasing educational attainment arise. Likewise, the specific causes of child labor tend to vary from one local context to the next. There is also great need for further data on the causes and outcomes associated with child labor. The international community can help by equipping national and local authorities with the tools to combat child labor and collect such data. But ultimately, the tools must be used within each country and community, and eliminating child labor must be made a national priority.

Appendix A: The Economic Costs of Child Labor Technical Companion to Chapter II[1]

A. Introduction

This appendix serves as a technical companion to Chapter II. It provides a fuller description of the economic theory and supporting empirical evidence on why educating children is a profitable investment. It begins with a discussion of individual benefits and costs of education, including how individuals make school-work decisions and assessments of rates of return as a measure of investment profitability. Evidence on the rates of return to education in over 90 countries is examined. Next, the relationship between education, macroeconomic performance and the social benefits and costs of education is considered. The discussion of the empirical "social rates of return" that follows from this line of research concludes that while education appears to have a positive affect on economic growth, the channel through which it works is not known with certainty. There is also some uncertainty on whether the social rate of return from education implies profits to society as a whole that exceed the sum of those accruing to individuals in the society. That is, whether society can profit by investing in education beyond what individuals invest is a somewhat open question. The strongest evidence that societies profit from investments in education comes from the studies that find large positive individual rates of return, supplemented by the fact that extra profits may accrue to society as a whole and some evidence that these profits take the form of specific types of spillover benefits.

B. The Benefits and Costs of Education

1. Human Capital Theory

The underpinning of the theory of human capital stems from the work in the 1950s and 1960s of Nobel Laureate Gary Becker, T.W. Schultz and Jacob Mincer. This work and its subsequent extensions are known as human capital theory because they consider choices to forgo work in favor of education that are made by, or on the behalf of, individuals to be investments in the individual's personal stock of income producing assets. Individuals choose education and training to build capital in the form of enhanced skills and competencies that they believe will bring them future rewards in the form of higher earnings in the workplace when they complete their education and training.

In deciding whether to pursue education, an individual—or typically in the case of children, their parents—must evaluate whether what is given up today is justified by the rewards received in the future. If a child goes to school instead of working,[2] the family must give up the child's income or the goods and services that the child would have produced for the family. These are the "opportunity costs" of going to school. In addition, the family may also have to pay out of pocket expenses for tuition, for text books, school uniforms and a number of other incidental costs.

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[1] This appendix draws heavily on a background paper, available on request, prepared under contract for this report: George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education" (Washington, D.C: Bureau of International Labor Affairs, U.S. Department of Labor, June 1999).

[2] This could mean that the child goes to school instead of working at all, or it could mean that the child works fewer hours so that the child can also go to school.

When deciding between work or school for their children, families consider as the cost of education the sum of the opportunity and out of pocket costs, and weigh them against the benefits education brings for the child.[3] In the human capital model, the benefits accrue from higher earnings over the lifetime of the child as an adult educated worker compared to the earnings as an uneducated child worker who would continue to forgo these benefits as an uneducated adult worker. The difference between the educated and uneducated worker's earnings is the payoff to education. By comparing this payoff or benefit to the costs of education, and factoring in the effects of time and impatience,[4] families can decide whether education is a profitable investment for their children.

Clearly, most families do not construct ledgers or make explicit calculations about the value of education for their children. But it is reasonable to expect that they at least loosely consider the costs and benefits described above, and that analyses of their choices should confirm whether families are behaving as rational investors would in seeking out profitable investments on behalf of their children.

2. The Rate of Return and Investment Profitability

The main tool to evaluate the profitability of an investment is its *rate of return*. A rate of return is similar to an interest rate on a savings account. In fact, the interest rate on a savings account is a rate of return. At some early date, money—the principal—is deposited into the account, and it grows at some *rate* of interest. Eventually, that interest is *returned*, along with the principal, to the holder of the savings account. Similarly, money may be invested in other assets whose value will grow or decline. That growth or decline is the investment's "rate of return." If the rate of return is positive, more money is returned to the investor than was initially invested; if the rate of return is negative, the investor gets back less.

The rate of return to an investment is a useful measure because it reveals in a single number the benefits of an investment. The rate of return also allows for the evaluation of one investment against other investment options. This comparison is a key element in assessing an investment's profitability.

In determining if a child's time and other monetary resources are best allocated to schooling, it is important to consider the alternative investment options. If the return on some other opportunity is greater than the return to education, an investor with limited resources would be better off—at least from a financial perspective—choosing to invest in the alternative opportunity. For example, suppose that the rate of return to the education of a farm family's child was nine percent, but alternatively the family could send the child to work and use the proceeds from the child's labor to invest in, say, a tractor which would yield a return of 11 percent. If the family's resources are so limited that it can only take on one investment or the other, investing in the tractor is the financially more sound investment.

Now suppose that credit is available so that resources need not be limited to those currently available to the family. Further, suppose that the interest rate on a loan taken out to finance the direct and indirect costs of education is less than the rate of return expected for the investment in education. Then borrowing to finance education

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[3] Recall from Chapter II that families do not consider (fully) benefits that accrue beyond the child or family when deciding whether a child should go to school, so that many of the benefits that education brings from a social perspective are not considered in the context of private family decisions.

[4] Inflation matters because the higher the rate of inflation the higher future earnings have to be to compensate for giving up current earnings. Patience matters because more impatient, or perhaps desperate because of poverty, individuals would rather have money and the things it can buy today rather than waiting for some higher standard of living and consumption in the future.

would be a wise course of action because the returns to education would be expected to be large enough to allow the loan to be repaid and still leave something for the investor. This logic applies to any investment: it is profitable to pursue any investment for which the rate of return exceeds the rate of interest for borrowing. Continuing with the example of the previous paragraph, if the rate of interest for borrowing for any project is, say, seven percent, then the family should borrow to invest both in the tractor and the child's education since both are expected to yield rates of return that imply that the family can more than cover the costs of borrowing.

On the assumption that credit is available for financing investments in education, the forgoing discussion suggests that these investments can be gauged by comparing their rates of return against market interest rates for borrowing. If the rate of return to education exceeds the market interest rate, then the investment is profitable. The main problem with this evaluation rule is that it is usually difficult to determine the market interest rate for borrowing. And particularly when it comes to financing education in less developed countries, this is largely because credit markets may not exist.[5] The choice of a benchmark against which to compare rates of return to education to assess education's profitability then comes down to an educated guess. This report uses a benchmark of seven percent because this is the most commonly assumed estimate of a long term interest rate.[6] Thus, an investment in education on behalf of a child is considered to be profitable if its expected rate of return exceeds seven percent.

3. Measuring Rates of Return to Education

There are basically two methodologies to estimate individual rates of return to education from data on individual earnings.[7] In the first, known as the "full discounting" (or "full") method, individuals are grouped by age and educational attainment, and average earnings are calculated within each age education group, so that an average age based "salary history" can be constructed for individuals with a given level of education. The return to the additional level of schooling is found by comparing the costs and earnings streams of adjacent education groups. For example, in the case of primary education, the rate of return is calculated as that rate which makes the stream of earnings of the typical primary educated worker equal to the earnings of a typical uneducated workers plus the costs of education.[8] In the second approach, known as the "Mincerian" or "earnings function" method, statistical techniques are used to control for individual characteristics, and the rate of return is derived based on the difference in

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[5] Lars Ljungvist, "Economic Underdevleopment: The Case for Missing Markets for Human Capital," *Journal of Development Economics*, 40(2) (April 1993) 220. *See also*, M. Woodhall, "Designing a Student Loan Program for a Developing Country: The Relevance of International Experience," *Economics of Education Review*, 7 (1)1 (1988): 160.

[6] "Deep Discount," *The Economist*, 351 (8125) (June 26, 1999) 90.

[7] This is a synthesis of a more detailed discussion of methodological issues that may be found in George Psacharopoulos, "Returns to Investments in Education: A Global Update," *World Development,* 22(9) (September 1994): 1325-26.

[8] Using the full method, the rate of return for primary education is calculated by solving for r the following formula:

$$\sum_{t=m+1}^{n} \frac{(Y_p - Y_u)_t}{(1+r)^t} = \sum_{t=1}^{m} \frac{(Y_u - Y_u)_t}{(1+r)^t}$$

where r is the (internal) rate of return, $(Y_p - Y_u)_t$ is the difference in earnings between a **p**rimary educated worker and an **u**neducated worker at some point in time t, and $Y_u + C_u$ is the sum of the foregone earnings (Y_u) and out of pocket costs (C_u) that are incurred if someone goes to school. Note that the costs are incurred before date m, while the benefits accrue from date $m+1$ and beyond. Rates of return for higher levels of education are calculated analogously.

earnings of persons who are "statistically similar" except for their differences in years of educational attainment.[9]

The choice of methodology is often dictated by data availability. The earnings function approach has the advantage of not being as demanding in terms of the amount of data needed to implement it. It can provide a good ballpark estimate of the rate of return to education. In principle, the full method can provide even better estimates; however, the full complement of data needed to implement it is often unavailable. Thus, the rates of return generated by the two methods are not exactly comparable. Some of the more important reasons for this follow.

One problem with studies that use the earnings function method is that technically it yields a rate of return to the highest year of schooling received by the typical person in the sample. If the rate of return to each year of schooling is not the same, the earnings function estimate will not be an accurate estimate of the return to individuals who vary in some way from the typical person in the sample. It is generally believed that each additional year of education returns less than the one before it,[10] so that individuals with fewer years of education than the average person will have a higher rate of return than that estimated using the Mincerian method. In considering child labor versus education, interest is most focused on the rate of return to primary education. If the years of education of the typical person in the sample exceed primary levels, the estimated rate of return is likely to be too low an estimate of the returns to primary education.

A second drawback to the earnings function method is that it assumes implicitly that individuals forgo earnings at all points during their education. In most countries, even those where child labor is prevalent, the youngest children are least likely to work, or work for pay, so that their costs of forgoing work and pursuing education are almost always overstated by the earnings function method. The concern with which this consideration should be accorded depends on the average level of education in the economy under study. If educational attainment is high, the forgone earnings of young children are a small consideration relative to the total forgone earnings resulting from investments in education, and the rate of return calculation is not likely to be much lower than it should be. But if average educational attainment is low, then the forgone earnings assumed to young children are likely to make up a large portion of the costs of schooling and therefore the rate of return measured may quite substantially underestimate the true rate of return.

On the other hand, the earnings function method tends overestimate the individual rate of return to education if the direct costs of education are borne by the individual receiving it, particularly if these costs are high. This is because the methodology does not factor these costs into the calculation of the rate of return. Since the rate of return is an indication of the degree to which the benefits of education exceed

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[9] The basic earnings function takes the form:

$$ln\ Y_i = \alpha + \beta S_i + \gamma_1 EX_i + \gamma_2 (EX_i)^2 + \eta \mathbf{Z}_i + \varepsilon_i,$$

where Y_i is the earnings of individual i, S_i is the number of years of schooling accumulated by that individual, EX_i measures the individual's of experience in the labor market, and $\mathbf{Z}_i$ may contains other information about the individual such as gender, race, ethnic background, industry or occupation in which the individual works. The equation is fit using statistical techniques to data on a number of individuals to get an average or expected earnings function. Since $\beta = \partial ln y / \partial S$ is approximately the percentage change in earnings that comes from one additional year of schooling, the coefficient β is interpreted as the rate of return to the last year of schooling. This method is also referred to as the "Mincerian" method after the economist, Jacob Mincer, who first proposed it.

[10] That is, there are *diminishing returns* to education.

the costs, and the costs are underestimated, the degree to which the benefits exceed the costs tends to be overestimated.

A final drawback—although this is actually related to the way results from earnings function studies are normally presented rather than a problem with the methodology *per se*—is that returns based on earnings function are usually not available by the educational groupings that are standard in international education data, i.e., "primary," "secondary," and "tertiary" or "university."

4. Empirical Evidence

Tables A-1 and A-2 at the end of this appendix present estimated rates of return to education for many countries around the world. The estimates in Table A-1 were derived using the full method, while those in Table A-2 correspond to the earnings function methodology.

Turning first to Table A-1, the estimates in the panel labeled "Private Returns" indicate that only two out of the 53 studies that reported rates of return to primary education found rates of return less than the baseline figure of seven percent. Forty-six studies found returns well in excess of seven percent (ten percent or higher), and several studies reported returns of more than double the seven percent benchmark. Returns to secondary and higher education also tend to exceed the benchmark.

