What Can Be Done about Child Labor?
An Overview of Recent Research and Its Implications for Designing Programs to Reduce Child Labor

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Abstract

This paper examines the research on child labor and places the phenomenon in a broader development agenda. It explains the demand for and supply of child labor, linking these factors to others such as the supply of education. Then it looks into the private and social costs of and benefits from child labor. Against this background, strategies for reducing child labor are debated.
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1 Who and How Many

What do we mean by child labor? In this paper child labor will be used as the notion for those forms of work or labor children legally should not undertake. Hence not all work done by children can be regarded as child labor. We need to draw a line between child labor on the one hand and activities considered part of a natural socialization process on the other hand. Child laborers are those entering the labor market and taking on too much work and too many duties at too early an age. Defining the amount of work and the age will be subject national and international regulations. Essentially, however, we understand child labor to be activities that unduly reduce children’s present welfare or future income earning capabilities, either by shrinking their future external choices or by reducing their own future individual productive capabilities (Andvig, 2001). This understanding is the basis of national and international legislation on child labor.

Three conventions, ILO Convention 138, the UN Convention on the Rights of the Child, and ILO Convention 182 on the Worst Forms of Child Labor, form the basis for the international legal definition of child labor and the worst forms of child labor.1 The

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1 All UN members except Somalia and the United States have ratified the CRC. ILO Convention 138 has been ratified by approximately 100 states. Further to this it forms a part of the so-called ILO Core Conventions, which all ILO member states have committed themselves to respect regardless of ratification. ILO Convention 182 was unanimously adopted by the ILO annual conference in 1999, and was also included in the group of core conventions.
conditions set forth in the three conventions are, as mentioned above, based on the effect of the work or activity on the child and the child’s development. The work should not be hazardous or harmful to the child’s health or physical, mental, moral, or social development. In addition, for children of primary-school age, the work or activity should not interfere with the child’s education.

Since the qualitative conditions for child labor are difficult to translate into exact measurable figures, like the number of hours worked, some guidelines are necessary to develop workable protection instruments. Part of this is left to the national legislators to decide. Both the ILO Conventions (C138 and C182) request national governments to list what they defend as worst forms or hazardous child labor. But further to this the following general age limits and conditions for child labor are set forth:.

A child is defined as a person under 18 years of age. No person under 18 should undertake work that includes health-threatening or hazardous activities. The minimum age for legally entering the labor market as a full-time worker is set at 14 years of age for developing countries and 15 in other countries. In all cases full-time work must begin only after the age of completing compulsory education. The minimum age for entering the labor market doing light work is set at 12 for developing countries and 13 in other countries. At this age the child can do some work outside of the household provided that the work does not interfere with schooling or cause a threat to the child’s health. The child may also enter into vocational training.

If a child is under 12–13 years of age, he or she should not be active in the labor market, but may still undertake duties within the household or under the guidance of the parents and as part of the socialization process, provided the activity does not interfere with schooling or pose a health. Figure 1 illustrates the definition of child labor.

This definition of child labor and the worst forms of child labor is as describe the result of many years of international cooperation in this field. The definitions do leave

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2 The Convention on the Rights of the Child covers all children under 18 years of age, but in the area of child labor it calls for minimum ages to be implemented, though it does not specify them. However, through the work of the UN Committee for the Rights of the Child, the reference in the CRC to relevant international standards on minimum ages for employment has been interpreted as being those of ILO convention 138. ILO
several questions open but never the less provides us with the tool needed to map and analyze child labor. Some academics have questioned the definition but in the research community in general (see for example Rodgers, G., and G. Standing, 1981) and among national and international stakeholders the three conventions command strong support.

**Figure 1.**
**International definition of “child labor”**

<table>
<thead>
<tr>
<th>Up to age 18</th>
<th>Dangerous or hazardous work</th>
<th>Full-time work</th>
<th>Light work in the labor market; vocational training</th>
<th>Light work in the home under the guidance of the parents and as a part of the socialization process, provided the work does not interfere with school or threaten health.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to age 14/15 or the age of completed compulsory education (if higher)</td>
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<tr>
<td>Up to age 12/13</td>
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</tbody>
</table>

*activities listed in gray areas are considered child labor, activities in white areas are not*

Despite the existence of an international recognized definition of child labor, most analyses of the phenomenon are based on data of economically active children as a proxy for child laborer. 4 Most important in this respect are the data on child labor published by the International labor Organization (ILO).

In 1995 ILO estimated that in developing countries 12 percent of children between ages 5 and 14 were working full time and an equal number part time. Among the full-time workers, boys were found to outnumber girls by three to two. The study extrapolated an estimate that worldwide at least 120 million children between the ages of 5 and 14 are

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3 The concept of general age limits has been criticised by some researchers. Judith Ennew (1997) put forward the view that this is based on speculative use of documentary evidence based on the folk model of childhood in industrialised countries.

4 To be defined as economically active, a person needs to have worked one hour or more in the reference week or to have been searching for work. The work performed must be in the labor market and hence excludes so-called non–labor market production, such as housework (ILO, 1990).
working full-time. The number of children working increases to 250 million if those in part-time work are included (ILO, 1996).

Using the internationally recognized definitions of child labor rather than the number of economically active children as a basis for analyzing the phenomenon makes the figure look somewhat different. In countries with low primary school enrollment, the number of economically active children will tend to be less than the number of child laborers, this because you will have a number of children then working full time in the family chore. In countries with high primary school enrollment, the number of (combined of full-time and part-time) economically active children tends to be higher than the number of child laborers, because part time economically active children legally employed will be included. .. The majority of the world’s child laborers are girls (Grimsrud, 2001); most economically active children are boys. This difference in number and gender composition is a result of children’s working in the household, activities defined by the ILO as noneconomic. The children working in their own home will make up a considerable numbers of the world’s child laborers. Comparing statistics on full time economically active children estimated by ILO (1996) to make up 12 per cent of the children in primary school age and attendance figures from UNICEF (1999) estimating that 21 per cent of the same age group are not attending school indicate that the number of non economically active child laborer may be only slightly less than the economically active group.

A second group, perhaps the largest, comprises children working the family plot or land. These children should in theory be included in the figures of working economically active children, but often they are not captured in labor market statistics.

