

The economics of child labour: A framework for measurement

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Ill-fed and ill-clothed working children from developing countries are frequently depicted on television and in the print media. At the beginning of the new millennium, the work done by these unfortunate children is an unacceptable aspect of life in all too many countries.

This condemnation of child labour by society coexists with other seemingly contradictory attitudes. First is the fact that many children work willingly and with their parents' support. If child labour is so bad for children, why then do so many parents allow or encourage it and why do so many children willingly engage in it? In developing countries, the usual explanation for this apparently irrational behaviour is poor families' need for additional income to help ensure their survival. Yet, though this reasoning has considerable merit, it does not explain why the incidence of child labour varies across poor households within communities, across poor communities within countries, and across poor countries throughout the world. Second, in the right circumstances it can be good for children to work. For example, there is widespread agreement that non-hazardous forms of work can teach children self-reliance and responsibility. Indeed, it is common for children in high-income countries to work, usually to earn their own pocket money — e.g. doing babysitting, delivering newspapers, or working in their family's business or farm; as well as in restaurants or shops after school and during school holidays.

This article develops a conceptual framework within which to situate the economics of child labour, the aim being to address seemingly contradictory aspects of the phenomenon, such as those noted above. Based on this conceptual framework, implications are drawn for the measurement of child labour, as well as for policies and programmes for addressing child labour and children's welfare. Thus, the following questions are addressed in this article:

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- What is child labour? Why should one be concerned about it?
- How is child labour presently defined and measured? How should it be defined and measured?
- What are the policy implications of an economic analysis of child labour based on the conceptual framework developed here?

The underlying contention is that child labour policies, programmes and research have tended to be excessively simplistic, paying too little attention to the complexities of the phenomenon. This has retarded the identification of appropriate and effective policies and approaches for the elimination of unacceptable forms of child labour. For these reasons, the conceptual framework developed here takes into consideration that the economic benefits and costs associated with the elimination of child labour are influenced by three factors: (i) child labour exists in various forms; (ii) there are several ways to justify the elimination of child labour; and (iii) a wide range of actors and institutions would be affected by the elimination of child labour.

The article starts with an examination of the reasons for being concerned about child labour. The next section considers measurement issues and the need for a number of different estimates of child labour in order to distinguish between its various forms.¹ The final section draws out policy and programme implications for those interested in the elimination of child labour.

Reasons to be concerned about child labour

Before considering issues of definition and measurement, it is best to start at the conceptual level, by identifying the aspects of child labour which are of overarching concern:

- the protection of children;
- the development of children;
- economic and labour market impacts of child labour.

Table 1 lists the main reasons for concern, possible indicators with which to measure them, and selected comments.

Protection of children

Protection of children is the primary reason why many people and organizations are concerned about child labour. Children are vulnerable in a number of ways, and childhood is a period of life during which special protection is needed; furthermore, children who work are often exposed to abuse

¹ Readers are referred to Anker (2000) for a detailed discussion of how a range of actors and institutions (children, parents, communities, employers, labour markets, national economies, and international trade) would be affected by the elimination of different forms of child labour — and how this should be taken into account and considered in child labour programmes and policies.

Table 1. Concerns about child labour

Concerns	Main reasons for concern	Indicators	Comments
Protection of children	Children are especially vulnerable, and childhood is a period of life during which special protection from exposure to hazards and exploitation is needed.	Hazardous work	The Worst Forms of Child Labour Convention, 1999 (No. 182) focuses on the elimination of hazardous and intolerable forms of child labour as the priority. Hazardous work is injurious to a child's "health, safety and morals". This is mainly a humanitarian concern to protect children, although there is concern about the associated health costs and lifetime productivity losses.
		Exploitative work	Exploitation is often mentioned in this context, but is difficult to measure.
Development of children	Work, especially excessive hours of work, often conflicts with school attendance and performance.	Reading and writing skills and knowledge from school	Skills and knowledge learned in formal educational settings are becoming increasingly important as a result of globalization and technological change. School quality and availability are critically important.
		Total work hours	Total work hours should include household work as well as labour force activity and should be measured both during and outside school sessions.
		Positive aspects of work.	Life skills (e.g. responsibility, traditional trade skills, self-reliance)
Economic impact of child labour	<i>At micro level</i> Family survival of poor households often depends on children's work (monetary and in-kind contributions). Lost income from elimination of child labour could negatively affect poor children and poor families.	All child labour activities (labour force activity plus household work and childcare)	Although household work and childcare are not labour force activities according to internationally accepted definitions, they make important in-kind contributions to families' welfare. A major gender issue, since many girls are prevented from going to school because of having to do long hours of household work.
	<i>At macro level</i> Child labour negatively affects labour market: reduces wage rates and adult employment.	Labour force activity of children (wage employment and economic unpaid family work/self-employment)	Wage employment of children has a much larger impact on wage rates and adult unemployment as compared to unpaid family work, housework and self-employment of children. Impact on wage rates and adult employment should be greatest for unskilled labour.

Table 1. Concerns about child labour (*cont.*)

Concerns	Main reasons for concern	Indicators	Comments
			Hazardous and non-hazardous child labour should have similar impact on adult wage rates and employment. Knowledge is weak on how much effect the elimination of child labour would have on adult employment and wage rates. It is not even certain that the elimination of unpaid family work would always have a negative effect on adult wage rates and employment.
	Reduced schooling negatively affects economic growth over the long run.	See above (reading and writing skills and knowledge from school; total work hours)	Human capital increasingly important for economic growth in today's globalizing and knowledge-based economy. Increased education is associated with reduced fertility, improved health, and increased democracy and recognition of rights, all of which contribute to increased economic growth.

and exploitation. An international consensus has now emerged against what are regarded as especially unacceptable forms of child labour. The ILO's Worst Forms of Child Labour Convention, 1999 (No. 182), reflects this concern and the international consensus committed to the elimination of child labour.