The earnings function method used in Table A-2 similarly indicates strong rates of return to investments in education. As shown in the column labeled "coefficient," 88 of the 109 studies in the table show rates of return to education exceeding the seven percent benchmark. The estimated private returns in Table A-2 tend to be lower than in Table A-1, which may be expected for the reasons noted above. However, the message from Table A-2 remains the same as the message from Table A-1: investment in education is a profitable choice for individuals and households.

One criticism of the individual rate of return is that while it takes into account the costs of education borne by individuals, it does not take into account the costs of education that are borne by society, such as the cost of providing free public schooling. Similarly, some benefits of education do not accrue exclusively to individuals, but also benefit society at large. For reasons discussed in Chapter II, it is relatively easy to adjust private rates of returns to reflect social costs but not for social benefits.

In Table A-1, the panel entitled "Social Returns" presents "narrow" social returns that adjust private returns to take account of social costs (but not social benefits). Even with this downward adjustment, the narrow social rates of return are nearly always higher than the seven percent benchmark, reinforcing the proposition that education is a worthwhile investment. The correct interpretation of this evidence is as follows: if the social costs were shifted back to the families whose children are educated, this shift could be done in a manner so that the families would pay *all* the costs of their children's education and still conclude that education is a profitable investment. At the very least then, it is safe to conclude that societal decisions to subsidize education do not divert children to school when working would be a socially preferable use of their time.

Finally, recall from the previous section that the ideal way to assess the profitability of education would be to compare rates of return against applicable market interest rates. But this is generally not possible because market interest rates are not available, and therefore a benchmark of seven percent has been used as a proxy. *See* Table A-3 which compares rates of return to education and estimates of market interest

rates for a set of 15 countries.[11] For 12 out of the 15 countries, the rate of return to education exceeds the market interest rate, offering more evidence that education is a profitable investment.

5. Education or Ability?

There is little controversy in the economics literature over the finding that more educated individuals earn more than less educated ones, or the methodology that yields this finding. There is, however, some controversy over the interpretation that the higher earnings of educated workers represent returns to investments in education.

Some economists have suggested that individuals pursue education as a way to signal their *innate* level of ability.[12] They posit that since the payoff to education is only forthcoming to individuals who demonstrate their ability on the job, low ability individuals choose to forgo education, and the costs it entails, because they expect that education will not affect their earnings. According to this view, since only innate ability matters ultimately it makes sense for an individual to save on the costs of education, unless the individual is a high ability worker. Notice that education does nothing more in this theory than reveal abilities; the payoff in the form of higher wages rewards those abilities, and education itself does not confer any extra benefit. If this were true, then education should not be viewed as an investment in future productivity enhancements and there should be no special efforts to encourage education.

Most attempts to portion out higher earnings of educated individuals between ability and education have shown that, even if ability does matter some, there is still a specific payoff to education *per se.*[13] Perhaps the most convincing studies have been those which measure the returns to education of identical twins. Because identical twins are genetically equivalent, so are their ability levels; therefore, identical twins should receive the same earnings regardless of educational attainment. After accounting for a number of other factors that might cause differences in the earnings of identical twins, studies generally show that the more educated twin earns more,[14] demonstrating that education itself does matter.

C. The Relationship Between Education and Economic Growth

At the country level, a question that is often asked is does education affect economic growth? Research suggests that education makes individuals more productive, and rewards them for this enhanced productivity, suggesting that education should be related to better macroeconomic performance. If education makes individual citi-

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[11] George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education" (Washington, D.C: Bureau of International Labor Affairs, U.S. Department of Labor, June 1999) 25-26. The market interest rate used is the real bank deposit rate which is the nominal interest rate on a variety of bank deposits less the rate of inflation.

[12] *See*, for example, Michael Spense, "Job Market Signaling," *Quarterly Journal of Economics* 87 (3) (August 1973) 355-374.

[13] *See*, e.g., Zvi Griliches and William M. Mason, "Education, Income and Ability," *Journal of Political Economy* 80(3), Part II (May-June 1972): S99; and J. Bound, Z. Griliches and B.H. Hall, "Wages, Schooling and IQ of Brothers and Sisters: Do the Family Factors Differ?" *International Economic Review* 27(1) (February 1986) 77; and, Colm Harmon and Ian Walker, "Estimates of the Economic Return to Schooling for the United Kingdom," *American Economic Review* 85(5) (December 1995) 1284.

[14] Orley Ashenfelter and Alan Krueger, "Estimates of the Economic Return of Schooling from a New Sample of Twins." *American Economic Review*, 84(5) (December 1994) 1157; Cecilia E. Rouse "Further Estimates of the Economic Return to Schooling from a New Sample of Twins," *Economics of Education Review*, 18(2) (1999) 149-157; Paul Miller, Charles Mulvey and Nick Martin, "What do Twins Studies Reveal About the economic Returns to Education? A Comparison of Australian and U.S. Findings," *American Economic Review* 85(3) (June 1995) 597.

zens more productive and leads to growth in their individual income prospects, the average level of productivity and growth of income in a nation's economy should also be higher.

1. Growth Accounting

Gross domestic product (GDP) measures a country's output, i.e., the sum of all goods and services produced in the country in a given time period. Output is produced using inputs, or factors of production, such as land, labor, and capital. Each of these inputs makes a contribution to GDP, its growth, or both.

In the 1950s, Nobel Laureate Robert Solow proposed "technical change" as an additional input to which some portion of GDP should be attributed. This insight acknowledged that something other than land, capital, and "head count" labor could affect GDP and its growth rate. Initially, technical change was a catch-all category that accounted for any portion of output that could not be attributed to land, labor, or capital. However, in the 1960s, economists established that embedded in technical change could be the effect of education on the GDP and its growth.[15] Rather than treating "labor" as homogeneous units, it should be differentiated by educational attainment. Making this adjustment reduced the amount of GDP and its growth attributed to the catch-all technical change by allotting more to more educated types of labor.

These insights spawned a number of growth accounting studies in which GDP growth in an individual country was attributed to growth in the factors of production. Results from a number of these studies have been collected in Table A-4. The figures presented cover varying time periods and have not been derived in ways that are strictly comparable; therefore, comparisons across countries should be avoided. The figures have been included only to emphasize the big picture: in nearly all cases, a significant portion of GDP growth is attributed to education.

2. Cross-Country Analyses

An alternative approach to assessing the macroeconomic impact of education is to use statistical techniques on cross-country data to assess whether countries with higher levels of, or larger changes in, educational attainment grow faster than other countries. In these exercises, a variety of other variables that might affect growth rates are factored out statistically, so that the impact of education is not confused with the impact of other variables, such as population growth.[16]

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[15] For example, T.W. Schultz, "Investment in Human Capital," *American Economic Review*, (March 1961); and, Edward F. Denison, *Why growth rates differ; postwar experience in nine western countries*, (Washington: Brookings Institution, 1967).

[16] This list of variables factored out, or "controlled for," can be quite long. In one of the more parsimonious exercises, N. Gregory Mankiw, David Romer and David M. Weil, "A Contribution to the Empirics of Economic Growth," *Quarterly Journal of Economics* 107(2) (May 1992) 420, data on the log of per capita GDP (GDP*) is fit to data on the fraction of 12 to 17 year olds enrolled in secondary education multiplied by the fraction of the working age population that is of school age (*ED*), the ratio of physical investment to GDP (*I/GDP*), the rate of population growth (*n*), the rate of growth of technology (*g*), and the rate of physical capital depreciation (*d*). The result is:

$$GDP^* = 7.81 + 0.73 \log(ED) + 0.70 \log(I/GDP) - 1.50 \log (n + g + d),$$

which implies that after controlling for *I/GDP*, *n*, *g* and *d*, a one percent change in *ED* raises per capita GDP by 0.73 percent.

Table A-5 summarizes 27 studies which analyze cross-country data to assess the relationship of education to growth. Unlike the individual level results, which are clear on the point that education is a profitable investment, and the growth accounting results, which tend to suggest that education contributes positively to growth, cross-country studies present a more clouded picture. Among the inconsistencies are the findings of some studies that education affects growth negatively; and, the differences in the mechanisms through which education spurs growth, e.g., the level versus growth in education, primary versus secondary education, education of males as opposed to females, and the existence of a threshold level of education that must be passed before a positive relationship is discovered.

The inconclusiveness of the cross-country literature on the relationship of education to growth results in part from data and methodological shortcomings. Another shortcoming is that cross-country studies have generally ignored the question of whether the relationship between education and growth implies social rates of return to education that exceed private rates of return. As explained in Chapter II, this is a very important issue from a policy perspective. If the social returns to education exceed the private returns, then additional returns to society can be secured if society invests in education beyond the investments made by its individual members.

Comparable measures of schooling or educational attainment in a cross-country context are hard to establish. Data are typically reported by level of education, e.g., primary, secondary or tertiary, or by years of education completed. Both of these measures are affected by the fact that the quality of education in one country may not be the same as in another. For example, the educational attainment associated with five years of schooling in one country may not be equivalent to five years of schooling in another if there are vast differences in the quality of schooling. Yet cross-country data would report only the number or proportion of individuals with five years of schooling in each country, as if each group of individuals was equally well educated. Another manifestation of the quality issue is the fact that hold back rates may differ from country to country, so that in a country where holding back students is relatively common, more years of schooling may not signal the actual attainment of more skills and competencies. Finally, there are vast differences in the quality of data collection efforts across countries, suggesting that errors of measurement–e.g., different years of schooling recorded than actually experienced—could contaminate the underlying data. These errors of measurement could be particularly problematic in data sets where some of the education data are imputed based on past or related data.

A recent study[17] assesses the influence of errors in education data on the results of studies that attempt to measure the relationship between education and growth. It compares different data sources and uses statistical techniques that to some extent fix errors in the data. The study finds that once these errors are dealt with to the extent possible, the results from studies that show a negative relationship between changes in education and economic growth tend to be reversed. The study further concludes that there are certain inherent and unfixable problems in education data that make them unsuited to conclusively address the question of whether the social returns to education exceed the private returns. Finally, the study points to the credible theoretical arguments describing spillover benefits as the strongest case for public involvement in educational investments.[18]

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[17] Alan B. Krueger and Mikael Lindahl, "Education for Growth: Why and For Whom?" (Princeton, NJ: Princeton University Department of Economics, February 1999).

[18] Alan B. Krueger and Mikael Lindahl, "Education for Growth: Why and For Whom?" (Princeton, NJ: Princeton University Department of Economics, February 1999) 44-45.

Another recent study[19] evaluates methodological approaches to analyzing the relationship between education and growth and finds them to be disappointing. For example, one influential approach could yield either a negative or a positive relationship between education and growth and either result could be consistent with the hypothesis that education encourages growth or with the hypothesis that education retards growth. In other words, the methodology allows no firm conclusion about the causal relationship between education and growth. When the methodological approach is more consistent with the earnings function methodology used to analyze individual data, the results have the unambiguous interpretation of being social rates of return to education. Moreover, they are positive and sometimes larger than comparable individual rates of return.[20] However, given the methodological and data problems in this line of research, the author of this study suggests that the strongest evidence that education enhances human capital and productivity still comes from the studies using individual level data.[21]

D. Conclusion

The details reviewed in this appendix support the conclusion in Chapter II that the most convincing evidence about the profitability of education as an investment comes from the studies that work with data on the experience of individuals. These studies clearly suggest that education is a profitable investment made on behalf of an individual child. Research that aims to assess how education translates directly into macroeconomic outcomes (such as growth in GDP) is not as conclusive with regard to the value of education as a social investment. This inconclusiveness appears to stem mainly from data and methodological problems. Theory suggests that there are a number of ways that education should benefit society beyond the sum total of the benefits to the members of society. While there is not enough confidence among economists in existing evidence to conclude the theory has been proved, there appears to be less confidence that the evidence disproves the theory.[22]

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[19] Robert Topel "Labor Markets and Economic Growth" paper presented to the Society of Labor Economists (1998, http://gsbmxn.uchicago.edu/SOLE/1998.htm) 31-32. Forthcoming in Orley Ashenfelter and David Card (eds.) *Handbook of Labor Economics*, vol. III.

[20] Robert Topel "Labor Markets and Economic Growth" paper presented to the Society of Labor Economists (1998, http://gsbmxn.uchicago.edu/SOLE/1998.htm) 46. Forthcoming in Orley Ashenfelter and David Card (eds.) *Handbook of Labor Economics*, vol. III.

[21] *Ibid*. at 48.

[22] George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education" (Washington, D.C: Bureau of International Labor Affairs, U.S. Department of Labor, June 1999) 41-49.