The next important group comprises children working in more direct contact with the labor market but still in the households, such as those participating in subcontracted schemes or arrangements where the work takes place at home. Children working in their own household, at the family plot, and in subcontracting at home make up the bulk of the world’s
child laborers. Andvig (2001) estimates that this group comprises something like 90 percent of all child labor in Africa. The same is probably true on the Indian subcontinent, the second most common place for child labor after Africa (Burra, 1995).

Even those working outside the household will in most cases work together with their parents or other family members. Such children help a parent employed in the fields of large farms or plantations to fulfill a production quota or assist in the family business. Another area will be family businesses employing children—often in the informal service sector.

Only a relatively small number of children are employed directly by an employer, probably less than 10 percent of the working children or fewer than 25 million children worldwide. For example, in Cote d’Ivoire fewer than 2 percent of the children in the labor market work for wages (Grooteart and Patrinos, 1998). This does not, however, include children working as domestic workers, a group for which no reliable statistics exist.6

The most extreme forms of child labor, such as prostitution and children taken from or sold by their parents, occur relatively infrequently. Genuine street children—children who not only work in the streets but live apart from their parents—are also relatively few, even if their numbers are reported to be on the rise. Andvig (2001) estimates that a reasonable number for street children for the whole of Africa is less than 1 million.

The following analyses will focus on the principal rather than the extreme forms of child labor, assuming that the children’s availability for work is under the control of their parents/guardians and that it has some sort of economic or welfare implications for the parental household. Since most of the research done on child labor is based on analyses of economically active children, a review of the research will naturally reflect this, but where this is likely to affect the conclusions in a biased way, it is pointed out.

5 As in part of the carpet manufacturing industry in Pakistan and garment manufacturing industry in India and Bangladesh (Grimsrud and Melchior, 1996).
6 Domestic workers, who to a large extent are girls placed in other families’ homes with minimal remuneration, very often under harsh conditions and being the only child employed, compose one of the largest groups of employed children.
2 The Economics of Child Labor

What are the causes and the economics of child labor? Child labor is a complex phenomenon whose supply and demand are affected by conditions in the labor market, the education market, and to some extent the credit market. Additional factors are the patterns of intrahousehold decisions and the norms and values attached to child labor.

Poverty and income

Economically active children represent a decreasing proportion of the total labor force as GDP per capita increases. The World Bank (1998) reports that the labor-force participation rate of children aged ten to fourteen years is highest, 30–60 percent, in countries with per capita income of $500 or less (at 1987 prices). But it declines quite rapidly, to 10–30 percent, in countries with incomes between $500 and $1,000. This negative relationship between income and child work becomes less marked in the more affluent developing countries (in the $1,000 to $4,000 income ranges). The report notes that these findings also seem to be related to the structure of production: the higher the share of agriculture in GDP, the higher the incidence of child labor.

This same correlation between welfare in terms of household income and child labor can be found at the household level. Sasaki (1999) found that household income is generally negatively associated with participation of children in labor activity in most countries where data are available. Among the studies trying to estimate the effects of changes in income, Levy (1995) found that in Egypt a 1 percent increase in adult female wages reduces children’s working hours in the labor market by 2.7 percent for children aged 6–11 years and by 1.5 percent for those aged 12–14 years. Simultaneously it increases schooling hours by 2.8 percent and 0.8 percent, respectively. Rosenzweig and Everson (1977) found that in India a 1 percent increase in adult male wages reduced female children’s hours of labor market work by 1.2 percent, while a 1 percent increase in adult female wages caused a decline of 1.4 percent. Ray (1998) found the same connection between adult wages and children’s participation in the labor market in Peru. Here a 1 percent increase in adult male wages leads to a 1 percent decrease in the probability of children’s engaging in labor activity. Even if all these analyses are based on studies of economically active children rather than child
laborers, the findings underpin the connection between family income and child labor. These wage studies also show that children’s participation in labor markets may affect the adult wage level. This topic will be examined later.

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 (US Department of Labor, 2000). In these settings, inequality in the distribution of income, or more generally, the distribution of recourses, is a barrier to lowering child labor (Swinnerton and Rogers, 1999). The negative relation between household income and children’s participation in the labor market is not always strong. In Pakistan, for instance, Ray (1998) found that improved household welfare did not determine children’s participation in the labor market. Based on data from Cote d’Ivoire, Andvig (2001) notes that the poorest may have fewer resources by which they may gainfully employ their children (less good land), but a more demanding infrastructure (longer distance to carry water). Their children may tend to do nonmarket labor. Andvig suggests an inverse U-shape for the children’s participation rate in the labor market in regard to poverty as a possibility to explore. This is possible in the case of economically active children, but the same is not necessarily true of child labor; in poorer households children may still be working in their own household.

A related analytical problem deriving from the use of statistics on economically active children as a proxy for child laborers is that access to the labor market is an important determinant for poverty. Since children in the labor market are mainly taken there by their families, economically active children tend to be from households with economically active parents. Analyses thus tend to exclude those households where both the adults and the children are permanently or temporarily out of the labor market and the households with the weakest connection to the labor market.

Further to this both children and adults working in the illegal informal sector might be systematically less represented is the statistics.

The poorest households may thus for both these reasons be systematically excluded from the analyses. The connection between child labor and poverty may therefore be even stronger than the present studies suggest.
Intrahousehold division of work

Working children normally belong to a household where some sort of pooling of resources and division of tasks is taking place. Typically the adult (male) head of household works in the labor market, while children (and adult females) work within the household. Changes in the adults’ labor market participation will have implications for the children in the household.

Analysts have long understood that an increase in unemployment can cause an increase in labor supply, thereby exacerbating the unemployment problem. Basu, Genicot, and Stiglitz (1999) show how this “added worker effect” is stronger than the “discouragement effect” for the low-income households. If the primary breadwinner has little possibility of finding work (income), a low-income household will send other members of the household to seek work also. These secondary members may be children or adults for whom the children must assume some of the domestic duties. Bringing the children along with themselves to the labor market may also increase the adults’ opportunities for work. This is particularly true in agricultural work and in other types of piece-rate employment, such as brick kilns or garment subcontracting (Grimsrud and Melchior, 1996).