This concern for children's welfare is mainly humanitarian in nature, although there are also associated economic concerns, for example, the impact on health and other costs associated with hazardous and "worst forms of child labour."² This concern is often expressed in terms of the need to protect children from hazardous and other worst forms of work, and from all forms of exploitation.

The indicators suggested in table 1 to represent protection of children against hazardous work and exploitation are difficult to measure, and this is reflected in the paucity of quantitative data available for these indicators. This is not surprising. The concept of exploitation in particular is value-laden and therefore

² For the purpose of ILO Convention No. 182, the term "the worst forms of child labour" comprises: (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; (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.

difficult to define objectively. However, hazardous and other worst forms of work, although also value-laden since what are considered to be hazardous and worst forms of work vary across cultures and development/income levels, can more readily be defined objectively. With the endorsement by the international community of priority action against hazardous and other worst forms of child labour, as set out in Convention No. 182, it is essential that increased efforts be made to develop ways of measuring these particular forms of child labour.

Development of children

Children develop quickly, acquiring skills and knowledge in preparation for becoming productive adults and citizens. Learning and skills are acquired both through formal schooling (e.g. reading, writing and arithmetic), and through experience of work and life (e.g. self-reliance, responsibility and traditional skills and knowledge).

A major concern about child labour is that it often interferes with children's ability to attend and do well in school. But one must be careful about assuming that all forms of child labour necessarily interfere with school attendance and performance. Though full-time work (whether hazardous or not) is clearly incompatible with school attendance and performance, part-time child labour does not necessarily interfere with them when it occurs during the school holidays, or for a few hours a week during the school year. Although it is uncertain the number of hours children may work during the school year before their school performance suffers, it is likely to be at least 2-3 hours per day, or 15 or so hours per week.³ It is also important to bear in mind that learning in school depends greatly on how good the school is.

Although the fact is usually ignored by programmes and policies concerned with the elimination of child labour, valuable skills and knowledge can be learned through work (Boyden, Ling and Myers, 1998). It is also important to recognize that school itself can sometimes be the cause of child labour — either because children need to earn money to help pay for school costs, or because they see school in a negative light, perhaps because of violence against them at school (Boyden, Ling and Myers, 1998).

The indicators listed in table 1 to represent children's development and learning are poorly measured at present and proxy indicators are generally used. For school-based learning, it is almost always assumed that learning is equivalent to the number of school standards a child has completed. This is

³ According to a study in Ghana, school attendance is negatively affected when a child works more than 10 hours per week (Addison et al., 1997). According to a study in the United States, academic performance of children aged 12-17 is negatively affected by 15 or more hours of work per week (Steinberg and Dornbush, 1981 cited in Government of the Netherlands, 1997). Somewhat contrasting results for the United States come from D'Amico (1984) who found that while employment for more than 20 hours per week increased dropout rates, employment for under 20 hours per week was associated with higher school grades.

unfortunate, first, because schools in some countries are of such poor quality that many children do not learn much there; and second, because this ignores the possibility that light work and non-hazardous work can contribute to learning life skills. Indeed, when faced with a choice between non-hazardous work, poor-quality schools or idleness, families and children might be rational in concluding that non-hazardous work is in the child's best interest, as compared to school attendance or idleness. Third, children's total number of work-hours is rarely measured. In addition, time spent by children on housework and childcare is not considered as labour force activity according to the international definition of the labour force and therefore by definition is not child labour; yet many girls spend long hours on housework and childcare, and as a result do not attend school. They are as much at a disadvantage in their ability to attend and perform well at school as boys who are full-time wage earners. Fourth, little consideration is given to when in the school year work is done. Yet it is the total number of work-hours performed during the school session which is important in determining possible conflict with school attendance and performance. Some of these measurement issues are discussed below.

The economic and labour market impacts of child labour

A number of important economic and labour market effects associated with child labour should concern policy-makers. These are divided into those which occur at the micro family level, and those at the macro and the meso labour market and economy levels (see table 1):

- micro family level:
 - family income and survival;
- macro labour market and economic levels:
 - labour markets (e.g. wage rates and adult unemployment);
 - economic growth and economic development.

Children's labour is an important source of income for poor families. It is widely believed that poverty is the main (though not the only) reason for child labour in poor countries, and that the survival of many poor families depends on the cash and in-kind income generated by children.

At the micro family level, the economic concern is with the difficulties which poor families and poor children would face in the short run if child labour were eliminated. This implies that child labour programmes should consider poor families' income needs and the consequences for family survival if their child members stopped work completely. It suggests, for example, the usefulness of targeted income transfers and/or subsidies for poor families with children in school; of adjusting school calendars to enable children to work in peak seasons and part time, if necessary; and of providing income-generating opportunities for adult men and women as a substitute for child labour. This also implies that quality schools are essential to encourage

and justify the family sacrifices required to eliminate child labour. More research and analysis are needed on the determinants of hazardous and non-hazardous child labour, including on the role of poverty and the identification of situations in which poverty does not preclude the elimination of child labour; the role of employers and the demand for child labour; and the role played by children's and parents' perceptions of school quality and labour market opportunities.

Turning now to macroeconomic and labour market concerns, there is a general belief that child labour displaces adult labour and as a consequence reduces adult wage rates and/or increases adult unemployment rates — that is, that child labour negatively affects working conditions for adult workers (United States Supreme Court, 1972). The same negative labour market effects of child labour undoubtedly occur in developing countries today, especially for less educated and less skilled adult wage earners, since child labour is almost exclusively unskilled in nature.