TABLE A-1

Returns to Investment in Education by Level

Full Method, Latest Year								
		Private Returns (%)			**Social Returns (%)**			
Country	**Year**	**Primary**	**Secondary**	**Higher**	**Primary**	**Secondary**	**Higher**	**Source[a]**
Argentina	1989	10.1	14.2	14.9	8.4	7.1	7.6	Psacharopoulos and Ng (1994)
Australia	1976 1995		8.1 14.0	21.1		 7.5	16.3 10.4	*See* Psacharopoulos (1985) OECD (1997,1998)
Austria	1981		11.3	4.2				*See* Psacharopoulos (1985)
Bahamas	1970		26.1			20.6		*See* Psacharopoulos (1985)
Belgium	1960 1995		21.2	8.7 14.0		17.1	6.7 9.0	*See* Psacharopoulos (1985) OECD (1998)
Bolivia	1989 1990	9.8 20.0	8.1 6.0	16.4 19.0	9.3 13.0	7.3 6.0	13.1 13.0	Psacharopoulos and Ng (1994) Psacharopoulos, Ariera and Mattson (1997)
Botswana	1983	99.0	76.0	38.0	42.0	41.0	15.0	*See* Psacharopoulos (1985)
Brazil	1989	36.6	5.1	28.2	35.6	5.1	21.4	Psacharopoulos and Ng (1994)
Canada	1985 1991 1994 1995		20.7 7.8 7.8	8.3 15.5 13.0 14.0		10.6 12.5	4.3 9.0	Vaillancourt (1995), Table 7; Cohn (1997) OECD (1997,1998)
Chile	1989	9.7	12.9	20.7	8.1	11.1	14.0	Psacharopoulos and Ng (1994)
China	1988	7.5	11.6	18.4				Liu (1998)
Colombia	1989	27.7	14.7	21.7	20.0	11.4	14.0	Psacharopoulos and Ng (1994)
Costa Rica	1989	12.2	17.6	12.9	11.2	14.4	9.0	Psacharopoulos and Ng (1994)
Cyprus	1979	15.4	7.0	5.6	7.7	6.8	7.6	*See* Psacharopoulos (1985)
Czech Rep.	1995					22.0	8.7	OECD (1997)
Denmark	1964 1995			10.0 8.0		 10.4	7.8 8.0	*See* Psacharopoulos (1985) OECD (1997, 1998)
Dominican Republic	1989	85.1	15.1	19.4				Psacharopoulos and Ng (1994)
Ecuador	1987	17.1	17.2	12.7	14.7	12.7	9.9	Psacharopoulos and Ng (1994)
El Salvador	1990	18.9	14.5	9.5	16.4	13.3	8.0	Psacharopoulos and Ng (1994)
Ethiopia	1972	35.0	22.8	27.4	20.3	18.7	9.7	*See* Psacharopoulos (1985)
Finland	1995					10.4	14.8	OECD (1997)
France	1976 1995		14.8	20.0 20.0		 14.2	 13.0	Jarousse (1985/86), p.37 OECD (1997, 1998)
Germany	1978 1995		6.5	10.5		 5.7	 10.9	*See* Psacharopoulos (1985) OECD (1997)
Ghana	1967	24.5	17.0	37.0	18.0	13.0	16.5	*See* Psacharopoulos (1985)
Great	1978		11.0	23.0		9.0	7.0	*See* Psacharopoulos (1985)
Britain								
Greece	1977 1993	20.0	6.0 8.3	5.5 8.1	16.5	5.5 6.5	4.5 5.7	*See* Psacharopoulos (1985) Magoula and Psacharopoulos (1997)
Guatemala	1989	33.8	17.9	22.2				Psacharopoulos and Ng (1994)
Honduras	1989	20.8	23.3	25.9	18.2	19.7	18.9	Psacharopoulos and Ng (1994)
Hong Kong	1976		18.5	25.2		15.0	12.4	*See* Psacharopoulos (1985)
India	1978 1995	33.4 2.6	19.8 17.6	13.2 18.2	29.3	13.7	10.8	*See* Psacharopoulos (1985) Kingdon (1998)
Indonesia	1989					11.0	5.0	McMahon and Boediono (1992), Table 7
Iran	1976		21.2	18.5	15.2	17.6	13.6	*See* Psacharopoulos (1985)

TABLE A-1

Returns to Investment in Education by Level (cont.)

Full Method, Latest Year								
		Private Returns (%)			Social Returns (%)			
Country	Year	Primary	Secondary	Higher	Primary	Secondary	Higher	Source[a]
Ireland	1994					18.6	14.0	OECD (1997)
Israel	1958	27.0	6.9	8.0	16.5	6.9	6.6	*See* Psacharopoulos (1985)
Italy	1969 1995		17.3	18.3		 10.4	 9.9	*See* Psacharopoulos (1985) OECD (1997)
Ivory Coast	1984	25.7	30.7	25.1				Komenan (1987), p.25
Jamaica	1989	20.4	15.7		17.7	7.9		Psacharopoulos and Ng (1994)
Japan	1976	13.4	10.4	8.8	9.6	8.6	6.9	*See* Psacharopoulos (1985)
Kenya	1980		16.0			10.0		Knight and Sabot (1987), p.260
Lesotho	1980	15.5	26.7	36.5	10.7	18.6	10.2	*See* Psacharopoulos (1985)
Liberia	1983	99.0	30.5	17.0	41.0	17.0	8.0	*See* Psacharopoulos (1985)
Malawi	1982	15.7	16.8	46.6	14.7	15.2	11.5	*See* Psacharopoulos (1985)
Malaysia	1978		32.6	34.5				*See* Psacharopoulos (1985)
Mexico	1984 1989 1992	21.6 22.6 16.0	15.1 20.1 13.7	21.7 20.8 15.7	19.0 13.3 9.5	9.6 13.5 9.6	12.9 19.7 11.1	Psacharopoulos and Ng (1994) Psacharopoulos et al. (1996) Psacharopoulos et al. (1996)
Morocco	1970				50.5	10.0	13.0	*See* Psacharopoulos (1985)
Nepal	1982		15.0	21.7				USAID (1988), p.2-162
Netherlands	1965 1995		8.5 10.4			 5.2 14.1	 5.5 10.8	 *See* Psacharopoulos (1985) OECD (1997)
New Zealand	1966 1981 1986 1991 1995		20.0 9.4 10.9 13.8	14.7 6.6 9.6 11.9		19.4 10.6 9.9 12.4 12.8	13.2 7.4 8.3 9.5 11.6	*See* Psacharopoulos (1985) Maani (1997) OECD (1997)
Nigeria	1966	30.0	14.0	34.0	23.0	12.8	17.0	*See* Psacharopoulos (1985)
Norway	1966 1995	7.4	7.7			7.2 11.3	7.5 11.6	*See* Psacharopoulos (1985) OECD (1997)
Pakistan	1975 1991	20.0 8.4	11.0 13.7	27.0 31.2	13.0	9.0	8.0	*See* Psacharopoulos (1985) Katsis, Mattson, and Psacharopoulos (1999)
Panama	1989	5.7	21.0	21.0				Psacharopoulos and Ng (1994)
Papua N.G.	1986	37.2	41.6	23.0	12.8	19.4	8.4	McGavin (1991), p.215
Paraguay	1990	23.7	14.6	13.7	20.0	13.0	10.8	Partrinos, Velez and Psacharopoulos
Peru	1990	13.2	6.6	40.0				Psacharopoulos and Ng (1994)
Philippines	1988	18.3	10.5	11.6	13.3	8.9	10.5	Hossain and Psacharopoulos (1993)
Portugal	1995					33.3	27.3	OECD (1997)
Puerto Rico	1959	68.2	52.1	29.0	24.0	34.1	15.5	*See* Psacharopoulos (1985)
Rhodesia	1960				12.4			*See* Psacharopoulos (1985)
Senegal	1985	33.7	21.3		23.0	8.9		Mingat and Jarousse (1985), p.52
Sierra Leone	1971				20.0	22.0	9.5	*See* Psacharopoulos (1985)
Singapore	1966		20.0	25.4	6.6	17.6	14.1	*See* Psacharopoulos (1985)
Somalia	1983	59.9	13.0	33.2	20.6	10.4	19.9	*See* Psacharopoulos (1985)
South Africa	1980				22.1	17.7	11.8	Trotter (1984), p.75
South Korea	1974 1979 1986		20.8 13.0 10.1	21.8 18.9 17.9		17.2 10.8 8.8	15.4 13.9 11.2	Ryoo, Nam, and Carnoy (1993)

TABLE A-1

Returns to Investment in Education by Level (cont.)

Full Method, Latest Year								
		Private Returns (%)			Social Returns (%)			
Country	**Year**	**Primary**	**Secondary**	**Higher**	**Primary**	**Secondary**	**Higher**	**Source[a]**
Spain	1971 1981 1991	31.6	10.2 4.3 6.0	15.5 10.1 9.3	17.2	8.6	12.8	*See* Psacharopoulos (1985) Vila and Mora (1998)
Sri Lanka	1981		12.6	16.1				Sahn and Aldeman (1988), p.166
Sudan	1974		13.0	15.0		8.0	4.0	*See* Psacharopoulos (1985)
Sweden	1967 1995			10.3		10.5 10.9	9.2 8.2	*See* Psacharopoulos (1985) OECD (1997)
Switzerland	1995					19.0	5.5	OECD (1997)
Taiwan	1972	50.0	12.7	15.8	27.0	12.3	17.7	*See* Psacharopoulos (1985)
Tanzania	1982 1991	7.9	8.8		5.0			*See* Psacharopoulos (1985) Mason and Khander (1997)
Thailand	1970 1986	56.0 14.0	14.5 18.0	14.0 12.0	30.5	13.0	11.0	*See* Psacharopoulos (1985) Schultz (1994)
Tunisia	1980		13.0	27.0				Bonattour (1986), p.15
Turkey	1968		24.0	26.0			8.5	*See* Psacharopoulos (1985)
Uganda	1965				66.0	28.6	12.0	*See* Psacharopoulos (1985)
Upper Volta	1982				20.1	14.9	21.3	*See* Psacharopoulos (1985)
United Kingdom	1968 1971 1975 1977 1995			14.5 13.0 10.5 9.5		 14.3	7.5 7.0 6.0 5.5 12.7	Wilson (1983) OECD (1997)
United States	1969 1974 1978 1982 1985 1987 1995					10.0 26.3	12.0 8.9 6.9 10.1 9.5 8.8 10.0	McMahon (1991), Table1 Cohn and Hughes (1994) OECD (1997)
Uruguay	1989	19.1	9.8	8.1	15.2	8.0	6.5	Psacharopoulos and Velez (1994)
Venezuela	1989	27.4	11.9	12.0	18.2	8.9	7.0	Fiszbein and Psacharopoulos (1993)
Yemen	1985	10.0	41.0	56.0	2.0	26.0	24.0	USAID (1986), T.235
Yugoslavia	1971 1976 1986	26.0 13.4 14.6	10.3 5.4 3.1	10.1 6.9 5.3	10.9 5.4 3.3	8.9 4.3 2.3	7.0 5.2 3.1	Bevc (1993)
Zambia	1983			19.2			5.7	Cole (1988), p.11
Zimbabwe	1987	16.6	48.5	5.1	11.2	47.6	-4.3	Bennell and Malaba (1991), T.3

Sources: George Psacharopoulos, "Returns to Investment in Education: A Global Update," World Development 22 (9) (1994); George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education," (Washington, D.C.: Bureau of International Labor Affairs, U.S. Department of Labor, 1999).

Notes: [a]*See* sources after Table A-5 for individual citations.