Several studies seem to confirm this connection between adult and child work. Sasaki (1999) found that as mothers participate in the labor force, children are more likely to be economically active in the Philippines, Vietnam, and Columbia. In Ghana (Canagarajah and Coulombe, 1998) children are more likely to be economically active if parents are self-employed in the agricultural sector. Chandrasekhar (1994) found the same complementarity in analyzing data from the 1981 Indian census. Participation in the labor market by children and adults moves in tandem across India.

The interpretation of these findings will be that economically active children are more likely to have economically active parents than non economically active children. Some studies, however, find a difference in the correlation between the mother-and-child participation rate and the father-and-child participation rate. Diamond and Fayed (1998) find that child labor is complementary to adult male labor and substitutes for adult female labor.

The relationship between the number of sisters and child labor also seems to be significant in several places. The oldest girl has a greater likelihood than other children in the
household of doing domestic work and not going to school, while boys, in particular those with older sisters, have a greater likelihood of going to school (Andvig, 2001). Research from Africa indicates that in several societies household composition is even changed through child fostering or adopting children in order to create an optimal division of labor within the household (Pedersen, 1987, Ainsworth, 1996). It is not however a direct connection between fostering and child labor. Fostering is a tradition linked to education for the children and in some societies with weak traditions in formal education still an important institution (ILO, 2000). It do however often put children in a situation were he or she is venerable to exploitation.

Child labor thus does not replace adult labor, but complements it, either directly in the labor market or in the household, enabling adult family members to enter the labor market. Parents of child laborers are not people who let their children work instead of themselves, but people who find it necessary to draw on more of the household’s resources to secure the necessary income. The result of this is the “added worker effect,” which paradoxically may lead to both higher adult unemployment and lower wages.

**Risk and insurance**

An additional element in the household’s supply of child labor might be different types of risk-mitigating strategies. Because poor households are risk averse, the absence of adequate risk instruments like access to financial credit make them pay an even higher price and, hence, contributes to poverty. Child labor might occur because poor households cannot insure themselves adequately against income fluctuations (Grootaert and Patrinos, 1999). Poor families pull their children out of school to provide labor in the face of an income shortfall. In the most extreme cases they may sell the value of the future work of the child as a substitute for credit; this is called bonded labor. Parents want children to work as part of a survival strategy to minimize the risk of an interruption of the income stream (which may be caused by failed harvests or loss of employment of an adult household member). Interruption in the income stream is naturally more severe for poor households, as it can be life threatening. Thus for extremely poor
households, child labor seems quite rational, broadening the base of income sources (Anker and Melkas, 1995). Children can be engaging in child labor for these reasons both ex ante and ex post.

The study undertaken by Grootaert (1998) in Cote d’Ivoire included data from both 1985 and 1988. These data make it possible to analyze the effect on household labor supply of the 5 percent decline of per capita GDP in 1987 and 1988, which was caused by the collapse in world prices of coffee and cocoa. Households of all income levels responded to the recession by increasing the labor supply of male adults. Very poor households also increased the participants of secondary earners, children and adolescents. The share of total household labor supply represented by children and adolescents rose from 15 percent in 1985 to 18 percent in 1989. Thus children were not substitutes for adults in the work force, but complementary. Poor households increased both adult and child labor supply as a response to the crises.

**Demand for child labor**

Employed children generally work side by side with adults and prefer the same tasks. There are only a few examples of an explicit demand for children labor. Researchers find no support for the “nimble finger” argument, that there might be technical reasons relating to production for which manufacturers would favor children. Child laborers in the manufacturing industry are most commonly engaged in the production of low- and medium-quality products (Burra, 1995). If the “nimble finger” hypothesis were true, that children were more suitable laborers than adults, the pattern should be reversed, with child laborers most common in high-quality production. Employment of children cannot be traced to children processing unique attributes or skills (US Department of Labor, 2000). Children and adult laborers should therefore be regarded as substitutes in demand.

7 Levison et al. (1995) conclude in their study of the Indian carpet industry that with regard to speed, there is little difference, and children and adults work side by side in the same company. As regards quality, measured by the number of knots per square centimeter, the adult weavers, whose strength helps them to properly tamp the carpets on the loom, produce the best quality carpets. The study found that child laborers are most commonly employed in the production of medium-quality carpets.
Employed children are generally paid less than adults in the same job (Grimsrud and Melchior, 1996). This indicates that children are more willing to accept lower wages, or other measures that are cost-saving for the employer. There are two possible reasons for this; that children’s productivity and quality of work are lower than that of adults and that children are easier to exploit. Studies have indicated that both may be the case (see for example Burra, 1995).

The more the latter is the case, the more we can speak of child labor as demand-driven and the greater the scope for interventions. It is however not possible with the current research to determine the extent to which the one is more important than the other. The first productivity explanations do indicate strong limitations on the possibility of improving children’s working conditions as a sole strategy for improving children’s welfare given that any increased cost of employing children would make them uncompetitive in comparison with adult workers.

Another possible demand-side explanation for child labor is that it is caused by a shortage of labor in general, leading to more marginal groups’ entering the labor market. If so one should expect to find a corresponding upward adult wage pressure. This is certainly sometimes the case. But the more commonly observed effect is downward pressure on adult wages.

We can conclude that the direct labor market demand for children is closely liked to the price of their labor. The more opportunities for the employer to hire children at a lower price than adults, the more demand for child labor. These differences in opportunities could be caused by lack of legislation, lack of control, or acceptance through social norms. The more important indirect demand (the supply in conjunction with the parent’s work) for child labor is linked to the adult’s income opportunities.

**Total demand and supply**

As this paper has shown, the child labor supply is a result of decisions within the household influenced initially by the wealth of the household. Working children’s relation to the labor market is generally closely linked to the parent’s labor market relations. With

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8 Part of these cost savings for the employers is the greater possibility to dismiss children or to use child laborers only as extra labor whenever the need arises.
reduced income the household will respond by sending its children out into the labor market or will let them take over tasks in the household or on the family land that release adult labor for the labor market. Such increased child labor could be stimulated by an external crisis that the household was not able to resolve though the credit market.

No support is found for the idea that children are hired because of special skills, the “nimble fingers” argument. Either employers are indifferent or they hire children because they are cheaper and easier to control and discipline and because they accept the working conditions set by the employer. Since most children in the labor market are brought there by their working parents, the demand for child labor is actually mainly implicit in adult wages, as for example in the piece rates in the plantation sector and garment subcontracting.