However, there are some important qualifications to these assumptions. Hazardous and non-hazardous work should in principle have similar impacts on the labour market. In contrast, the labour market effects associated with wage employment of children should differ substantially from that of unpaid family work or housework, since only wage employment enters directly into the labour market. Indeed, it is possible that some unpaid family work by children would not have a large negative effect on labour markets. These qualifications mean that, while there is undoubtedly a negative relationship between child labour and adult working conditions, this relationship is not necessarily important for all forms of child labour, nor is it necessarily the case that reductions in child wage labour translate into increases in adult employment on a one-to-one basis, as often stated.

A second important set of macroeconomic effects associated with the elimination of both hazardous and other worst forms of child labour as well as child labour that interferes with school performance relates to the increased long-term economic growth and development which would result (Basu and Van, 1998). National economies which rely on working children who do not attend school place themselves in a vicious cycle, whereby poverty is perpetuated from one generation to the next. In contrast, if the elimination of child labour is accompanied by increased quality education, this could help create a virtuous cycle of rising incomes and economic development, with the following likely results:

- increased labour productivity and economic growth over the long run because of increased human capital and reduced health costs;
- decreased poverty and more equal distribution of income because of an increase in the relative wage for unskilled labour resulting from a reduced supply of unskilled child labour;
- increased capital investment and technological change as capitalists take into consideration increased wage rates;

- increased economic growth via the so-called demographic dividend, as fertility rates and population growth rates fall because of increased education and decreased child labour;
- increased democratization and a growing awareness of rights as a result of increased education — an important point since democracy is now recognized as an important factor contributing to international competitiveness.

Many of these statements on the macroeconomic and labour market effects of child labour are based on common sense, although to reap these positive macro effects, reductions in child labour would have to be accompanied by improved school attendance and performance, which implies that children would need to have a quality school option and many poor families would need to have viable income alternatives. Empirical research and analysis of a variety of real world situations is required. Much more knowledge is needed on the size (and direction for some forms of child labour) of these effects in both the short and the long runs, for different forms of child labour and in different macroeconomic settings.

Summary

A number of important conclusions can be drawn from this discussion.

First, concerns about child labour go beyond concern for children's welfare and development, and extend to macroeconomic and labour market effects for a range of institutions and actors.

Second, since there are several reasons to be concerned about child labour, its elimination can be justified in three different ways: on economic grounds; for child development; and on humanitarian and moral grounds.

Third, at times these three justifications conflict with one another. For example, though the elimination of non-hazardous child labour from factories is likely to lead to an increase in adult employment and wage rates, this might at the same time negatively affect children's welfare if the children thus removed are prevented from working in the formal sector in a situation where schools are either not available or of poor quality; it could force poor children to take up more hazardous work in the informal sector as part of a family survival strategy.

Fourth, different forms of child labour carry different implications for each of the three concerns listed above. Some forms of child labour (e.g. hazardous and other worst forms) are negative for all three concerns, except possibly the microeconomic concerns of poor families and their need for income. Other forms of child labour (e.g. non-hazardous wage labour which interferes with school performance) are negative for children's development and the two economic concerns, but not necessarily for the protection of children. Still other forms of child labour can be acceptable as regards all three concerns listed in table 1: e.g. non-hazardous unpaid family labour by children can add to family income; can have little or no negative effect on labour

markets or economic growth; need not interfere with learning; and need not be exploitative, or physically or morally detrimental to children.

Fifth, the three concerns listed above and in table 1 suggest the need for government policies to increase income transfers to poor families and poor children. This implies that the elimination of unacceptable forms of child labour should occupy a central place in development policy — as part of an anti-poverty-oriented development strategy which emphasizes education and human capital formation, the alleviation of poverty, and gender equity.

Measuring child labour

Numbers of child labourers and the need for multiple measures

The most often quoted estimate of the number of child labourers in the world is the ILO estimate of 250 million (ILO, 1996b; Ashagrie, 1997). This is an approximate estimate, since good quality data on child labour are not available for many developing countries. The difficulty involved in estimating child labour is illustrated by the fact that in 1995 the ILO estimated there were 73 million child labourers aged 10-14 (based on “very limited statistical information obtained from about 100 countries” (ILO, 1996b, p. 7) which were fraught with conceptual shortcomings⁴), and that there were 250 million child labourers aged 5-14 in 1996 (based in large part on “experimental surveys carried out by the ILO’s Bureau of Statistics in a number [4] of countries”) (ibid., p. 7). Both of these estimates of child labour (73 or 250 million) indicate that child labour is a problem of great magnitude (ILO, 1996a).⁵

While one, all-encompassing estimate of child labour meets the wishes of policy-makers, the media and the public for simple numbers, it conflicts with the complexities of the child labour problem, and with the need for several estimates of child labour to represent the multiple concerns discussed earlier in this article.

- Separate estimates of the different types of child labour are needed, for example, in order to distinguish between non-hazardous, hazardous and other worst forms of child labour.
- Reasonably accurate estimates of child labour are required in order to monitor progress and evaluate programmes. Rough estimates of child

⁴ These estimates are based in large part on child labour force activity reported in national labour force surveys and censuses. This means that labour force activity by children aged 5-9, and in many instances also by children aged 10-11 is excluded from this estimate, since many current surveys and censuses do not collect information on children below age 12. Also, typical surveys and censuses do not make the special effort required to measure child labour.

⁵ Since 1994, the ILO has collaborated with national authorities to conduct over a dozen especially designed national child labour surveys. Results from these surveys tend to be consistent with the higher estimate from 1996 (ILO/IPEC, 1996; Ashagrie, 2000).

labour may be useful for advocacy purposes,⁶ but are not sufficiently accurate for monitoring and evaluation purposes.