TABLE A-2

Coefficient on Years of Schooling: Mincerian Rate of Return

Latest Year				
Country	**Year**	**Mean Years of Schooling**	**Coefficient (%)**	**Source[a]**
Argentina	1989		10.3	Psacharopoulos and Ng (1994)
Australia	1980s	9.1	7.9	Miller, Mulvey, and Martin (1995)
	1987	9.7	5.4	Lorenz and Wagner (1990), pp.13-14
Austria	1981		11.6	See Psacharopoulos (1985)
Bolivia	1989	10.1	7.1	Psacharopoulos and Ng (1994)
	1990		10.1	Psacahropoulos and Mattson (1998)
Botswana	1979	3.3	19.1	Lucas and Stark (1985), p.917
Brazil	1970		20.5	Behrman, Birdsall, and Kaplan (1996)
	1980		21.4	
	1989	5.3	14.7	Psacharopoulos and Ng (1994)
Burkina Faso	1980		9.6	Ram and Singh (1988), p.421
Canada	1981	13.2	5.2	Lorenz and Wagner (1990), pp.13-14
	1981		8.5	Cohn (1997)
	1986		8.8	
	1989		8.9	
Chile	1989	8.5	12.0	Psacharopoulos and Ng (1994)
China	1985	3.0	5.0	Jamison and van der Gaag (1987), p.163
	1988		3.6	Liu (1998)
Colombia	1989	8.2	14.0	Psacharopoulos and Ng (1994)
Costa Rica	1980		10.5	Funkhouser (1996)
	1983		8.1	
	1985		8.1	
	1988		9.1	
	1989	6.9	10.9	Psacharopoulos and Ng (1994)
	1991		8.5	Funkhouser (1996)
Cote d'Ivoire	1986	6.9	20.1	van der Gaag and Vijverberg (1989), p.374
Cyprus	1984	9.5	11.0	Demetriades and Psacharopoulos (1987), p.599
Dominican Rep.	1989	8.8	9.4	Psacharopoulos and Ng (1994)
Ecuador	1987	9.6	11.8	Psacharopoulos and Ng (1994)
El Salvador	1985		7.9	Funkhouser (1996)
	1988		7.8	
	1990	6.9	9.7	Psacharopoulos and Ng (1994)
	1990		7.6	Funkhouser (1996)
	1992		7.6	
Ethiopia	1972	6.0	8.0	See Psacharopoulos (1985)
France	1977	6.2	10.0	Jarousse and Mignat (1986), p.11
Germany	1987	10.1	4.9	Lorenz and Wagner (1990), pp.13-14
Ghana	1989	10.0	8.5	Glewwe (1991), p.13
Great Britain	1987	11.8	6.8	Lorenz and Wagner (1990), pp.13-14
Greece	1987	10.0	2.7	Lambropoulos and Psacharopoulos (1992), Table 7
	1993		7.6	Magoula and Psacharopoulos (1997)
Guatemala	1977		12.7	Funkhouser (1996)
	1986		9.8	
	1989		9.3	
	1989	4.3	14.9	Psacharopoulos and Ng (1994)

TABLE A-2

Coefficient on Years of Schooling: Mincerian Rate of Return

Latest Year				
Country	**Year**	**Mean Years of Schooling**	**Coefficient (%)**	**Source[a]**
Honduras	1986 1989 1989 1990 1991	 6.5 	12.5 11.5 17.6 10.4 9.3	Bedi (1997) Funkhouser (1996) Psacharopoulos and Ng (1994) Funkhouser (1996)
Hong Kong	1981	9.1	6.1	See Psacharopoulos (1985)
Hungary	1987	11.3	4.3	Lorenz and Wagner (1990), pp.13-14
India	1980 1995	16.8 	4.9 10.6	Rao and Datta (1989), p.377 Kingdon (1998)
Indonesia (Java)	1981	5.0	17.0	Byron and Takahashi (1989), p.115
Iran	1975		11.6	See Psacharopoulos (1985)
Israel	1979	11.2	6.4	Lorenz and Wagner (1990), pp.13-14
Italy	1987	10.7	2.3	Lorenz and Wagner (1990), pp.13-14
Jamaica	1989	7.2	28.8	Psacharopoulos and Ng (1994)
Japan	1975	11.1	6.5	Hill (1983), p.467
Kenya	1970	3.5	16.4	See Psacharopoulos (1985)
Korea, South	1974 1979 1986 1986	 8.0	12.0 14.1 13.5 10.6	Ryoo, Nam, and Carnoy (1993) Ryoo (1988), p.160
Kuwait	1983	8.9	4.5	Al-Qudsi (1989), p.270
Malaysia	1979	15.8	9.4	Chapman and Harding (1985), p.366
Mexico	1984 1984 1989 1992	6.6 	14.1 6.5 7.5 7.6	Psacharopoulos and Ng (1994) Psacharopoulos et al. (1996)
Morocco	1970	2.9	15.8	See Psacharopoulos (1985)
Netherlands	1983	9.5	7.4	Lorenz and Wagner (1990), pp.13-14
Nicaragua	1978 1985 1993	6.5 	9.7 6.5 7.9	Behrman, Wolfe and Blau (1985), p.11 Funkhouser (1996)
Pakistan	1979 1986 1991	8.6 	9.7 4.6 15.4	Shabbir (1991), p.12 Alderman et al. (1996) Katsis, Mattson, and Psacharopoulos (1999)
Panama	1990	9.2	13.7	Psacharopoulos and Ng (1994)
Paraguay	1983 1990 1990	 9.1	8.2 9.1 11.5	Patrinos, Velez, and Psacharopoulos (1994) Psacharopoulos and Ng (1994)
Peru	1990	10.1	8.1	Psacharopoulos and Ng (1994)
Philippines	1988	9.0	8.0	Hossain and Psacharopoulos (1993)
Poland	1986	11.1	2.9	Lorenz and Wagner (1990), pp.13-14
Portugal	1985	9.5	10.0	Kiker and Santos (1991), p.192
Puerto Rico	1989		15.1	Griffin and Cox Edwards (1993)
Singapore	1974	8.5	13.4	Liu and Wong (1981), p.280

TABLE A-2

Coefficient on Years of Schooling: Mincerian Rate of Return

Latest Year				
Country	**Year**	**Mean Years of Schooling**	**Coefficient (%)**	**Source[a]**
South Vietnam	1964		16.8	See Psacharopoulos (1985)
Spain	1990		9.0	Alba-Ramirez and Segundo (1995)
Sri Lanka	1981	4.5	7.0	See Psacharopoulos (1985)
Sweden	1974	12.4	6.7	See Psacharopoulos (1985)
Switzerland	1987	11.0	7.9	Lorenz and Wagner (1990), pp.13-14
Taiwan	1972	9.0	6.0	See Psacharopoulos (1985)
Tanzania	1980		11.9	See Psacharopoulos (1985)
Thailand	1971	4.1	10.4	See Psacharopoulos (1985)
Tunisia	1980	4.8	8.0	Bonattour (1986), p.15
United Kingdom	1975 1982	13.0	8.0 15.3	See Psacharopoulos (1985) Harmon and Walker (1995)
United States	1987 1991-95	13.6	9.8 10.0	Lorenz and Wagner (1990), pp.13-14 Rouse (1999)
Uruguay	1989 1989	9.0	9.7 9.2	Psacharopoulos and Ng (1994) Psacharopoulos and Velez (1994)
Venezuela	1989 1989 1992	9.1	8.4 9.6 9.4	Psacharopoulos and Ng (1994) Fiszbein and Psacharopoulos (1993) Psacharopoulos and Mattson (1998)
Yugoslavia	1976 1986		6.8 4.8	Bevc (1993)

Sources: George Psacharopoulos, "Returns to Investment in Education: A Global Update," World Development 22 (9) (1994); George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education," (Washington, D.C.: Bureau of International Labor Affairs, U.S. Department of Labor, 1999).

Notes: [a]See sources after Table A-5 for individual citations.

TABLE A-3

Returns to Investment in Education and Bank Deposits (percent)

Country	Investment in Education	Real Bank Deposit Rate
Bolivia	10.1	13.5
Canada	8.9	1.9
China	3.6	-4.6
Costa Rica	8.5	7.1
El Salvador	7.6	-3.2
Greece	7.6	-1.8
Guatemala	9.3	12.6
Honduras	9.3	0.9
Mexico	7.6	5.7
Nicaragua	7.9	-8.8
Paraguay	9.1	3.9
Spain	9.0	5.0
United States	10.0	0.2
Venezuela	9.4	15.7
Uruguay	9.2	-14.7

Source: George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education," (Washington, D.C.: Bureau of International Labor Affairs, U.S. Department of Labor, 1999).

TABLE A-4

Percentage of Economic Growth Rate Attributed to Education

Country	1984[a]	1960-1990	1960-1985	
			Primary School Enrollment	Secondary School Enrollment
North America				
Canada	25.0	4.5		
United States	15.0	10.3		
	35.0[b]			
Europe				
Belgium	14.0			
Denmark	4.0			
France	6.0			
Germany	2.0	-21.9		
Italy	7.0			
Greece	3.0			
Netherlands	5.0			
Norway	7.0			
United Kingdom	12.0	16.0		
USSR	6.7			
Latin America				
Argentina	16.5			
Brazil	3.3			
Chile	4.5	0.0[c]		
Colombia	4.1			
Equador	3.3			
Honduras	6.5			
Mexico	0.8	9.5[c]		
Peru	2.5			
Venezuela	2.4			
Asia				
Hong Kong		5.5[d]	37.7	29.5
Indonesia			5.4	5.4
Japan	3.3	1.5	47.4	33.3
Korea	15.9	6.8[d]	42.4	11.9
Malaysia	14.7		62.5	12.5
Philippines	10.5			
Singapore		7.1[d]	48.3	13.3
Taiwan		2.2[d]	39.1	10.9
Thailand			57.9	7.9
Africa & Middle East				
Ghana	23.2			
Israel	4.7			
Kenya	12.4			
Nigeria	16.0			

Sources:George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education," (Washington, D.C.: Bureau of International Labor Affairs, U.S. Department of Labor, 1999) Annex Tables 2.1-2.3.

Notes: [a] Figures compiled in 1984 based on previous years; [b]1965-90; [c]1940-1980; [d]1966-1990.

TABLE A-5

Education and Growth: Evidence from cross-country Studies

Original Source	Result	Notes
Landau (1983)	Significant coefficient of education variable in explaining growth in per capita GDP growth equal to 0.026	Cross-section of 104 countries in the 1961-76 time period. Education is measured by the weighted sum of enrollments in primary, secondary and higher education.
Weede (1983)	Significant coefficient of primary school enrollments in explaining the growth rate of GDP equal to 0.029	Cross-section of 90 countries in the 1960-79 time period.
Landau (1986)	Significant coefficient of education variable in explaining per capita GDP growth equal to 0.032	Cross section of 154 countries in the 1960-80 time period. Education is measured by the relative earnings weighted sum of enrollments in primary, secondary and higher education.
Azariadis and Drazen (1990)	Early literacy is threshold countries must pass for subsequent growth.	Cross-section of 32 countries in the 1940-85 time period.
Lau, Jamison and Louat (1990)	Elasticities of output with respect to education: • Sub Sah. Africa 0.03 • Middle E N. Afr 0.10 • East Asia 0.13 • S. Asia Not significant • Latin America 0.17	Based on cross-section panel data of 58 countries in the 1960-86 period. Education was measured by the average school years of the labor force.
Otani and Villanueva (1990)	Public expenditure on education contributes 1% annually to the average per capita growth rate in LDCs.	Based on cross-section of 55 countries, unspecified year. Education variable is proxied by budgetary expenditure.
Kyriacou (1991)	Negative and insignificant contribution of education to economic growth.	Cross-section/panel of 111 countries in the 1970-85 period. Education proxy is number of years of schooling of the labor force.
Barro (1991)	An increase of 1 percentage point of the respective initial (1960) enrollment ratio raises the 1960-85 growth rate by .025 percentage points for primary education, and 0.035 for secondary education.	Based on 98 countries in the 1960-1985 period. Education variable is proxied by primary and secondary school enrollments.
Mankiw, Romer and Weil (1992)	The coefficient of the log(education) variable on log(GDP/worker) is of the order 0.70 and significant. The coefficient of the log(education) variable on the log(difference GDP per worker 1960-1985) is of the order of 0.23 and statistically significant.	Cross-section/panel of 121 countries in the 1960-85 period. Education is measured by the percentage of working age population that is in secondary school.

TABLE A-5

Education and Growth: Evidence from cross-country Studies (cont.)