In the model developed by Basu and Van (1998) the “added worker effect” is used to explain child labor. This model assumes that parents are completely altruistic and withdraw their children from the labor market as soon as their own income passes a certain threshold—most parents do not want their children to work to the extent that they become child laborers. The children’s labor supply enters directly into the household’s welfare function. If all households are very poor, both the adults and the children enter the labor market, and since child labor and adult labor are near substitutes, the child labor pushes the adult wage rates down, which may get the economy stuck in a low wages–high child labor participation equilibrium. The same economy may, however, also reach another equilibrium where the adult wages stay high because they are high enough to make the altruistic parents keep their children out of the labor market. Both are Pareto optimal, but shifting from the low wage and child labor equilibrium to the high wage no child labor would imply fall in firm profit. What Basu and Van show is that the band does not affect efficiency but just distribution between labor income and capital income.

Andvig (2001) argues that in practical policy one should be careful not to assume that an economy with high child labor participation rates is necessarily stuck in an non–Pareto optimal equilibrium. If the productive
possibilities in the economy are too poor, the Basu-Wan model will predict a single high child labor participation rate equilibrium. To force on it a ban on child labor will only ensure a deeper level of poverty. Therefore, while interesting and important for economies with a high rate of child labor supplied to private firms in the market, the low incidence of such child labor makes the possibility of the non-Pareto child labor trap not so likely.

Andvig is right in noting that the Basu-Van model is important for describing some aspects of the labor markets in economies where much child labor is supplied to private firms (as in garment and gem industries) and also for explaining child labor in terms of children’s helping their wage-employed parents (as in piece-rate plantation work and subcontracting). The model does seem to be relevant beyond this, however. It can be argued that the work that children have to take on in the household, family plot, or business enabling adult household members to enter the wage labor market also helps create the “added worker effect.” Even in economies with a low rate of child labor supplied to private firms, the existence of child labor in the household may lead to a low wage–high child labor equilibrium.

Labor market theory helps explain child labor both as caused by poverty and through the “added labor effect” causing poverty in households based on wage income. But this is not the entire story.

**Work and education**

One of the parameters defining child labor is whether the work done by children interferes with their education. Here the definition includes a normative assumption that all children, regardless of background, should get at least a minimum amount of schooling (by different international conventions interpreted as a minimum of five years from ages 7 to 12). The existence of child labor will therefore be very dependent on what in this context may be called the education market. This may be just as important in explaining child labor as labor market conditions. For India, the country believed to have the highest absolute number of child laborers, it has been assumed that 70 percent of these children would go to school if given the opportunity of free education of a minimum quality (Burra, 1995).

The decision on how much time a child should spend at school or working is influenced by both the assessed cost and the benefits from schooling and job opportunities. It
is evident that the supply of child labor will increase as costs of education increase. Several studies confirm that increased school expenditures reduce the enrollment rate (see, for example, Grootaert and Patrinos, 1998). It will decrease by increased projections of future return to education. Both the initial levels of child labor and changes in the supply are subject to conditions in the education market.

9 Some studies, however, find that increased school expenditures reduce the possibility of child labor (Grootaert and Patrinos 1998, 123). The negative relationship found in Colombia between school expenditure and child labor suggests that the variable is capturing school quality rather than school cost: children are more likely to attend school when the community in which they live devotes more resources to schooling.
The total cost to a household of enrolling a child in school is even higher, including not only the sum of the direct money costs but also the opportunity costs. Opportunity costs are the implicit cost of the time that children devote to schooling, including the time they spend in the classroom, traveling to school, and doing schoolwork at home. These factors affect the possibility of combining schooling and work activities. Inflexible schooling schedules may unnecessarily increase the opportunity costs of going to school. In the harvest season, for example, the household may need all hands available, while in other parts of the year the opportunity cost of children’s time is much lower. Grootaert (1998) finds that the distance to the school significantly affects enrollment.

The cost of going to school differs substantially both between and within countries. Families well up in the middle-income group may find it hard to send all children to school in places where this implies paying fees and long and costly travel and where the quality of the education offered is poor (making the real costs high). At the same time, even the poorest families may send their children to school in areas where good quality free education is offered. Sasaki (1999) finds income effects in school participation rates of children in countries like Pakistan, Cote d'Ivoire, Paraguay, Ghana, and Zambia. Ray’s finding (1998) of no link between child labor and household poverty in Pakistan may be a result of both studying only wage-earning children and the education system itself, which is so poorly developed that even children from middle-income households are discouraged from attending. This underlines the necessity for including the availability of education in predictions on the causes of child labor.

**Attitudes, values, and norms**

The preceding text focused on the economic parameters that help explain child labor. In addition to the economic reasons, an explanation of child labor must include attitudes, values, and norms surrounding the phenomenon. Many countries show a much higher enrollment rate for boys than for girls and hence much higher incidences of child labor among girls.

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10 According to the latest UNICEF figures (1999) the net first-grade primary school enrollment in Pakistan is 66 percent, of which only half reach grade five. This implies that more than half of all children aged 5 to 14 are not in school.
than boys. Yemen is one such country; the net enrollment rate for rural boys in primary education is 57 percent, while the corresponding figure for girls is 31 percent (Grimsrud, 1998a). Some of these differences are based on different projections of return to education, but attitudes and norms obviously play a central role. Bolin-Hort (cited in Cunningham and Viazzo, 1996) noted that entrepreneurs in different cultures (Lancashire, Scotland, Massachusetts, and the American South) historically used the same technology and yet pursued significantly different employment strategies, resulting in quite different levels of child labor.

The observed correlation between the parents’ level of education and child labor indicates a positive change in values among better educated parents and a positive change in the evaluation of the future return to their children’s education. Sasaki (1999) finds ample documentation that parents’ educational attainment is positively associated with children’s decisions on school attendance. He refers to studies from Brazil, Cote d’Ivoire, Ghana, Paraguay, Pakistan, Peru, Brazil, and Zambia that all support this assumption. In particular, school attendance of children depends positively on the education level of their mothers.