- Policy-makers and programme officers often require reasonably accurate estimates of the different types of child labour according to certain characteristics (e.g. by geographical area, industry, occupation, family type and family income) in order to help set priorities and allocate resources, as well as to monitor progress and evaluate programmes.

A single estimate of child labour, by its nature, is often misleading, since it combines different types of child labour into one number — and thus mixes “apples and oranges”. In theory, a single estimate of child labour should measure all children who perform a labour force activity. This would include: children who do hazardous work as well as those who do non-hazardous work; children working full time as well as those working part time; children who are wage earners as well as those who are unpaid family workers; children attending school as well as those not attending school. Indeed, the better the quality of data on child labour, the more complete is likely to be its measurement and therefore the greater the problem of mixing “apples and oranges”, since better designed and executed surveys are likely to identify more of the marginal and less egregious forms of child labour.

The need for more than one measure of child labour is discussed in the research literature, where there are numerous references to the need to distinguish between “child labour” and “child work” (e.g. Boyden, Ling and Myers, 1998; Myers, 1999; Anker, 1995). According to this line of thought, “child labour” is considered to be bad for children whereas “child work” is considered to be either neutral or good for children. Some (e.g. White, 1996) go further, arguing for the identification of a series of measures of child labour, on a continuum from good to bad.

ILO Conventions and Recommendations also recognize that some forms of child labour are worse than others and allow for differences in the minimum age according to the type of work. The Minimum Age Convention, 1973 (No. 138) allows for a lower minimum age in less developed countries (e.g. age 14) and for light work and non-hazardous work (e.g. age 12).⁷ Convention No. 182, adopted in 1999, calls for renewed efforts to eliminate intolerable forms of child labour (below age 18). National legislation frequently

⁶ It is worth keeping in mind that “advocacy statistics” which purposefully dramatize the magnitude of child labour can have an unexpected negative effect on government commitment to eliminating child labour, since overestimates can make the problem appear too big to solve.

⁷ In Article 7, paragraph 1, ILO Convention No. 138 classifies light work by children as work which is “(a) not likely to be harmful to their health or development; and (b) not such as to prejudice their attendance at school, their participation in vocational orientation or training programmes approved by the competent authority or their capacity to benefit from the instruction received” (ILO, 1996c, p. 528). It should not be undertaken for more than the prescribed number of hours. A frequent condition in national law is that work only be permitted in a family undertaking or under parental supervision (ILO, 1996b, p. 35).

excludes certain types of light work from minimum age legislation; around 60 countries exclude family undertakings; and some 135 countries specify in law that exceptions to general rules may be made by the competent authority (ILO, 1996b).

Selected measurement issues

Selected measurement issues are discussed in this section. As more knowledge is required on how best to measure the child labour concepts mentioned earlier and in table 1, further thought and fact finding are clearly required. The first subsection below discusses the internationally accepted definition of labour force activity and what this implies for the measurement of child labour. This should prove informative for readers who are not versed in the intricacies of labour statistics, since official child labour estimates, in theory at least, are based on this definition. The second subsection discusses hazardous and other worst forms of child labour (the focus of ILO Convention No. 182), and the difficulties involved in measuring them. The third subsection discusses school attendance and learning and how these are not necessarily synonymous. The fourth subsection discusses the possibility of combining school attendance and work and points out how common this is in practice. The fifth subsection discusses the usefulness of measuring different types of employment status, since these have very different effects on labour markets. For a discussion of other measurement issues, such as exploitation, hours of work and reference period, see Anker (2000).

Work and labour force activity

The internationally accepted definition of the labour force specifies that the labour force consists of the unemployed and:

All persons of either sex who furnish the supply of labour for the production of economic goods and services as defined by the United Nations systems of national accounts and balances (ILO, 1983, p. 12).

This definition of “economic” (and therefore labour force) activity is very broad, since it is based on the United Nations system of national income account statistics (SNA) definition of “economic” goods and services, namely:

According to these systems [of national accounts], the production of economic goods and services includes all production and processing of primary products, whether for the market, for barter or for own consumption (*ibid.*, p. 12).

In addition to wage employment, labour force activity includes self-employment and unpaid family work in the family farm or business, as well as unpaid family work where primary products and services produced are self-consumed. This means that subsistence agriculture, subsistence animal care, home construction and improvement, and processing food for own

consumption are considered labour force activities according to the internationally accepted definition. Since many children help out in family businesses and farms and with family animals, labour force activity rates for children should be relatively high in countries with large rural and informal sectors. For this reason, it is sometimes observed that child labour force participation rates are higher in rural households with land, as compared with poorer rural landless households (Addison et al., 1997; Levison, 1991).

A sizeable research literature exists on the conceptual and practical difficulties involved in the measurement of the female labour force (e.g. Anker, Khan and Gupta, 1988; Dixon-Mueller and Anker, 1988). This research literature emphasizes the under-reporting and invisibility of female labour force activity, the lack of appreciation of women's economic and labour force contributions, and the reasons for this state of affairs. There is reason to believe that similar problems are involved in measuring both the child labour force and the female labour force (see Levison, 1991; Knaul, 1995). Indeed, it is likely that under-reporting on surveys of labour force activity is greater for measurement of the child labour force, as compared with that of the female labour force. First, it is likely that a greater percentage of interviewers and respondents would assume that students and children do not work as compared with the percentage who would assume that all adult women do not work. Second, child labour force activity is inherently more difficult to measure than female labour force activity, since children are more likely to work part time and as unpaid family workers.⁸

Momentarily disregarding practical difficulties of collecting labour force data, it is clear that simply knowing whether or not a child engages in some form of labour force activity does not reveal much about the concerns noted in table 1 — e.g. whether work is hazardous, the amount of time children work, whether work interferes with school, or whether it directly affects adult employment. Follow-up questions and schedules are required to learn about these aspects of child labour. The remainder of this section examines some of the relevant measurement issues.