Original Source	Result	Notes
World Bank (1993)	Only primary education enrollment in 1960 has significant coefficient (0.0264) in explaining the 1960-85 growth rate.	Cross-section of 113 countries in the 1960-85 period. Education variable is measured by enrollments at the three levels of schooling.
Glaeser (1994)	Out of the total effect of education on growth (equal to 0.89), 0.69 is due to the indirect effect of prior education on later education.	Cross-section of 112 countries in the 1960-85 period. Education is measured by secondary school enrollments.
Benhabib and Spiegel (1994)	Coefficient of education as independent factor of production variable is negative and insignificant in explaining differences is per capita income between countries. Coefficient becomes positive and significant by adding the level of human capital stock in the model.	Cross-section panel of countries in the 1965-85 period. Education variable is measured as combination of enrollments and the educational level of the labor force.
Lee, Liu and Wang (1994)	Korea, 1961-1988: Insignificant effect of human capital enhanced labor input on log (per capita income). Taiwan, 1955-1986: Coefficient of human capital enhanced labor input on log per capita income equal to 0.241.	Based on within country time series regressions.
Barro and Sala-I-Martin (1995)	A one standard deviation increase in the male secondary and higher schooling raises the growth rate by 1.1 and 0.5 percentage points, respectively. The effects of primary education and female schooling are insignificant. A one standard deviation increase in public expenditure on education raises the growth rate by 0.3.	Cross-section of 97 countries in the 1965-85 period. Education is measured by (a) the male and female, secondary and higher education attainment; and (b) by public spending on education.
O'Neill (1995)	Convergence in education contributed to a significant reduction in income inequality between countries.	Cross-section of countries in the 1967-85 period. Education variable is (a) lagged gross secondary enrollment ratios, and (b) average years of schooling of the labor force.

TABLE A-5

Education and Growth: Evidence from cross-country Studies (cont.)

Original Source	Result	Notes
Ramey and Ramey (1995)	Initial education contributes 0.12 percentage points to the average growth rate.	Cross-section of 92 countries in the 1960-85 period. Education is measured by the average schooling years of the adult population.
Gundlach (1995)	The effect of human capital formation on the growth of output per worker is twice as much that of physical capital.	Cross-section panel of 89 countries in the 1960-85 period. Education is measured as a stock, rather than as a flow.
Pritchett (1996)	Growth in human capital contributes negatively and significantly to total factor productivity.	Cross-section of 91 countries in the 1960-87 period. Education variable is growth in the stock of human capital arrived at by assuming an average rate of return to schooling (10%) and reversing Mincer's earnings function.
Lau, Jamison, Liu and Rivkin (1996)	The average level of education has a 20% effect on output.	Meta production function fitted to Brazilian States data in the period 1970-1980. Education variable is mean schooling years of the labor force.
Gemmell (1996)	Significant coefficients of the initial stock (0.81) and growth (2.68) of primary education in explaining the 1960-85 growth rate.	Based on cross-country regression of 98 countries in the 1960-85 period.
Barro (1997)	One extra year of male secondary or higher education raises growth rate by 1.2 percentage points per year Primary education does not affect the growth rate. Female education does not affect growth rate. Cross-section of 87 countries in the 1960-1990 period.	Education variable is average years of attainment of population over age 25.
Bils and Klenow (1998)	Growth affects schooling, rather than the other way around.	Cross-section panel of 52 countries in the 1960-90 period. Education proxy measured by school enrollments. Instrumental variables regression.

TABLE A-5

Education and Growth: Evidence from cross-country Studies (cont.)

Original Source	Result	Notes
McMahon (1998)	Significant coefficient of primary school enrollments on per capita growth equal to 0.026. Significantly negative coefficient of higher education enrollments on per capita output growth.	Five year panel data in the 1965-90 time period for East Asia.
Temple (1998a)	Significant coefficient 0.18 of unspecified "school" variable in explaining the log-difference GDP per capita, 1960-1985.	Cross-section of 60 countries in the 1960-85 period.
Temple (1998b)	Significant coefficient of 0.165 of human capital variable on growth rate.	Cross-section panel of 68 countries in the 1965-85 period, after exclusion of 14 outliers.
Topel (1998)	A one year increase in average years of schooling of the labor force raises output per worker by 5-15%.	Cross-section panel of 111 countries in the 1960-90 period.
Krueger and Lindahl (1999)	Rate of return to schooling equals 18 – 30%.	Panel cross-section of 110 countries. Education variable is average years of schooling. Fitted macro-Mincer earnings function across countries.

Source: George Psacharopoulos, "The Opportunity Cost of Child Labor: A Review of the Benefits of Education," (Washington, D.C.: Bureau of International Labor Affairs, U.S. Department of Labor, 1999): Table 3. See sources begining on the following page for full citations to original sources.

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Appendix B: Tabulated Child Labor Data

The following tables present data relevant to the economics of child labor. Tabulations of household level survey data collected in nine countries under International Labor Organization (ILO) sponsorship are presented, as well as two country tables produced using data from the World Bank's Living Standards Measurement Survey (LSMS) project. Nepal is represented in both the ILO and World Bank tables.

Because each country participating in either the ILO or World Bank programs have conducted their data collection efforts independently, percentages are not directly comparable across countries. Data definitions, concepts and culturally driven perceptions of these concepts can cause differences in measurements of child labor across countries that would not exist if the data were generated using the same definitions and concepts, or if concepts were viewed through a common cultural filter. Indeed, this issue of comparability can even sometimes hamper comparisons within different areas of the same country. In Indonesia, for example, the concept of work varies among different regions:

> The percentage of respondents to the word "working" is also dependent on cultural values. For instance, if the question of working is asked in Bali the answer is almost certainly "yes," indicating that everybody is working. This is due to the fact that Balinese see any activity as a working activity. But in other parts of Indonesia, for example in Yogya, the word "working" applies only to those who work as civil servants.[1]

As a result, figures on the incidences of child labor should be considered not to be directly comparable across countries. Instead, identifying common patterns or trends is a more appropriate objective.

Defining "economically active" work was not an easy task for the statistical authorities collecting the data. The standard method for defining economically active work is to consider tasks done for an enterprise outside the family as economically active, whether or not children are paid. Tasks performed within the home for one's own family are also considered "economically active" if the products of such work contribute to household income. Household chores that simply benefit the family—such as caring for one's siblings or producing food for the family's own consumption—however, are not typically considered "economically active" work. Countries which differ from this standard definition are noted within footnotes at the end of the individual tables.

Tables for each country are divided into two to four panels. Panel A contains economic activity rates for a variety of subgroups of children. Panel B compares economically active and non-active children along specific dimensions. For example, the third entry in Panel B in Table B-1 gives for Bangladesh the relative frequency of various levels of educational attainment for active, non-active, and all children; and shows that active children are disproportionately more likely to have no education at all (88 percent of active children have no education, versus ten percent of non-active children and 25 percent overall). Panel C gives an indication of the type of work in which active children are engaged. Panel D (available only for the Philippines in Table B-7) gives reasons why children work.

It is important to note the difference between "usual" and "current" definitions of economic activity. Those surveys which measure economic activity according to the "usual" definition of economic activity consider children who work, or look for work,

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[1] *Working Children in Indonesia* (Bandung: Central Bureau of Statistics, 1993) 39.

for at least one hour in the *twelve months* prior to survey as "economically active." Surveys that measure children according to the "current" definition of economic activity consider children who work or look for work for at least one hour in the *week* prior to survey as "economically active." Most often, figures presented here are based on the "usual" definition. Variations from this standard are noted where relevant.

Most country studies are nationally representative, even when figures are based on a relatively small sample. Ghana and Indonesia provide exceptions to this rule. In these two countries, samples on which the numbers are based are not representative of the country as a whole. Instead, these countries sampled households within only a select couple of regions.

Finally, the data provided here are only a "snapshot" of the child labor situation in the countries represented. They are suggestive of factors or variables that may be related to child labor, either as causes or outcomes, but they are not conclusive findings. Ideally, these data should serve as a guide to further analyses that seek to relate child labor to a variety of variables—not just one or two at a time—so that the interaction among variables and the relative importance of each can be assessed. Critical to these analyses is understanding the decision making process that leads households to send their children to work.

The next step for data analysis is to look at how households with varying characteristics differ in their child labor decisions. Analysis based on statistical techniques such as multiple regression is needed, and for this, data records for each household surveyed are the necessary input. At the moment, such data are available to researchers from the LSMS program.[2] ILO sponsored data are currently available only in tabulated form. However, the ILO has plans to sponsor new household level surveys in over forty countries, and it is expected that household level survey data from many of these surveys will be available to researchers for rigorous analysis. Thus the ability to go beyond tabulations such as those presented here, and accordingly to draw firmer conclusions about the causes of child labor in a variety of countries, should be enhanced in the future.

[2] More information on the Living Standards Measurement Study may be found at: www.worldbank.org/lsms. For many countries, household level data and necessary documentation may be downloaded directly. Other countries' data and documentation require a written request (and sometimes a fee payment) to the particular country and to the LSMS office. In most cases, the household level is available once these permissions are granted."

Table B-1

Bangladesh, 1995/96

Economic Activity Among 5-14 Year Olds

A. ECONOMIC ACTIVITY RATES (1) (2)

Age			
	5-9 yrs. old	4.4%	
	10-14 yrs. old	34.1%	
	5-14 yrs old	19.1%	
Gender by age		**Female**	**Male**
	5-9 yrs. old	3.9%	4.9%
	10-14 yrs. old	29.2%	38.4%
	5-14 yrs. old	16.1%	21.9%
Urban/Rural Status by age		**Urban**	**Rural**
	5-9 yrs. old	3.1%	4.7%
	10-14 yrs. old	25.6%	36.7%
	5-14 yrs. old	15.2%	20.2%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

variable			Economically active (1) (2)	Non-active	Total
Age					
		5-9 yrs. old	11.6%	59.7%	50.5%
		10-14 yrs. old	88.4%	40.3%	49.5%
		5-14 yrs old	100%	100.0%	100.0%
Gender by age					
	5-9 yr. olds	Female	43.3%	49.7%	49%
		Male	56.6%	50.3%	51%
		Total	100.0%	100.0%	100%
	10-14 yr. olds	Female	40.1%	50.4%	47%
		Male	59.9%	49.6%	53%
		Total	100.0%	100.0%	100%
	5-14 yr. olds	Female	40.5%	50.0%	48%
		Male	59.5%	50.0%	52%
		Total	100.0%	100.0%	100%
Educational attainment					
		No education	88.8%	*10.0%*	25%
		Primary	9.4%	*70.2%*	59%
		Junior secondary	1.5%	*16.5%*	14%
		Secondary	0.1%	*3.4%*	3%
		Other	0.3%	*0.0%*	0%
		Total	100%	*100%*	100%
Household land ownership					
		Landless	5.9%	42.6%	35%
		-.5 acres	47.2%	28.8%	33%
		.5 to .99 acres	10.9%	7.0%	8%
		1 to 2.99 acres	24.2%	14.0%	16%
		3 to 3.99 acres	4.5%	2.7%	3%
		4 + acres	7.2%	5.0%	5%
		Total	100.0%	100.0%	100%

Table B-1

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry				
	Agriculture	65%		
	Manufacturing	8%		
	Transport/Communication	2%		
	Other services	10%		
	Household services/Others	14%		
	Total	100%		
Occupation				
	Prof., Technical	3%		
	Admin., Managerial	0%		
	Clerical workers	0%		
	Sales workers	6%		
	Service workers	9%		
	Agriculture, fishery, and forestry	71%		
	Transport and Production	5%		
	Not adequately defined	6%		
	Total	100%		
Class of worker				
	Full-time employee	9%		
	Part-time employee	7%		
	Self-employed	4%		
	Employer	0%		
(3)	Unpaid worker	62%		
	Paid apprentice	2%		
	Unpaid apprentice	1%		
	Day laborer/casual worker	14%		
	Total	100%		

Source: Report on National Sample Survey of Child Labour in Bangladesh (Dhaka: Bangladesh Bureau of Statistics, October 1996). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Unpaid domestic activities,voluntary community services, and household work are not considered to be "economically active" tasks. However, if the child works without pay on a family farm or for some other family enterprise, then he/she is considered to be "economically active" because the goods produced are generally items that can be sold on the market.
In addition, certain types of production for own consumption [not specified], as well as all production for primary products for own consumption covering the activities of agriculture, hunting, forestry, logging, mining, and quarrying are considered "economically active," as well as the processing of, "butter, cheese, flower, oil, cloth, or furniture" whether or not they are sold on the market.

(2) Information on economic activity is available according to both "current" and "usual" definitions. Data in the table are based on "usual" figures.

(3) Children who work for one or more hours without receiving monetary compensation are considered "unpaid workers." Often these children are unpaid family workers who work without pay in a family operated farm or in a business owned/operated by the household head or other members of the household to whom the child is related by kinship, marriage, adoption, or dependency.