Andvig (2001) concludes that it is almost impossible to explain the great difference in tasks and in total working hours between girls and boys in many African communities without invoking social norms as behavioral guidance. Or, for that matter, to explain the sudden decrease in children’s work at home in most OECD countries. Neither differences in marginal productivity of boys and girls nor declining tasks at home suffice.
3 Road to Development or Development Trap?

*Private and social costs and benefits of child labor*

While poor families may have good reasons for deciding to put their children to work, child labor may not be in the society’s best interest—nor in the best interests of the families in the long run. The fact that child laborers generally are unable to acquire the type of human capital that allows them to have a fair chance in the labor market may translate at the national level into a labor force that is ill equipped to compete in today’s global economy. To say something exact about the costs and benefits of child labor is difficult. The following exercise does however identify possible differences between the private and social costs and returns from child labor.

The private return on child labor has several elements. It represents the child’s money income; the value of the child’s work in the family enterprise, at the family plot, or in the household; the increased income opportunities for adult members of the household; and the skills or increased labor market opportunities the child acquired while working.

Several studies have tried to estimate the value of the income of children as a percentage of the total family income. In Peru, Siddiqi and Patrinos (1991) found that working children aged 10 to 12 contribute 7.5 percent and children aged 13 to 15, 12 percent of the household income. Other studies refereed by Anker and Melkas (1995) indicate that children contribute up to 20 to 25 percent of the family income, but these surveys have methodological weaknesses. Their sample comprises only children receiving wages. In Peru the data were based on only 34 of the 372 children found to be in the labor market. As mentioned above, only a small fraction of the children are working for an employer and receiving wages. To generalize on the basis of these children is therefore not possible. It is more likely that the estimates from Rosenzweig, and Everson. (1997) from rural India, where children’s income constituted only 6 percent of family income, give a more complete picture.¹¹ This level is also confirmed by studies in Latin America by Himes et al. (1994).

More important probably is the value of the work and the increased income opportunities for adult household members. Children working in their own household

¹¹ The children supplied 17 percent of total family time in the labor market.
increase the adult labor supply. If the children had not performed these tasks, adults would have had to. The unpaid work children perform in the fields or in a small informal family business may be of substantial value for the household. Valuable learning also takes place through both household and labor market work, but how valuable? A few studies have examined the effect of child labor and earning opportunities for these children as adults. Research in the carpet industry in India, where child labor is widespread, indicates that good weavers did not have to begin weaving as a child (Levison et al. 1995). Individuals who began work as children do not appear to earn more due to their work experience than other workers in their trade. The money earned and the learning effects from child labor are generally not of great economic importance for the household, but the value of the work done and the increased income opportunities for adult members of the household may be of more importance. There will, of course, be differences among households.

Both the direct child labor income and the income from the increased adult labor market work as a result of children’s working in the household must be offset by the effect this increased labor supply has on the wage level. The “added worker effect”—when a poor household increases rather than decreases its labor supply as a result of decreased wages—makes this an important factor. One example of this can be found in parts of the U. S. labor market in the late nineteenth century (Parson, 1989). As a result of the increased labor supply, approximately 90 percent of all child earnings were negated by the corresponding drop in adult wages.

The direct costs of child labor are primarily the depreciation of human capital through lack of education and work-related illnesses and disabilities. It is difficult to measure the exact effects of work-related hazards, but existing data clearly indicate that children often work in a dangerous environment. Being tender physically, children are more susceptible than adults doing the same kind of work to various work-related injuries and illnesses. Also because they are not yet matured mentally, they are less aware, even completely unaware, of the potential risks involved in their specific occupations or at the workplace itself. Available statistics do not tell to which extent children are more exposed to work related illnesses than adults, but according to the ILO (1999), a large number of economically active children are affected by various hazards. A special study on economically active children in part of
Turkey found that up to 66 percent of the children worked in health-threatening conditions. In other studies in Indonesia, India, Ghana, and Senegal the ILO (1995) found that around 5 percent of working children surveyed had been injured or become ill due to the working conditions or environment at their workplace. All these studies include economically active children only. The working conditions of the children working in the household are basically undocumented. Some studies, including one from Yemen (Grimsrud, 1998a), indicate that children working under the guardianship of their parents have less harsh working conditions than others. A general conclusion is that negative health effects of child labor are definitely a problem, but there are no statistics to describe the magnitude of this problem.

Does the child’s or the family’s deciding whether the child should work take all costs into consideration? For example, is adequate consideration given to serious occupational injuries or disabilities, accidents that may happen only to this particular child and only in a distant future? In one ILO study (1995), almost all of the working children were unaware of possible health hazards caused by their working conditions. The full health costs of child labor are probably not taken into consideration by the household when deciding whether the child will work.

Normally the employer must assume some of the responsibility for occupational injuries or disabilities. To the extent that this responsibility is reduced when hiring children, the household supplying child labor will have to assume greater responsibility and costs following occupational injuries.

The future return to education is crucial in determining how beneficial it will be for the household to send children to school. Several studies (Psacharopoulos, 1994) show a high return to investment in education at the national level. In order therefore to explain the observed level of child labor it may be argued that risk-averse households systematically underestimate the value of education, and that there may be intertemporal distribution problems between those who have to invest in education and those who will receive the benefits.

12 Many of them suffer actual injuries or illnesses such as punctures, broken or complete loss of body parts, burns and skin disease, eye and hearing impairment, respiratory and gastrointestinal illnesses, fever, headaches from excessive heat in the fields or in factories.
return of this investment Baland and Robinson (2000) describes such intergenerational distribution problems and show that even if parents are fully altruistic towards their children they might send their children to work on the expenses of these children’s future earnings because the family are so poor that such a delay in income is not possible. Further the same parents may face capital market imperfections, which stop them from compensate this through borrowing.

Anker and Melkas (1995) describe the intergenerational vicious circle comprising poverty, fertility, child work, school enrolment, and economic development. Couples in poor households have more children, partly because the possibility that the children can work reduces the cost of having children. High fertility in turn increases the need for the income provided by child labor. It also reduces the education levels of future generations, thereby helping to ensure that future generations will have high fertility, since parents’ education is one of the most important determinants of fertility. Breaking this circle may impose an extra burden on the generation that does so.

It might also be the case that the effect of child labor on the child’s future income is not fully taken into considerations. In a study on child labor in late nineteenth-century American families, Parson (1989) finds that poor working class parents placed little value on the forgone schooling.  