⁸ Useful insights on how to improve the measurement of child labour are provided by experimental surveys carried out by the ILO in 1992-93 in parts of Ghana, India, Indonesia and Senegal (ILO/IPEC, 1996) and methodological studies, such as those conducted in rural India and Egypt by the author (Anker et al., 1988; Anker, 1990 and 1995) for improving the measurement of adult female labour force activity. These methodological studies investigated the effect on the reporting of female labour force activity of questionnaire design and specific survey questions; sex of interviewer; respondent type; and labour force definition. It was found that typical key word questions (e.g. What was your main activity? Did you work? Did you work for pay or profit?) produce large underestimates of the female labour force. An activity list, where a list of specific labour force activities is read out to respondents, produced a much more complete reporting of female labour force activity. Second, typical key word questions did a better job of measuring female wage employment and full-time family farm/business work as compared to measuring female unpaid family work, part-time work and seasonal work. Third, female wage labour was under-reported in rural Egypt (but not in rural India) by male respondents, possibly because they were ashamed to report that women in their household were wage employees.

Hazardous work⁹

The need to measure hazardous and other worst forms of child labour has taken on added urgency since the adoption in 1999 of ILO Convention No. 182 which focused on the “worst forms of child labour”, which are defined as comprising:

- (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;
- (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 (ILO, 1999a, Article 3).

The worst forms of child labour indicated under subparagraphs (a), (b) and (c) are clearly specified, but are very difficult to measure because of their illegal and immoral (and therefore often clandestine) nature. Work likely to harm the health, safety or morals of children (subparagraph (d)) is less clear: undoubtedly it is easier to “know it when you see it” than to define it and to collect survey information with which to measure it. Convention No. 182 defers to national laws to determine such work: “... types of work referred to under Article 3(d) [of C. 182] shall be determined by national laws or regulations or by the competent authority ... taking into consideration international standards, in particular Paragraphs 3 and 4 of the Worst Forms of Child Labour Recommendation, 1999” (ILO, 1999b, Article 4). According to this Recommendation (No. 190, the provisions of which supplement those of Convention No. 182), consideration should be given to the following to determine which types of work are hazardous:

- (a) work which exposes children to physical, psychological or sexual abuse;
- (b) work underground, under water, at dangerous heights or in confined spaces;

⁹ It is worth noting that hazardous child labour also exists to some extent in developed countries. For example, the second largest retail chain in the United States recently paid a \$325,000 fine (without admitting liability) to settle allegations that 16- and 17-year-olds operated machinery such as fork lifts, freight elevators and paper bailers, in violation of federal law (*Wall Street Journal Europe*, 1999). In the United States, children aged 15-17 belonging to the religion the Old Amish Order, who are legally exempt from attending school under a ruling to protect religious freedoms (US Supreme Court, 1972), were recently exempted from the law prohibiting hazardous work by children (such as work in generally family-run but possibly hazardous woodworking and sawmill shops) by a US House of Representatives voice vote on 2 Mar., 1999 (*International Herald Tribune*, 1998; BNA, 1999).

- (c) work with dangerous machinery, equipment and tools, or which involves the manual handling or transport of heavy loads;
- (d) work in an unhealthy environment which may, for example, expose children to hazardous substances, agents or processes, or to temperatures, noise levels, or vibrations damaging to their health;
- (e) work under particularly difficult conditions such as work for long hours or during the night or work where the child is unreasonably confined to the premises of the employer (ILO, 1999b, Paragraph 3).

Table 2 provides a useful compilation of how hazardous and prohibited child labour is specified in national legislation. Four general criteria are used: (i) a general prohibition; (ii) prohibition in certain industries or occupations; (iii) prohibited physical environment; and (iv) prohibition of certain agents or products. The most common approach in national legislation is to specify the particular occupations or industries deemed to be hazardous for children.

There are a number of difficulties involved in measuring hazardous work, and methodological and practical field work is urgently needed to advance in this area. Such field work should include pursuing a number of approaches to establish which works best in different situations. For example, rapid assessment techniques and key informants could be used (as described in Rahman (1996)) to identify the hazardous industries and occupations in which substantial numbers of children work. Data could then be collected from representative samples of workers in the industries and occupations thus identified. A second approach would be to collect information on surveys about children's use of, or exposure to, dangerous agents or products at work. This could be done using either open-ended or closed-ended questions. A third approach would be to ask respondents whether children have had injuries and illnesses caused by work. Yet another approach would be to ask respondents whether they believe that work performed by a child has negatively affected the child's "health, safety or morals". Although, as with all subjective questions, responses would not necessarily represent fact, questions of this type would provide valuable insights into what people think is hazardous and so would be useful to policy-makers.

Another major difficulty in measuring hazardous and other worst forms of child labour by means of national surveys is that their incidence is often highly clustered in particular geographical areas and industries, which means that their measurement in national surveys is subject to high sample variations. For example, a representative national survey in India would be highly unlikely to sample Ferozabad City, where all the glass bangles in India are made often with child labour (see Anker et al., 1998), because of its relatively small population; such a national survey would therefore be unlikely to find that any children work in the hazardous glass bangles industry. The implication is that reasonably accurate estimates of the number of children working in specific industries and occupations require purposeful samples and qualitative and quantitative studies conducted in the localities where these industries are concentrated.