Table B-2

Cambodia, 1996

Economic Activity Among 5-17 Year Olds

A. ECONOMIC ACTIVITY RATES (1) (2)

Age			
	5-9 yrs. old	1.6%	
	10-14 yrs. old	12.3%	
	15-17 yrs. old	42.6%	
	5-14 yrs. old	6.9%	
	5-17 yrs old	14.1%	
Gender by age		**Female**	**Male**
	5-9 yrs. old	1.7%	1.5%
	10-14 yrs. old	14.4%	10.3%
	15-17 yrs. old	48.5%	36.3%
	5-14 yrs. old	8.0%	6.0%
	5-17 yrs. old	16.6%	11.8%
Urban/Rural Status by age		**Urban**	**Rural**
	5-9 yrs. old	1.0%	1.7%
	10-14 yrs. old	6.6%	13.4%
	15-17 yrs. old	24.3%	45.3%
	5-14 yrs. old	3.9%	7.5%
	5-17 yrs. old	8.1%	15.4%
	Female	7.8%	17.2%
	Male	5.9%	10.8%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

variable			Economically active (1) (2)	Non-active	Total
Age					
		5-9 yrs. old	4.6%	*45.8%*	40.0%
		10-14 yrs. old	34.8%	*40.8%*	39.9%
		15-17 yrs. old	60.7%	*13.4%*	20.1%
		5-17 yrs old	100%	*100.0%*	100.0%
Gender by age					
	5-9 yr. olds	Female	51%	*48%*	48%
		Male	49%	*52%*	52%
		Total	100%	*100%*	100%
	10-14 yr. olds	Female	56%	*47%*	48%
		Male	44%	*53%*	52%
		Total	100%	*100%*	100%
	15-17 yr. olds	Female	58%	*46%*	51%
		Male	42%	*54%*	49%
		Total	100%	*100%*	100%
	5-14 yr. olds	*Female*	56%	*48%*	48%
		Male	44%	*52%*	52%
		Total	100%	*100%*	100%
	5-17 yr. olds	Female	57%	*47%*	49%
		Male	43%	*53%*	51%
		Total	100%	*100%*	100%

Table B-2

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry (5-14 yrs. old)	Female	Male	All
Agriculture	88.0%	91.4%	89.0%
Industry	4.0%	2.6%	3.4%
Services	8.0%	6.0%	7.1%
Total	100.0%	100.0%	99.5%
Occupation (5-14 yrs. old)			
Professional	0.0%	0.1%	0.1%
Skilled agriculture & fishery worker	83.9%	89.1%	86.2%
Service & shop & market sales workers	7.1%	4.4%	5.9%
Elementary occupation	5.5%	3.8%	4.7%
Craft & related trades workers	3.1%	2.5%	2.8%
Plant & machines operators & assemblers	0.4%	0.0%	0.2%
Total	100.0%	99.9%	99.9%
Class of worker (5-17 yrs. old)			
Permanent	17.1%	12.9%	15.3%
Short term/casual	7.2%	5.5%	6.5%
Seasonal/school vacation	75.5%	81.4%	78.0%
Worked for different employers	0.2%	0.1%	0.2%
Total	100.0%	99.9%	100.0%

Source: Report on Child Labour in Cambodia (Phnom Penh: National Institute of Statistics, July 1997). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Household chores are not included in activities considered to be "economically active."

(2) Data in the table are based on "current" figures.

Table B-3

Ghana, 1994 (1) (2)

Economic Activity Among 5-14 Year Olds

A. ECONOMIC ACTIVITY RATES (3) (4)

Age			
	5-9 yrs. old	1.0%	
	10-14 yrs. old	4.6%	
	5-14 yrs old	2.7%	
Gender by age		**Female**	**Male**
	5-9 yrs. old	1.3%	0.7%
	10-14 yrs. old	7.6%	2.0%
	5-14 yrs. old	4.1%	1.4%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable (2)			Economically active (3) (4)	Non-active	Total
Age					
		5-9 yrs. old	19.6%	53.4%	*52.5%*
		10-14 yrs. old	80.4%	46.6%	*47.5%*
		5-14 yrs old	100%	100.0%	*100.0%*
Gender by age					
	5-9 yr. olds	Female	63.2%	50.3%	*50%*
		Male	36.8%	49.7%	*50%*
		Total	100.0%	100.0%	*100%*
	10-14 yr. olds	Female	75.6%	44.1%	*46%*
		Male	24.4%	55.9%	*54%*
		Total	100.0%	100.0%	*100%*
	5-14 yr. olds	Female	73.2%	47.4%	*48%*
		Male	26.8%	52.6%	*52%*
		Total	100.0%	100.0%	*100%*

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry	**Female**	**Male**	**All**
Sales	79.1%	68.3%	78.6%
Service	6.0%	10.6%	7.1%
Agriculture	6.0%	15.9%	4.8%
Production	4.5%	5.3%	4.8%
Laborers	4.4%	0.0%	3.6%
Other	0.0%	0.0%	1.2%
TOTAL	100.0%	100.1%	100.1%
Class of worker	**Female**	**Male**	**All**
Permanent	73.4%	94.9%	78.5%
Temporary	21.9%	5.0%	17.9%
Seasonal	4.7%	0.0%	3.6%
TOTAL	100.0%	100.0%	100.0%

Source: Child Labor in Ghana (Accra: Ghana Statistical Service, August 1994). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) The study was limited to three areas of the country: Accra Metropolitan, Sene, and Sissala. These areas were chosen to reflect both urban and rural areas, as well as coastal, forest, and Savannah zones of the country. Sample figures have not been adjusted to correspond to representative population figures.

(2) The report cites the total number of children in the survey as 3,597. However, a larger alternative figure exists for the variables of age and gender suggesting that a number of respondents did not answer the more detailed questions. This table makes use of the 3,597 figure for the variables of "age" and "gender" rather than alternative calculations citing larger numbers. The variables of "type of industry" and "nature of employment" are based on sample sizes of less than 3,597.

(3) A working child is defined as a child between 5 and 14 years old engaged in economic activity (not including household chores) with or without the payment of wages in cash or in-kind.

(4) Information on economic activity is available according to both "current" (for some variables) and "usual" definitions. Data in the table are based on "usual" figures.

Table B-4

Indonesia, 1993 (1)

Economic Activity Among 5-14 Year Olds

A. ECONOMIC ACTIVITY RATES (2) (3)

Age (Current)			
	5-9 yrs. old	*0.7%*	
	10-14 yrs. old	*7.2%*	
	5-14 yrs old	*4.4%*	
Gender by age (current)		**Female**	**Male**
	5-9 yrs. old	0.5%	0.8%
	10-14 yrs. old	*6.1%*	*8.3%*
	5-14 yrs. old	*3.7%*	*5.1%*

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable		Economically active (2) (3)	Non-active	Total
Age (Current)				
	5-9 yrs. old	*6.3%*	*44.5%*	*42.8%*
	10-14 yrs. old	*93.7%*	*55.5%*	*57.2%*
	5-14 yrs old	*100%*	*100.0%*	*100.0%*
Gender by age (Current)				
5-9 yr. olds	Female	*36.7%*	*48.2%*	*48.1%*
	Male	*63.3%*	*51.8%*	*51.9%*
	Total	*100.0%*	*100.0%*	*100.0%*
10-14 yr. olds	Female	40.2%	48.4%	47.8%
	Male	59.8%	51.6%	52.2%
	Total	100.0%	100.0%	100.0%
5-14 yr. olds	Female	*40.0%*	*48.4%*	*47.9%*
	Male	*60.0%*	*51.6%*	*52.1%*
	Total	100.0%	100.0%	100.0%

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry (Usual)	**Female**	**Male**	**All**
10-14 yr. olds			
Agriculture	*22.0%*	*49.5%*	*39.1%*
Mining	*0.0%*	*0.1%*	*0.0%*
Manufacturing	*36.6%*	*13.7%*	*22.3%*
Construction	*0.1%*	*0.6%*	*0.4%*
Trade	*6.8%*	*20.0%*	*15.0%*
Transport	*0.0%*	*5.2%*	*3.3%*
Service	*34.5%*	*1.6%*	*14.0%*
Others	*0.1%*	*0.9%*	*0.6%*
Missing values	*0.0%*	*8.3%*	*5.2%*
Total	*100.1%*	*99.9%*	*99.9%*
Class of worker (Usual)	**Female**	**Male**	**All**
10-14 yr. olds			
Own-account workers	*16.7%*	*11.2%*	*13.3%*
Employer w. unpaid workers	*1.0%*	*1.0%*	*1.0%*
Employee/permanent worker	*26.7%*	*6.2%*	*13.9%*
Temporary worker	*8.0%*	*18.6%*	*14.6%*
Unpaid worker	*47.6%*	*54.7%*	*52.0%*
Missing values	*0.0%*	*8.3%*	*5.2%*
Total	*100.0%*	*100.0%*	*100.0%*

Table B-4

D. REASONS WHY ECONOMICALLY ACTIVE CHILDREN WORK

Reason for Working (Usual) 10-14 yr. olds			
No longer at school	21.8%		
To gain experience	9.4%		
To meet own expenses	19.1%		
To help household finances	37.0%		
Forced	3.3%		
Others	4.0%		
Missing values	5.4%		
Total	100.0%		

Source: Working Children in Indonesia (Bandung: Central Bureau of Statistics, 1993). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) The study was conducted in 2 areas of Indonesia: the urban part of Bandung Municipality and the rural part of Bandung Regency . Both areas are in West Java province which is the largest of 27 provinces, with a population of more than 35 million out of 180 million people in total. In 1990, the prevalence of working children in Indonesia was 9.5%, and around 7% in West Java. The figures shown represent the sample of households surveyed.

(2) A working child is defined as a child between the ages of 5 and 14 engaged in economic activity with or without the payment of wages in cash or in-kind. Due to the way the Indonesia survey was worded, it is unclear whether or not household chores are included in the definition of economic activity. (See p. 39 of Indonesia report for more detail on why this is the case).

(3) Information on economic activity is available according to both "current" (for some variables) and "usual" definitions. Data in the table are based on both "current" and "usual" figures, and are marked as such next to variable names.

(4) Cottage/household industries refer to establishments with four or less workers. Small/medium/large establishments refer to businesses with more than four workers.

Table B-5

Nepal, 1995/96

Economic Activity Among 5-14 Year Olds

A1. ECONOMIC ACTIVITY RATES (1) (2)

Age		
5-9 yrs. old	12.5%	
10-14 yrs. old	40.8%	
5-14 yrs old	26.7%	
Gender by age	**Female**	**Male**
5-9 yrs. old	12.6%	12.4%
10-14 yrs. old	38.5%	42.9%
5-14 yrs. old	25.5%	27.9%
Urban/Rural status by age	**Urban**	**Rural**
Male	9.9%	29.6%
Female	7.3%	27.1%
All	8.5%	28.4%
Household size (4)		
1-2	42.1%	
3-4	27.0%	
5-6	26.9%	
7-8	28.8%	
9+	24.1%	
Total	26.7%	

A2. PARTICIPATION RATES IN PERFORMANCE OF "NON-ECONOMIC" ACTIVITIES

Age		
5-9 yrs. old	12.3%	
10-14 yrs. old	17.5%	
5-14 yrs old	14.9%	
Gender by age	**Female**	**Male**
5-9 yrs. old	16.8%	7.8%
10-14 yrs. old	27.4%	8.5%
5-14 yrs. old	22.1%	8.2%
Urban/Rural status by age	**Urban**	**Rural**
Male	7.4%	8.3%
Female	22.2%	22.1%
All	14.4%	15.0%
Household size (4)		
1-2	21.1%	
3-4	14.9%	
5-6	16.1%	
7-8	14.7%	
9+	13.4%	
Total	14.9%	