On the demand side, producers might assume that with an increased labor supply as a result of child labor, their return on capital would increase. But a reduction in the child labor supply would result in higher wages for both children and adults. At the macro level it could be that if children were withdrawn from the work force, certain activities within specific industries and some industries in their entirety would shrink or face closure. In the long run, however, an increased education level could pave the way for increased labor productivity.

**Growth and development**

The neoclassic growth model normally does not differentiate between different types of labor; child labor is the same as other types of labor. Intrahousehold pooling of labor and discriminating among different labor markets are also not normally reflected in a neoclassic

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13 Parson concludes that this at least provides no support for the positive intergenerational transfer models prevalent in much of the human capital, fertility, and macroeconomics literature.
growth model. If children are hired, it is because their work at the wage paid has a positive marginal return to the enterprise output and hence to growth. In the neoclassic model of growth, a sustained increase in investment raises the economic growth rate only temporarily, the ratio of capital to labor goes up, the marginal product of capital declines, and the economy moves back to a long-term path, with output growing at the same rate as the work force (quality-adjusted, in more recent versions) plus a factor to reflect improving “productivity.” Because the last term is exogenous—determined outside the model—critics say that the neoclassical model ignores the very engine of growth. The existence of child labor does not therefore in a neoclassical growth framework seem to pose any particular development problem. The working children represent both in themselves and by the corresponding growth in adult labor supply a source of economic growth (depending somewhat on how one defines productivity and on the quality of growth in the labor force).

The other main theoretical approach to economic growth is called endogenous growth theory. This approach brings improvements in productivity, notably due to innovation and investment in human capital, fully inside the model, so that outputs grow faster than exogenous factors alone would make them grow. Human capital, for example, is not just another input into the production process (albeit complementary to other inputs such as physical capital) with diminishing marginal returns, but one with the characteristics of a nonrival public good and one whose accumulation can make marginal returns to other inputs, particularly physical capital, increase rather than diminish (Srinivasan, 1998).

Some contributions to endogenous growth theory emphasize positive externalities of the actions of agents. Hence, with different preferences, the technological and demographic parameters being the same, the steady state growth rate will generally be different, essentially because the positive externalities are exploited to a lesser or greater degree. The existence of child labor may be an indication that positive externalities from investment in human capital are not fully exploited. The innovation of these contributions relative to the neoclassical

14 Some economists, such as Srinivasan (1998), criticize endogenous growth theory for not being based on well-specified microeconomic foundations. He believes that without an analytical framework to formalize the process of human capital accumulation and how it relates to aggregate growth in different economies, it is impossible to infer anything meaningful from the statistical significance (or lack thereof) of the estimated parameter associated with the human capital variable.
model is that the rate of technological change, a fortiori the rate of growth, is no longer taken as given from outside, but is envisaged as depending on the “behavior” of the agents: that is, on their preferences and priorities.

In the formalization this influence is commonly reduced to that of the rate of time discount, or time preference, and the elasticity of substitution between present and future consumption. Most endogenous growth theories assume the individual or household to be maximizing lifetime welfare in the form of an intertemporal utility function. This allows a perception of child labor as lost investment in one time period. Based on Lucas (1988) we can assume that the economy’s representative agent maximized its utility function over time. 15 A decision in the household to let the children spend less time working and more time in school could be an example of this. Production in the second period will hence depend not only on the number of workers, but also on their productivity and the quality of their works. Lucas adds to this a term (h*), representing an external effect associated with the accumulated human capital; the more human capital society as a whole has accumulated, the more productive each single member will be.

In this way endogenous growth theory makes human capital development essential for economic growth. It also foresees externalities associated with this human capital development. If child labor should be a phenomenon in an early stage of industrialization, the lost opportunities that one generation has to forgo in order for future generations to prosper, in this model not only must it be an optimal deployment of resources in period one, but it must also offset the reduced return to human capital in later periods, while in the neoclassical theory this was not the case. The endogenous growth theory hence seems to offer an

15 The agents have a choice between two ways of spending their nonleisure time: to contribute to current production (u) or to accumulate human capital (1 - u). It is the allocation of time between the two alternatives contemplated that determines the growth rate. The human capital is built up as follows. Let (h) be the stock of human capital per unit of labor available at a given time; (1 - u) the fraction of time spent studying; and (v) a positive constant; then the change of (h) over time is assumed as given by:

\[ H(\text{growth}) = vh(1 - u) \]

Agents decide according to their preferences about the allocation of their time; that is, they fix (u), and therefore determine the growth rate of output. For example a decrease in (u) involves a reduction in current output growth at the same time that it speeds up the formation of human capital and thereby increases future growth.
analytical tool that casts new light over the connections between child labor and macroeconomic performance.

**Child labor and trade**

Apart from some particular product groups like carpets and gemstones and within export-oriented agriculture, child labor is not very important in export industries. Two effects of child labor on trade are nevertheless worth noting.

Child labor differs in countries over time but seems to have a more constant presence in some industries where labor intensive technologies cannot be replaced by capital intensive technology. If we look at some of the internationally traded goods where child labor is most common, we see that in the case of both handmade carpets and gemstones, the countries of South Asia have over the past two decades increased their market share and increased their use of child labor in this type of production (Grimsrud and Melchior, 1996). Does this indicate that while some nations will grow out of the problem through changes in their industrial structure away from the labor intensive industries where child labor prevails, others might be locked in underdevelopment?

The existence of child labor may slow down or obstruct structural changes needed for growth as explained by the endogenous growth theory. Several economists have shown how trade may reinforce this process. When knowledge accumulation is located largely in the rich countries and the poor country is also smaller in (economic) size, particularly in the size of already accumulated knowledge capital (which determines research effectiveness), the rich countries capture a growing market share in the total number of differentiated varieties, and the entrepreneurs in the poor country, foreseeing capital losses, may innovate less rapidly in long-run equilibrium with international trade than under autarky, as shown by Feenstra (1996). Trade reduces the profitability of education and R&D in the poor country as it places local entrepreneurs in competition with a rapidly expanding set of imported, differentiated products. It may drive the country to specialize in production rather than research, and within production to shy away from high-tech products, favoring instead traditional, possibly

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16 Structural changes are at the center of modern economic growth as an essential ingredient for describing the process and for the construction of any comprehensive theory of development (Syrquin, 1998).
stagnant, industries, which use its relatively plentiful supply of unskilled workers, thus slowing innovation and growth.