Table 2. Work deemed to be hazardous for children, as specified in national legislation

	No. of countries		No. of countries
General prohibition		Industries, occupations or activities	
Dangerous to children's health	46	Mining, quarries, underground work	101
Physically arduous	34	Maritime work	59
Dangerous to children's morals	33	Machinery in motion	58
Dangerous to children's safety	32	Construction and demolition	37
Dangerous to children's development	10	Circular saws and other dangerous machines	34
Physical environment		Entertainment	32
Thermal stress	14	Transportation	32
Noise, vibration	9	Cranes/hoists/lifting machinery	24
Air pressure	4	Crystal and/or glass manufacture	22
Ergonomic hazards	3	Welding and smelting of metals	21
Agents or products		Abattoirs and meat rendering	14
Explosives	48	Agriculture	14
Lead/zinc, etc.	35	Street trades	13
Fumes, dust, etc.	34	Tanneries	13
Alcohol	29	Underwater work	13
Radioactive	29	Pornographic material	10
Chemicals	26	Steam engines or equipment	6
Pathogenic agents	18	Brick manufacture	5
Electricity	16	Forestry	5
Paint, solvents, etc.	9	Oil/petroleum prospecting	5
Asbestos	8	Textile industry	5
Cement	6	Pedal/crank operated equipment	4
Benzene	5	Matches, manufacture of	3
Compressed air	5	Paper/printing	3
Mercury	5	Soap manufacture	3
Marble, stone, etc.	4		
Rubber	4		
Tar, asphalt, etc.	4		
Tobacco	4		
Chromium	3		
Infra-red, ultraviolet, etc.	3		

Notes:

Based on national legislation in 155 member States of ILO.

Excludes all entries from ILO (1991) with only one or two countries. For industries, occupations or activities, the following were also mentioned: aluminium industry (2), airport runways (1), animals wild/dangerous (2), bakery (2), cable laying (1), care for mentally disturbed (1), carpet weaving (2), catering at railway stations (1), cinderpicking (1), domestic service (1), excavation (2), fire brigades and gas rescue services (1), oxyacetylene blowpipes (2), salt and brine processes (1), ship-building (1), sugar mill (1), water and gas industry (1), work at courts, prisons or as probation officers (1).

For physical environment, the following were also mentioned: ventilation (2), light (2), accidents (2).

For agents or products, the following were also mentioned: bleaching (2), cadmium (2), manganese (2), potassium and sodium (1).

Forestieri (1997) also mentions psycho-social hazards; among agents or products also mentions: arsenic, nitroglycerine, methanol, carbon monoxide, phosphorous, silica dust, coal dust, bacteria/virus of animals; for physical environment also mentions: humidity, electricity, x-rays; among industries and for occupations also mentions: slate, paint, toy making, button making, gem polishing, auto repair, restaurant, prostitution, domestic service.

Source: Drawn from ILO (1991).

School, learning and work

School is the main alternative to child labour (Weiner, 1991) and in today's rapidly changing technological environment and globalizing economy, literacy and basic mathematical skills are more important than ever. There is general agreement that the elimination of child labour should go hand in hand with increased schooling. Two aspects of this relationship addressed here are that: (i) contrary to what is usually assumed, school attendance and learning are not synonymous; and (ii) the returns to education for poor children are often relatively low, largely because of the poor quality of available schools, and this significantly affects the attractiveness of schools for many poor children.

While the number of years of school attendance (and even more so, the number of standards completed) are often good proxies for learning and skill development, all too frequently children who attend school do not learn much there. This is true in all countries, developed and developing, as demonstrated by a recent UNDP study of 12 developed countries which found, for example, that 21 per cent of adults in the United States and 22 per cent of adults in the United Kingdom are functionally illiterate, in that they are unable to read a gas bill or newspaper or do simple arithmetic (Clarity, 1999). In some developing countries, unfortunately, the quality of schools is so poor that they could be considered as hazardous for, even abusive of, children. In too many schools children have to sit in one position for long periods of time; they are crowded into small rooms, thereby creating an environment conducive to transmission of disease; they are subjected to mental abuse, being repeatedly criticized and humiliated; and they are subjected to physical abuse where corporal punishment is used.

Economists typically investigate the value of school by estimating returns to education based on the earnings of adults with different educational levels — although the usefulness of this approach is increasingly being questioned by labour economists (e.g. Bloom and Williamson, 1997). One major problem with this approach which, though not usually considered nevertheless deserves attention in the child labour context, is that poor households are likely to have lower than average returns to education because of poor-quality schools and labour market discrimination. Gender differences are also important here.

To assist policy formulation on child labour, information should be routinely collected on the strengths and weaknesses of education and schooling. Such information would be especially valuable complements to child labour surveys. It would also be worth including in child labour surveys short tests of children's basic reading and writing skills, since it is important to know how much children actually learn at school. It would also be useful to increase understanding of how poor families and poor children view school and how they perceive the returns to education. What do they think of school quality, the commitment of instructors, the relevance of the curriculum to the acqui-

sition of skills, the likelihood of learning and graduating, adult labour market opportunities, the possibility of skills acquisition through child labour, the costs of school, and possible discrimination at school and in the labour market? Such information would increase understanding of the situation as perceived by poor children and poor households. In some circumstances, poor families may be acting rationally in having their children work rather than go to school, as their returns to education may be low. In other instances, perceptions could be based on misinformation or on inadequate information.

Combining school and work

It is commonly assumed that school attendance and child labour are mutually exclusive — in other words, that school attendance precludes work. However, the available evidence indicates that such an assumption is wrong.

According to survey data from a variety of countries (table 3), many children who attend school also work; and many working children go to school. In rural Ghana and Côte d'Ivoire, for example, World Bank survey data show that roughly 50 per cent of schoolchildren aged 7-14 work, and approximately 7 per cent of working children attend school (Bhalotra and Heady, 1998; Grootaert, 1998). According to a Rädä Barnen survey of 200 working children in five developing countries, while most children valued education, 72 per cent preferred combining school and work (Boyden, Ling and Myers, 1998). Indeed, one should expect high percentages of schoolchildren to work especially in developing countries, where children spend relatively little time at school (in Bangladesh, for example, the school day is only two hours long and the school year is only 120 days),¹⁰ and where there is a large owner-cultivator sector in which children help out on the family farm.