Table B-5

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable		Economically active (1) (2)	Performing "non-economic' tasks (1)	Working children (3)	Non-working children	Total
Age (5)						
	5-9 yrs. old	27.0%	45.7%	33.9%	*68.5%*	54.7%
	10-14 yrs. old	73.0%	54.3%	66.1%	*31.5%*	45.3%
	5-14 yrs old	100.0%	100.0%	100.0%	*100.0%*	100.0%
Gender by age						
5-9 yr. olds	Female	49.5%	67.4%	58.3%	*46.0%*	49.0%
	Male	50.5%	32.6%	41.7%	*54.0%*	51.0%
	Total	100.0%	100.0%	100.0%	*100.0%*	100.0%
10-14 yr. olds	Female	45.3%	74.9%	54.3%	*39.3%*	48.0%
	Male	54.7%	25.3%	46.0%	*60.4%*	52.0%
	Total	100.0%	100.2%	100.3%	*99.7%*	100.0%
5-14 yr. olds	Female	46.3%	71.9%	55.4%	*43.7%*	49.0%
	Male	53.7%	28.3%	44.5%	*56.4%*	51.0%
	Total	100.0%	100.2%	99.9%	*100.1%*	100.0%
School enrollment (5)						
	Yes	59.5%	64.3%	61.2%	*71.5%*	67.1%
	No	40.5%	35.7%	38.8%	*28.5%*	32.9%
	Total	100.0%	100.0%	100.0%	*100.0%*	100.0%
Educational attainment of household head						
	Illiterate	56.3%	45.8%	52.4%	*46.2%*	49.0%
	Primary school	30.3%	31.5%	30.7%	*29.5%*	30.0%
	Secondary	9.3%	14.1%	11.0%	*14.1%*	13.0%
	Secondary +	4.1%	8.4%	5.7%	*10.1%*	8.0%
	TOTAL	100.0%	99.8%	99.8%	*99.9%*	100.0%
Household size (4)						
	1-2	0.5%	0.4%	0.5%	*0.2%*	0.0%
	3-4	9.8%	9.7%	9.8%	*9.6%*	10.0%
	5-6	35.3%	37.8%	36.2%	*34.2%*	35.0%
	7-8	30.5%	27.9%	29.5%	*27.4%*	28.0%
	9+	24.0%	24.0%	24.0%	*28.6%*	27.0%
	Total	100.1%	99.8%	100.0%	*100.0%*	100.0%
Labor force status of household head						
	Agricultural	78.5%	67.2%	74.5%	*66.8%*	70.0%
	Non-agricultural	21.5%	32.8%	25.5%	*33.2%*	30.0%
	Total	100.0%	100.0%	100.0%	*100.0%*	100.0%
Size of household landholding						
	Landless	10.9%	19.0%	13.8%	*19.5%*	17.0%
	Small	4.0%	4.8%	4.4%	*4.1%*	4.0%
	Marginal	24.4%	22.2%	23.7%	*22.1%*	23.0%
	Large	60.3%	53.7%	58.0%	*54.1%*	56.0%
	Total	99.6%	99.7%	99.9%	*99.8%*	100.0%

Table B-5

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry (Usual) **10-14 yr. olds**					
Agriculture	95.0%				
General Technical	1.0%				
Sales	0.0%				
Service	2.0%				
Production	1.0%				
Construction, Transport, Communication	2.0%				
Total	101.0%				

Source: Child Labour Situation in Nepal (Kathmandu: Central Department of Statistics, Tribhuvan University; September 1997). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Economically active refers to children doing work for more than 2 hours a day, not including household work. Work done on one's own farm is considered to be economically active; work done within one's own home, however, is not. Non-economic refers to household work done in one's own home.

(2) Data in the tables are based on "usual" definitions of economic activity.

(3) Economically active + performing non-economic tasks = working children.

(4) Household size refers to the total number of members in the immediate family.

(5) In the report, some children were not accounted for in the data presented. Figures here reflect only those children for whom this information was provided.

Table B-6

Pakistan, 1996

Economic Activity Among 5-14 Year Olds

A. ECONOMIC ACTIVITY RATES (1) (2)

Age			
	5-9 yrs. old	2.7%	
	10-14 yrs. old	14.9%	
	5-14 yrs old	8.3%	
Gender by age		**Female**	**Male**
	5-9 yrs. old	2.3%	3.0%
	10-14 yrs. old	7.2%	22.2%
	5-14 yrs. old	4.5%	11.8%
Urban/Rural Status by age		**Urban**	**Rural**
	5-9 yrs. old	0.6%	3.4%
	10-14 yrs. old	5.9%	18.7%
	5-14 yrs. old	3.2%	10.3%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable			Economically active (1) (2)	Non-active	Total
Age					
		5-9 yrs. old	17.3%	57.3%	54%
		10-14 yrs. old	82.7%	42.7%	46%
		5-14 yrs old	100%	100.0%	100%
Gender by age					
	5-9 yr. olds	Female	41.8%	48.4%	48%
		Male	58.2%	51.6%	52%
		Total	100.0%	100.0%	100%
	10-14 yr. olds	Female	23.4%	53.1%	49%
		Male	76.6%	46.9%	51%
		Total	100.0%	100.0%	100%
	5-14 yr. olds	Female	26.6%	50.4%	48%
		Male	73.4%	49.6%	52%
		Total	100.0%	100.0%	100%

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry			
	Agriculture, Forestry, Hunting, and Fishing	67.0%	
	Mining and Quarrying	0.0%	
	Manufacturing	10.8%	
	Electricity, Gas, and Water	0.0%	
	Construction	1.8%	
	Trade, Hotel, and Restaurants	8.7%	
	Transport Storage & Communication	3.7%	
	Finance, Insurance, Real Estate & Business	0.0%	
	Community, Social, & Personal Services	8.0%	
	TOTAL	100.0%	
Class of worker			
	Employer	0.0%	
	Self-employed	6.7%	
	Employee	23.2%	
	Unpaid Family Worker	70.1%	
	TOTAL	100.0%	

Source: Summary Results of Child Labour Survey in Pakistan (Islamabad: Federal Bureau of Statistics; and the Ministry of Labour, Manpower, and Overseas Pakistanis, October 9 1996). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Household tasks are not considered "economically active" work. Furthermore, only principal activites are considered when categorizing children as economically active or not economically active.

(2) Information on economic activity is available according to both "current" and "usual" definitions. Data in the table are based on "current" figures.

Table B-7

Philippines, 1995

Economic Activity Among 5-17 Year Olds

A. ECONOMIC ACTIVITY RATES (1) (2)

Age				
		5-9 yrs. old	2.5%	
		10-14 yrs. old	18.7%	
		15-17 yrs. old	37.0%	
		5-14 yrs. old	*10.6%*	
		5-17 yrs old	16.0%	
Gender by age			**Female**	**Male**
		5-9 yrs. old	1.9%	3.1%
		10-14 yrs. old	13.6%	23.5%
		15-17 yrs. old	25.8%	47.4%
		5-14 yrs. old	*7.8%*	*13.3%*
		5-17 yrs. old	11.7%	20.8%
Urban/Rural Status by age			**Urban**	**Rural**
		5-9 yrs. old	1.7%	3.2%
		10-14 yrs. old	12.0%	24.5%
		15-17 yrs. old	26.7%	47.2%
		5-14 yrs. old	*6.9%*	*13.8%*
		5-17 yrs. old	11.5%	20.7%
	Female	5-17 yrs. old	9.0%	14.1%
	Male	5-17 yrs. old	13.9%	27.0%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

			Economically active (1) (2)	Non-active	Total
Age					
		5-9 yrs. old	5.9%	45.2%	38.8%
		10-14 yrs. old	44.8%	38.3%	39.4%
		15-17 yrs. old	49.2%	16.4%	21.8%
		5-17 yrs old	100.0%	100.0%	100.0%
Gender by age					
	5-9 yr. olds	Female	36.9%	48.8%	48.5%
		Male	63.1%	51.2%	51.5%
		Total	100.0%	100.0%	100.0%
	10-14 yr. olds	Female	35.6%	52.0%	48.9%
		Male	64.4%	48.0%	51.1%
		Total	100.0%	100.0%	100.0%
	15-17 yr. olds	Female	33.3%	56.4%	47.9%
		Male	66.7%	43.6%	52.1%
		Total	100.0%	100.0%	100.0%
	5-14 yr. olds	*Female*	*35.8%*	*50.3%*	*48.7%*
		Male	*64.2%*	*49.7%*	*51.3%*
		Total	*100.0%*	*100.0%*	*100.0%*
	5-17 yr. olds	Female	34.5%	51.3%	48.5%
		Male	65.5%	48.7%	48.5%
		Total	100.0%	100.0%	97.0%

Table B-7

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry (3)	Female	Male	All
Farming	53%	88%	67%
Fishing	2%	12%	7%
Wholesale/Retail trade	26%	13%	16%
Non-food manufacturing	6%	4%	4%
Personal services	15%	4%	8%
Others	9%	17%	13%
Not reported	0%	0%	0%
TOTAL	111%	138%	115%
Occupation (3)	**Female**	**Male**	**All**
Professional, Tech'l, etc	0%	0%	0%
Clerical	0%	1%	1%
Sales	27%	13%	17%
Service	20%	5%	9%
Agricultural, animal husbandry, forestry	56%	104%	77%
Production, transportation, laborers	9%	14%	11%
Others	0%	2%	1%
TOTAL	112%	139%	116%
Class of worker (3)	**Female**	**Male**	**All**
Permanent	26%	36%	29%
Short term/casual	35%	42%	36%
Seasonal/school vacation	45%	53%	45%
Continuous temp worker	4%	7%	5%
Others	1%	1%	1%
Not reported	0%	0%	0%
TOTAL	111%	139%	116%

D. REASONS WHY ECONOMICALLY ACTIVE CHILDREN WORK

Main reason for working			
To gain experience	14%		
To supplement family income	38%		
To help pay family debts	1%		
To pay for schooling	7%		
To help in household enterprise	32%		
To raise funds for own enterprise	1%		
To be economically independent	2%		
Other	4%		
Not reported	0%		
Total	100%		

Source: Draft report titled, "Child Labor - Let's Work Against It" (Manila: National Statistics Office, December 1998). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) A child is considered working if at any time during the past twelve months, he/she is engaged in an economic activity for at least one hour. He/she may be studying, looking for work, and/or housekeeping while working. Household tasks are not considered "economically active" work in themselves.

(2) Data in the table are based on "usual" figures.

(3) Totals exceed 100% because some children report working in more than one industry, occupation or class.

Table B-8

Senegal, 1993

Economic Activity Among 6-14 Year Olds

A. ECONOMIC ACTIVITY RATES (1) (2)

Age			
	6-9 yrs. old	7.9%	
	10-14 yrs. old	12.6%	
	6-14 yrs. old	10.4%	
Gender by age		**Female**	**Male**
Female	6-9 yrs. old	7.5%	8.3%
	10-14 yrs. old	12.3%	14.0%
	6-14 yrs. old	10.0%	10.8%
Urban/Rural status by age		**Urban**	**Rural**
	Male	3.6%	16.8%
	Female	3.7%	15.4%
	All	3.7%	16.1%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable		Economically active (1) (2)	Non-active	Total
Age				
	6-9 yrs. old	35.7%	48.4%	47%
	10-14 yrs. old	64.3%	51.6%	53%
	6-14 yrs. old	100.0%	100.0%	100%
Gender by age				
6-9 yr. olds	Female	46.6%	49.5%	49%
	Male	53.4%	50.5%	51%
	Total	100.0%	100.0%	100%
10-14 yr. olds	Female	48.1%	49.7%	50%
	Male	51.9%	50.3%	47%
	Total	100.0%	100.0%	100%
6-14 yr. olds	Female	48.0%	50.0%	49%
	Male	52.0%	50.0%	51%
	Total	100.0%	100.0%	100%

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry	**Female**	**Male**	**All**
Commerce	2%	2%	2%
Agriculture	76%	74%	75%
Animal/Livestock Care	0%	7%	4%
Woodwork	0%	3%	1%
Apparel	0%	4%	2%
Domestic services	17%	0%	8%
Other	5%	10%	7%
TOTAL	100%	100%	99%
Class of worker	**Female**	**Male**	**All**
Independent	3%	6%	5%
Salaried employee	18%	1%	9%
Family Aide	76%	80%	78%
Apprentice	0%	11%	6%
Indeterminate	3%	2%	2%
TOTAL	100%	100%	100%

Source: "Le Travail des Enfants au Senegal" (Dakar: Ministere de l'Economie, des Finances et du Plan, July 1993). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Neither household work nor unemployment are considered to be economic activities. Here, such children are grouped with students and other inactives to form the "non-economically active" population.

(2) Information on economic activity is available according to both "current" and "usual" definitions. Data in the table are based on "usual" figures.