The second trade effect is that eliminating child labor may actually alter the terms of trade between producer and consumer countries in favor of the producer nations, since payments to the labor force will increase, and some of this increase will be transferred to the world market price. Levels of pay may rise for two reasons. First, a direct increase may result from the fact that adult laborers receive higher wages than children, even after adjustments are made for productivity. Second, and probably more important, are the indirect effects of an increase in the demand for adult laborers and of the reduction in the supply of labor due to the absence of child laborers in the work force. A reversed “added workers effect” may also take place, in which adults reduce their labor supply as a result of increased wages. Whether manufacturers are able to transfer increased labor costs to the world market price will be determined by whether the products are immediately replaceable by more technology-based products and whether the producer nations together have market power. The producer countries’ total profit will depend on price sensitivity (the elasticity of demand—the drop in demand for the product resulting from the increase in price. It is uncertain how great an effect on price a global ban on child labor would have. Studies from the carpet industry in India and Nepal indicate that any rise in prices resulting from a ban on child labor would be small (Levison et al. 1995).

Developing country governments should, if the above arguments hold, be eager to legislate against child labor. That such a desire only exists on a limited scale, or has been translated into practical policies to only a small degree, may be due to the fear that an individual nation that unilaterally abolished child labor might easily lose out if other countries failed to follow suit. It is a collective action problem. Without international regulations, the winners will be those countries that violate the standards (and the consumers in industrialized nations). Multinational regulations backed by the credible threat of sanctions may be one solution that would benefit all producer countries. It is important to remember, however, that child labor
linked to trade composes only a small fraction—probably not more than 5 percent—of total child labor (Grimsrud and Melchior, 1996).

**A development trap?**

In summary, the costs and benefits from child labor are difficult to estimate, and research on the subject is inadequate. Research does, however, confirm the possibility of poor households’ increasing rather than decreasing their labor supply a result of falling wages. This results in a multi-equilibrium situation in the labor market (Basu and Van, 1998).

To the extent that research has been conclusive it shows that households tend to underestimate the cost of child labor by underestimating the future return to education and health risks involved and hence supplying too much child labor. Legislation and social norms may work to correct this. In some cases, however, existing social norms may support child labor, as, for example, in the case of girls’ being taken out of school and set to work in the household instead.

At the macro level much depends on the value placed on human capital development and education. If human capital development is regarded as primarily a costless transformation of skills at the workplace, as in neoclassical growth theory, child labor may be seen as beneficial for growth. If human capital development is regarded as an investment, as in new growth theory, child labor will be seen to permanently reduce wealth creation in an economy. The endogenous growth theory implies the possibility that economic policy may increase permanently the pace of per capita income growth. Therefore the new theory, unlike traditional growth theory, does not predict convergence in growth between countries, but the opposite. Certain types of international free trade regimes may increase or maintain these differences. Trade may also lead to collective action problems among states.
4 Policy Options

What type of policy intervention is both justifiable and efficient? While almost all would agree on the long-term objective of eliminating all forms of child labor, the short-term measures are more debated. Should the conditions of child labor be regulated in an attempt to ease working conditions, or should all forms of child labor be banned immediately? Would the regulation approach work, or would it only institutionalize child labor? Will an immediate ban do more harm than good, imposing a disproportional burden (lack of income) on the children and families affected—even if the majority would be better off as the result of a ban? Grootaert and Patrinos (1998) suggest, for example, legislation banning only the most extreme forms of child labor such as prostitution and bonded labor. For the formal (and informal) labor market they propose prohibiting hazardous work and limiting the hours worked by children. Their key point is that the measure should not prohibit child labor, but should place restrictions on it to protect the children. Some have even expressed the idea that, rather than abolishing child labor, new roles needs to be promoted for children in the labor market, including making it easier, not harder, for children to have access to paid work outside the household (White, 1995).

Given that most child laborers work in their own household, on their family land, or with the family business, the scope for traditional labor market regulations is naturally quite limited. But let us first look at it from a theoretical point of view, assuming some of the working children operate in a labor market. In the labor market children represent the lowest skilled and least productive workers and hence occupy the lowest paid jobs. The demand for children relies totally on this low wage. Advocates of regulating children’s working conditions propose shorter working hours, improved heath and safety regulations, and higher child wages. All quite natural proposals, but with the common nominator that they imply increased
employment costs. Any regulation of child labor would thus reduce employment opportunities for children in the industries where the regulation applies.

If regulatory intervention does not decrease the absolute supply of child labor, and given the existence of an unregulated child labor market, for example in the informal sector, children will move from the regulated sector to the unregulated, thus creating downward pressure on children’s wages and working conditions in this sector. Some interventions, such as education opportunities at the workplace, free meals for working children, and providing street children with basic commodities without taking them of the street—implying that you offer the working children a slightly higher living standard—may even increase the supply of child labor.

The fact is that the scope for demand-side interventions to reduce child labor is limited. In cases where employers exploit children’s willingness to work for less pay than adults, as in the cases of special children’s piece rates, regulations may succeed in increasing the child’s remuneration to the parity of the lowest-paid adults. Likewise, targeting only the worst forms of child labor has limitations. Children will remain the most inexperienced and unskilled and unstable part of the work force regardless of any regulations. As noted by John Stuart Mill (1848), “The more revolting the occupation, the more certain it is to receive the minimum of remuneration, because it devolves upon the most helpless and degraded, on those who from squalid poverty, or from want of skill or education, are rejected from all other employment.”

Regulation on the demand side that does not include a supply-side intervention transferring children from work and into education can easily be a dead-end solution to reducing child labor. It may, with the exception of the individuals identified for special programs, make the working opportunities less favorable for the children and at the same time may not achieve any of the gains from increased human capital through education. Efforts to improve conditions for working children must therefore also include supply-side reforms, either of education or of the adult wage level or both. A policy that got more children into the education system would not only benefit those children but would also
reduce the supply of child labor, increasing the bargaining power of the children remaining in the labor market.