In high-income countries, too, it is common for schoolchildren to work. In the United Kingdom, for example, a majority of children had experienced some type of paid employment by ages 14-15 (Lavelette et al., 1995). In the United States, over one-half of 14-year-olds do some work during the year, according to the US Bureau of Labor Statistics (*Wall Street Journal Europe*, 1999).

An important implication of this situation for child labour policy-makers and programmers, as well as for educationalists and development planners in developing countries, is the fact that non-hazardous child labour is common among schoolchildren, and often necessary for family survival. This reality implies that school calendars should be synchronized with peak demands for family labour, such as agricultural seasons in rural areas; methods of instruction should take into consideration that many school-

¹⁰ Evidence from around the world indicates that school is not full time. In both developing and developed countries, the average school year is around 200 days and 1,000 hours (Lee and Barro, 1998).

Table 3. Combining school and work in developing countries, based on selected survey data

Country	Year	Data source	Age range	Percentage of children in school who also work ^a		Percentage of working children who are also in school ^a	
				Male	Female	Male	Female
Bolivia (urban)	1993	National survey ^b	7-17		4.1 ^c	56.3	62.0 ^c
Cambodia	1996	SIMPOC	5-14	na	na	53.9	45.8
Côte d'Ivoire	1988	LSMS	7-14		52.6 ^c		63.4 ^c
Ghana (rural)	1991-92	LSMS	7-14	46.0	44.9	72.1	68.3
India	1992-93	ILO ^d	5-14	2.9 (urban) ^d 12.0 (rural) ^d	3.0 (urban) ^d 13.0 (rural) ^d	na	na
Indonesia	1992-93	ILO ^e	10-14	na	na	28.9	11.5
Nepal	1996	SIMPOC	5-14	na	na	73.7	50.9
Pakistan (rural)	1991	LSMS	10-14	15.5	8.1	39.3	9.7
Pakistan	1996	SIMPOC ^f	5-14	40.4	11.0	35.4	8.2
Turkey	1994	SIMPOC	6-14	4.6	3.2	43.1	37.4

Notes:

LSMS = the World Bank's Living Standards and Measurement Survey. SIMPOC = the ILO's Statistical Information and Monitoring Programme on Child Labour. na = not available.

^a Results differ across countries partly because of differences in definition of child labour, age group covered, survey questionnaire used, rural/urban/total coverage of survey. ^b Ten major metropolitan areas covered. ^c Total population of males and females. ^d Unweighted average of Surat and Surendranagar Districts in Gujarat State. ^e Bandung municipality and Bandung Regency covered. ^f Sample was restricted to households reported as having child labour in a screening questionnaire.

Sources: Bhalotra and Heady (1998) for Ghana and for Pakistan 1991; Grootaert (1998) for Côte d'Ivoire; Cartwright and Patrinos (1998) for Bolivia; Government of Pakistan (1996) for Pakistan 1996; ILO/IPEC (1995) for Nepal; ILO/IPEC (1996) for India and Indonesia; Government of Cambodia (1997) for Cambodia; Government of Turkey (1997) for Turkey.

children are experienced for their age; and curricula should include strong practical elements, in view of the fact that many schoolchildren will start full-time work as youths or young adults.

Another policy implication is that schools could usefully contribute to the reduction of hazardous child labour and exploitation by providing children with information about their rights and how hazardous work can be eliminated. Such information could prove especially effective for children who perform hazardous work in a family farm or business setting. The exploitation of children who work as wage earners could also be reduced if school armed children with information about their rights.

An implication for household surveys is that information collected on child labour should bear the school calendar in mind. Questions should seek to enquire about child labour occurring during school time in order to observe possible conflict with school. Other questions should ask about child labour during the school holidays. Information should also be collected about study time and the regularity of children's attendance at school.

Employment status and housework

There is a need to collect separate statistics on working children's employment status. It can also be argued that information should be collected on the time spent by children on housework and childcare.

Wage or salary employment, self-employment and unpaid family labour are the labour force categories indicating employment status. It is necessary to distinguish between them, because they differ considerably in their effects on labour markets, economies and families. For example, wage employment (as compared with unpaid family work) has a much larger impact on labour market conditions and is more likely to be hazardous.

Household work and childcare are not labour force activities according to the accepted international definition of the labour force and so, in theory, they should not be considered child labour. However, when these activities are carried out by children, they act as an important constraint on child development (especially that of girls), since long hours of household work and childcare often interfere with school attendance and performance. This situation represents a major gender-based aspect of child labour.

Conclusions

What does the framework presented in this article imply for governments of developing countries? What does it imply for international organizations with child labour programmes, such as the ILO, UNICEF and the World Bank? What should be the priorities of programmes combating child labour? Should child labour issues be addressed in a separate child labour programme, or integrated into the work of regular programmes?

The framework and discussion contained in this article imply that a two-pronged approach to child labour is warranted. Elimination of hazardous and of the worst forms of child labour should be addressed within a separate child labour programme, while activities to eliminate unacceptable non-hazardous child labour should mostly be integrated in the regular work of programmes, international organizations and national ministries.

A separate child labour programme which targets the elimination of hazardous and other worst forms of child labour would have a clear focus (the protection of children) and would receive widespread support. There is already an international consensus on this, as indicated by the unanimous adoption of ILO Convention No. 182. Such a programme would have an

achievable goal, since the children involved in hazardous and other worst forms of child labour in low-income countries constitute a distinct minority of child labour in the world (Somavia, 1999).