Table B-9

Turkey, 1994

Economic Activity Among 6-14 Year Olds

A1. ECONOMIC ACTIVITY RATES (1)

Age		
6-9 yrs. old	2.8%	
10-14 yrs. old	12.6%	
6-14 yrs old	8.5%	
Gender by age	**Female**	**Male**
6-9 yrs. old	2.4%	3.3%
10-14 yrs. old	10.7%	14.4%
6-14 yrs. old	7.1%	9.8%
School enrollment	**Enrolled**	**Not-enrolled**
6-9 yrs. old	2.8%	2.8%
10-14 yrs. old	4.9%	47.7%
6-14 yrs.old	4.0%	39.2%
Urban/Rural status by age	**Urban**	**Rural**
6-9 yrs. old	0.3%	5.5%
10-14 yrs. old	5.0%	20.9%
6-14 yrs. old	3.0%	14.3%
Monthly household income (4)		
Less than 3 million TL	9.7%	
3 to 9 million TL	9.0%	
9-18 million TL	7.9%	
18 to 30 million TL	3.5%	
More than 30 million TL	3.6%	

A2. PARTICIPATION RATES IN PERFORMANCE OF "NON-ECONOMIC" TASKS (2)

Age		
6-9 yrs. old	15.7%	
10-14 yrs. old	29.9%	
6-14 yrs old	23.9%	
Gender by age	**Female**	**Male**
6-9 yrs. old	18.3%	13.1%
10-14 yrs. old	43.3%	17.6%
6-14 yrs. old	32.5%	15.7%
School enrollment	**Enrolled**	**Not-enrolled**
6-9 yrs. old	15.7%	14.2%
10-14 yrs. old	28.6%	36.2%
6-14 yrs.old	22.7%	32.0%
Urban/Rural status by age	**Urban**	**Rural**
6-9 yrs. old	17.0%	14.2%
10-14 yrs. old	31.5%	28.3%
6-14 yrs. old	25.4%	22.3%
Monthly household income (4)		
Less than 3 million TL	24.0%	
3 to 9 million TL	23.6%	
9-18 million TL	24.2%	
18 to 30 million TL	28.2%	
More than 30 million TL	20.5%	

Table B-9

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

Variable		Economically active (1)	Performing "non-economic" tasks (2)	Working children (3)	Non-working children	Total
Age						
	6-9 yrs. old	14.2%	27.8%	24.2%	51.1%	42%
	10-14 yrs. old	85.8%	72.2%	75.8%	48.9%	58%
	6-14 yrs old	100.0%	100.0%	100.0%	100.0%	100%
Gender by age						
6-9 yr. olds	Female	42.0%	57.8%	55.4%	48.1%	49%
	Male	58.0%	42.2%	44.6%	51.9%	51%
	Total	100.0%	100.0%	100.0%	100.0%	100%
10-14 yr. olds	Female	40.5%	69.4%	60.8%	38.4%	48%
	Male	59.5%	30.6%	39.2%	61.6%	52%
	Total	100.0%	100.0%	100.0%	100.0%	100%
6-14 yr. olds	Female	40.7%	66.2%	59.5%	43.4%	49%
	Male	59.3%	33.8%	40.5%	56.6%	51%
	Total	100.0%	100.0%	100.0%	100.0%	100%
School enrollment						
6-9 yrs. old	Yes	94.3%	94.8%	94.7%	94.2%	94%
	No	5.7%	5.2%	5.3%	5.8%	6%
	Total	100.0%	100.0%	100.0%	100.0%	100%
10-14 yrs. old	Yes	31.9%	78.2%	64.5%	95.0%	82%
	No	68.1%	21.8%	35.5%	5.0%	18%
	Total	100.0%	100.0%	100.0%	100.0%	100%
6-14 yrs. old	Yes	40.8%	82.8%	71.8%	94.6%	87%
	No	59.2%	17.2%	28.2%	5.4%	13%
	Total	100.0%	100.0%	100.0%	100.0%	100%
Monthly household income (4)						
	Less than 3 million TL	7.6%	6.7%	6.9%	6.5%	7.0%
	3 to 9 million TL	68.0%	63.3%	64.5%	63.6%	64.0%
	9 to 18 million TL	21.8%	23.7%	23.2%	23.4%	23.0%
	18 to 30 million TL	1.5%	4.2%	3.5%	3.6%	4.0%
	More than 30 million TL	1.1%	2.2%	1.9%	2.8%	3.0%
	Total	100.0%	100.1%	100.0%	99.9%	101.0%

Table B-9

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Industry	Female	Male	All
Agriculture	69.1%	88.4%	77.0%
Industry	12.0%	8.9%	10.8%
Trade	7.9%	1.1%	5.1%
Services	11.0%	1.6%	7.2%
TOTAL	100.0%	100.0%	100.1%
Class of worker	**Female**	**Male**	**All**
Regular Employee	5.4%	13.5%	10.2%
Casual Employee	6.3%	10.9%	9.0%
Self-employed	0.0%	2.3%	1.4%
Apprenticeship (no pay)	0.0%	0.1%	0.1%
Unpaid Family Worker	88.3%	73.1%	79.3%
TOTAL	100.0%	99.9%	100.0%

Source: Child Labour (Ankara: State Institute of Statistics, January 1997). Italisized numbers are USDOL calculations based on figures presented in source. Non-italisized figures are quoted directly from source.

(1) Economically active children include those who worked during the past week for at least one hour ("current" definition) as a regular employee, casual employee, employer, self-employed, or unpaid family worker.

(2) "Performing 'Non-economic' tasks" is defined as children who are not engaged in an economic activity but perform housework. Data are based on "current" status.

(3) Economically active + Non-economic tasks = Working children. Working children + Non-working children = Total

(4) TL=Turkish Lira. Average 1994 exchange rate was 30,138TL to 1 US Dollar.

Table B-10

Tanzania, 1993 (1)

Economic Activity Among 5-14 Year Olds

A. ECONOMIC ACTIVITY RATES (2) (3)

Age		
5-9 yrs. old	1.28%	
10-14 yrs. old	5.11%	
5-14 yrs. old	2.98%	
Head of Household Relationship to Child		
Parent	2.74%	
Step-Parent	1.75%	
Spouse	94.80%	
Grnadparent	3.20%	
Sibling	7.54%	
In-laws	4.46%	
Other Relative	4.59%	
TOTAL	2.99%	
Gender by age	**Female**	**Male**
5-9 yrs. old	1.43%	1.14%
10-14 yrs. old	6.61%	3.67%
5-14 yrs. old	3.73%	2.27%
Urban/Rural Status by age	**Urban**	**Rural**
5-9 yrs. old	1.31%	1.27%
10-14 yrs. old	3.43%	5.76%
5-14 yrs. old	2.30%	3.23%
Parents' Education Level	**Mother**	**Father**
No Education	5.91%	6.61%
Primary Education	2.33%	3.25%
More than primary (including only adult ed.)	1.32%	1.68%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

variable		Economically active (2) (3)	Not-economically active	Total
Age				
	5-9 yrs. old	23.85%	56.48%	55.50%
	10-14 yrs. old	76.15%	43.52%	44.50%
	5-14 yrs. old	100.00%	100.00%	100.00%
Gender by age				
5-9 yr. olds	Female	55.03%	49.13%	49.21%
	Male	44.97%	50.87%	50.79%
	Total	100.00%	100.00%	100.00%
10-14 yr. olds	Female	63.35%	48.20%	48.97%
	Male	36.65%	51.80%	51.03%
	Total	100.00%	100.00%	100.00%
5-14 yr. olds	Female	61.37%	48.73%	49.10%
	Male	38.63%	51.27%	50.90%
	Total	100.00%	100.00%	100.00%
Birth order among children in household (4)				
	First	68.38%	42.37%	43.15%
	Second	18.41%	30.66%	30.29%
	Third	9.91%	17.18%	16.97%
	Fourth	3.19%	6.99%	6.88%
	Fifth	0.10%	1.97%	1.92%
	More	0.00%	0.82%	0.79%
	Total	100.00%	100.00%	100.00%

Table B-10

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

variable	Economically active (2) (3)	Not-economically active	Total
Attended school in the past 12 months?			
Yes	18.76%	64.70%	63.01%
No	81.24%	35.30%	36.99%
Total	100.00%	100.00%	100.00%
Head of Household working?			
Yes	95.50%	96.14%	96.12%
No	4.50%	3.86%	3.88%
Total	100.00%	100.00%	100.00%
Parents' Education Level (5)			
Mother			
No Education	59.85%	34.97%	35.98%
Primary Education	38.07%	58.52%	57.70%
More than primary (including only adult ed.)	2.08%	6.50%	6.32%
Total	100.00%	100.00%	100.00%
Father			
No Education	33.09%	17.65%	18.22%
Primary Education	60.34%	67.78%	67.53%
More than primary (including only adult ed.)	6.58%	14.57%	14.25%
Total	100.00%	100.00%	100.00%

C. WHERE ECONOMICALLY ACTIVE CHILDREN ARE FOUND

Type of Economic Activity	**5-9 yrs. old**	**10-14 yrs. old**	**5-14 yrs. old**
Working on own farm	22.50%	47.40%	41.46%
Fishing	2.62%	1.29%	1.61%
Paid employee--Other	2.10%	0.20%	0.65%
Self-employed	2.68%	3.06%	2.97%
Productive, non-money raising	28.88%	13.30%	17.02%
Unpaid family helper in a business	3.81%	3.94%	3.91%
Looking for work	0.00%	2.76%	2.10%
Housemaker	37.40%	28.05%	30.28%
Total	100.00%	100.00%	100.00%

Source: USDOL tabulations based on data from a nationally representative sample of 5,000 households completed by the Department of Economics of the University of Dar es Salaam, the Government of Tanzania, and the World Bank, and funded by the World Bank, the Government of Japan, and the British Overseas Development Agency. Database available on-line at http://www.worldbank.org/lsms/

(1) Except where noted, percentages are weighted for national representation and based solely on data from respondents aged 5 to 14 who were classified according to main economic activity. Less than one percent of surveyed children 5-14 years old did not provide data on their economic activity status.

(2) "Economic Activity" is classified as the respondents "main activity" at the time of the survey. Included in "Economically Active" are the categories: working on own farm or shamba, fishing, paid employee, self-employed, productive (non-money raising), unpaid family helper in a business, looking for work, and housemaker/housewife/household chores. "Non-Economically Active" includes the categories: no economic activity, student, and not active (too old, sick, disabled, other).

(3) Note: USDOL tabulations do not use the same categores for "Economically Active" as the survey designers. For reasons unknown, the category "No economic activity" was included in their "Economically active" variable and "housemaker/housewife/household chores" was considered "Not-economically active." Access to the microlevel data (as discussed in Appendix B) has allowed us to use what we feel is a more accurate and appropriate definition of "Economically active."

(4) "Birth order" refers only to the relative ages of all children 5-14 living in a household. No distinction is made between children of different parents living in the same home, and siblings from the same family living outside the home are not included.

(5) Data for this category were collected only for children aged 7-14.

Table B-11

Nepal, 1996 (1)

Economic Activity Among 10-14 Year Olds

A. ECONOMIC ACTIVITY RATES (2)

Gender	**Female**	**Male**
	42.07%	36.30%
Urban/Rural Status by age	**Urban**	**Rural**
	18.76%	40.88%
Head of Household Relationship to Child		
Parent	38.75%	
Aunt/Uncle	44.77%	
Self (Child is Head)	100.00%	
Grandparent	31.80%	
Sibling	52.36%	
Employer or Employer of a family member	73.39%	
In-laws	43.93%	
Other relative	46.55%	
Other non-relative	88.99%	
TOTAL	39.14%	
Parents' Education Level	**Mother**	**Father**
No Education	39.79%	45.62%
Primary Education Only	16.85%	28.46%
University, professional or other	0.00%	15.13%

B. COMPARISONS OF ACTIVE VS. NON-ACTIVE CHILDREN

variable (1)	Economically active (2)	Non-economically active	Total
Gender			
Female	52.81%	46.76%	49.12%
Male	47.19%	53.24%	50.88%
	100.00%	100.00%	100.00%
School Enrollment Status			
Never Enrollment	49.90%	13.37%	27.66%
Attended in the Past	10.93%	2.23%	5.63%
Currently Enrolled	39.17%	84.41%	66.70%
Total	100.00%	100.00%	100.00%
Parents Living?			
Both Alive	87.12%	92.69%	90.51%
Only Monther Alive	7.08%	4.71%	5.64%
Only Father Alive	4.81%	2.08%	3.15%
Neither Alive	0.99%	0.53%	0.71%
Total	100.00%	100.00%	100.00%
Head of Household working?			
Yes	96.46%	94.65%	95.38%
No	3.54%	5.35%	4.62%
Total	100.00%	100.00%	100.00%
Gender of Head of HH			
Male	89.26%	90.08%	89.76%
Female	10.74%	9.92%	10.24%
Total	100.00%	100.00%	100.00%
Age of Head of HH			
0-20	2.21%	1.28%	1.64%
21-40	37.07%	41.26%	39.62%
41-60	50.38%	47.19%	48.44%
61-80	9.69%	9.83%	9.77%
Over 80	0.66%	0.45%	0.53%
Total	100.00%	100.00%	100.00%