Even though protection of children would be the main objective of separate child labour programmes which focused on eliminating hazardous and other worst forms of child labour, in order to be effective, programme activities would still need to address the sorts of economic costs and benefits arising out of child labour discussed in this article. Such issues would include the following:

- *Poverty and poor children's income needs should be addressed.* If, as is generally accepted, many poor children work as part of a family survival strategy, eliminating hazardous child labour from an enterprise, occupation or industry, or even from all large factories, would not eliminate hazardous child labour. Many poor children would move on to work in less visible parts of the economy, such as the informal sector, where working conditions are often hazardous. This implies that programme activities should contain economic incentives for families and children to help them abandon child labour, including for example: income transfers to poor households to replace part of the income lost from the child's eliminated work, the provision of non-hazardous work for adult family members, and the encouragement of school attendance through subsidies and stipends.
- *Attention should be given to ensuring the availability of quality schools.* Besides being children's best alternative to work, school attendance is necessary if hazardous and other worst forms of child labour are to be eliminated and to remain eliminated. First of all, poor countries do not have the necessary resources to identify, monitor and financially assist all the children engaged in such work to help ensure that they attend school (though middle-income countries may have the required resources). Second, even when "rehabilitated" children attend school instead of transferring to other hazardous work, this does not necessarily mean that child labour is eliminated from similar poor families and communities in the future, since new cohorts of children growing up are just as prone to take up hazardous work in less visible parts of the informal sector. Third, high-quality schools should become widely available so that this alternative to child labour is appealing and valuable to poor children and families who have to make economic sacrifices to enable their children to attend school. Finally, in the long run, increased education levels should stimulate economic development, and rising income levels will help reduce hazardous child labour.
- *Efforts should be made to reduce the demand for hazardous and other worst forms of child labour.* The level and extent of these forms of child labour in a country are largely determined by employers and tradition, since they determine working conditions as well as their degree of

acceptability. This implies that child labour programmes focusing on hazardous and other worst forms of child labour should work with employers, employer organizations and community leaders to eliminate such working conditions. To accomplish this, it is necessary to improve our understanding of the costs and benefits of child labour and the reasons for hazardous working conditions from the viewpoint of the various actors and institutions involved. This type of information should make it possible to devise effective awareness-raising activities about hazardous working conditions among employers, community leaders and workers, to suggest improvements to working conditions to eliminate hazards, to enlist the support of progressive employers, and to increase pressure on those who profit from hazardous child labour. Relevant programmes should be concerned with hazardous child labour in all of its guises, including that performed in family settings, which often occurs out of ignorance or accepted tradition. Finally, child labour programmes should collaborate closely with occupational health and safety programmes, since hazardous working conditions should be unacceptable for all workers, adult and child alike.

- *Improved information on hazardous and other worst forms of child labour is required.* Reasonably accurate estimates of hazardous and other worst forms of child labour are needed to target and monitor progress. While it is clear that methodological work and empirical analyses are required on how to collect accurate information on hazardous work using child labour surveys, it is also important to recognize the limits to the usefulness of national surveys for measuring and understanding hazardous and other worst forms of child labour. The illegal and immoral nature of such forms of child labour means that these activities tend to go unreported when a typical, structured survey questionnaire is used. Furthermore, because hazardous child labour is often clustered geographically (in particular industries, occupations or areas), national sample surveys are subject to considerable sampling error in the measurement of this form of child labour. These difficulties imply the need for focused studies and estimates of hazardous and other worst forms of child labour in occupations and industries known to have high concentrations of child labour.

Turning now to the implications for programmes and policies to eliminate unacceptable non-hazardous child labour, activities to eliminate this form of child labour should, for the most part, be integrated — i.e. mainstreamed — into the normal ongoing programmes of national governments and international organizations.

- *The magnitude of the phenomenon is such that it cannot be addressed effectively through a separate child labour programme.* With world estimates of non-hazardous child labour in the hundreds of millions, it is obvious that separate child labour programmes cannot garner the

enormous resources required to deal with the problem. This is an argument in favour of integrating and mainstreaming, when it comes to addressing the less egregious, non-hazardous forms of child labour.

- *Non-hazardous child labour can sometimes be good for children and their development without affecting school performance.* It is a fact that school and work can be compatible and that many schoolchildren engage in non-hazardous work in both industrialized and developing countries. Given this situation, it is important for child labour programmes which focus on hazardous and other worst forms of child labour to indicate clearly that they are not concerned with much of the non-hazardous child labour found in the world. This should include avoidance of a common practice of inflating estimates of child labour by the inclusion of all forms of child labour.
- *Human capital formation and education are critically important for promoting economic development and democracy and for reducing poverty and social exclusion.* The elimination of non-hazardous child labour which interferes with school performance and/or depresses labour market conditions should be a central focus of development and social policy, and not marginalized in a separate child labour programme. Poor families in poor countries are willing to sacrifice to enable their children to attend school when there are good-quality schools available.
- *The elimination of non-hazardous child labour should be approached from a life-course perspective and be at the centre of an anti-poverty orientation to development,* in order to promote children's best interests. Problems arise with non-hazardous child labour when it interferes with a child's ability to learn in school. This possibility should be addressed using a holistic, life-course perspective, since whether or not non-hazardous work is bad for children depends on the context in which a child is placed and the options available to him/her (e.g. the family's poverty and its need for income; the nature of the child's work and whether it can be combined with school attendance; the availability and attractiveness of the schooling option for poor families). Furthermore, over the long run, increased school attendance reduces poverty rates and social exclusion and helps increase economic growth and improve labour market conditions, especially for unskilled workers. This means that policy-makers should stress education and anti-poverty programmes which target families with school-age children.

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