If child labor owes its existence in part to lack of education opportunities, it can never be abolished through labor market regulations alone. If children are kept out of the formal market but are still not in school, they will either find their way to the informal labor market or work in their own household (see Grimsrud, 1998). When education is not available, a child naturally chooses to do some work instead of doing nothing. Countries without universal education therefore always have child labor.

Compulsory universal education is thus just as important as regulation in ending the abuses of child labor. Making schooling compulsory means mobilizing not only public resources but also the individual family’s resources. After such measures are in place, households in need of more direct external support to send their children to school can be identified. For these remaining children—to make up the difference between the social and private return to education—one measure commonly used is to provide the most needy children with a free meal at school.

To make education compulsory can be seen as a way of taxing the household, forcing them to spend more (of their children’s time) on education than they would have otherwise. In several countries a link is made between compulsory education laws and laws against child labor. Banning child labor reduces the opportunity costs of sending a child to

17 Other development aspects have also been linked to education. The translation from child labor to children largely attending schools is seen by many population specialists as the central nexus causing the transition to lower fertility (Cadwell, 1982). A steadily increasing body of evidence suggests that girls’ education is probably the single most effective investment that a developing country can make. Educating women: “(1) reduces child mortality, (2) reduces maternal mortality, (3) reduces fertility, (4) improves family health, (5) increases the educational attainment of their children, (6) has important environmental benefits, and (7) increases productivity” (Sandström, 1994).

18 The World Bank has been promoting sound financial policy including cost recovering measures within the public sector (World Bank, 1995). It is not clear, however, if school fees at the primary level are a part of such recommendations from the World Bank. Parallel to this the World Bank is promoting a greater private involvement in education at all levels. Again it is not clear whether this implies introducing fees and two-tier school systems or only inviting private suppliers to help governments in offering free primary education for all.
school, so more children may be sent to school. In addition, the schools provide a unique arena for monitoring enforcement of child labor legislation. A tax on children's time available to work and a corresponding ban on child labor could therefore turn out to be a win-win strategy for the state. Furthermore, withdrawing the children from work may lead to increased adult wages and hence an increased opportunity for the household itself to support its children going to school.

**Historical lessons**

History is an imperfect guide for current policy because both the local and the global context may be different. Some experience in different countries may, however, give some perspective to the present debate. The type of child labor that has received most attention historically is wage labor during the industrial revolution. But Cunningham and Viazzo (1996) note that child labor historically also was most intensive and pervasive in workshops and home-based industry, primarily in textiles, before mechanization and the concentration of the work force into factories. The reduction of child labor was thus a result of the combined effect of child labor legislation, compulsory education, technical change in production, and higher adult wages, not of regulations alone.

The connection between compulsory education and child labor legislation is evident in many countries, perhaps with the exception of Britain and the United States. In Norway, the first labor code of 1892 (*fabrikkloven*) included a ban in factories and sweatshops on hiring children who were under 14 years of age and had not completed compulsory education. This was linked to education by making the local school authorities responsible for overseeing that the ban on child labor was observed (Grimsrud, 1998). A similar strategy was used by Hong Kong, where the schools were the key element and arena for control in their fight against child labor in the 1970s (ILO, 1988).

Historians differ in their views on how active the states in general have been in eliminating child labor. Some argue that it is only after the demand for child labor has peaked that governments have taken decisive
steps to reduce it. Nevertheless all industrial countries have been very active in intervening against child labor. It is the field for some of the earliest labor legislation in many countries. The education market has also been a field for active interventions from the state, and in economic literature support for this approach goes back to Adam Smith. Weiner (1991) finds that countries introducing compulsory primary education before industrialization have a lower rate of child labor that those not having compulsory education.

All present-day industrialized countries have at an early stage in their industrialization introduced compulsory education and regulations against child labor. However, neither child labor laws nor compulsory education eliminated child labor overnight. In the first place, the worst forms of child labor are not found in the formal labor market, which can be regulated. Extension of education opportunities did not reach the poorest of the poor first, either. Elimination of child labor has taken time in most countries. Even countries like Italy, Portugal, Britain, and the United States still experience measurable pockets of child labor in the lower end of the labor market and among children from the poorest households. Historically today’s industrialized countries have not directed their main efforts toward reducing the worst forms of child labor; they have instead reduced child labor by dealing with the least costly cases first. Bans on child labor appear first in the formal part of industry, where enforcement is possible at a low cost. Also when introducing compulsory education countries seem in the first instance to have concentrated on getting as many as possible into the education system and then gradually increased the efforts toward the more marginal groups. This historical lesson seems to contrast with the strategies adopted by the ILO in 1999, addressing the worst forms of child labor before taking more general measures.

What can be done

What can be done to reduce all forms of child labor effectively? A combination of actions is necessary. A point of departure should be
household wealth and income. Increasing income opportunities for the adult member of the household will lead to a reduction of child labor. Regulations helping to improve the adult family member’s income opportunities will therefore be important in any strategy for reducing child labor. If a ban on child labor in the formal labor market strikingly reduces the working opportunities for some children but at the same time increases the income opportunities for adults, the net effect may easily be an overall reduction in child labor supply since the adult wage effect will benefit a larger group of children than the ban. This does not mean that the cost for those children affected can be high. There are, however, very visible forms of child labor; some cases may be addressed by specifically tailored assistance and schooling programs.

In the context of policy making, child labor is more a flow problem than a static condition. The problem is children’s entering the labor market too early or taking on too much work in the household. It is not that the children generally are entering into an activity, work, they never should have taken on. With the exception of extreme forms of labor, like prostitution, having to work is not in itself an undesirable situation. Children entering the labor market are therefore not comparable with children entering, for example, drug abuse. All children, it is to be hoped, will as grownups enter the labor market or take on household duties or both.

Industries using the same technology may vary substantially in their use of child labor. In general industries without the possibility to change their technology use child labor most commonly. Making hand-made carpets does not leave much room for technological development. The role of technological development in reducing child labor in industries is and has historically been not so important (Cunningham and Viazzo, 1996). Structural changes, where labor-intensive production has been moved to other countries, for example, are, however, an important factor in reduced use of child labor locally.
Technological development nevertheless has an important role in reducing some of the most common forms of child labor in agriculture and in the households. Measures to reduce the total workload in the household by reducing the amount of work needed for fetching things like water and firewood could have a very positive impact on child labor. Children often perform duties of this type, and a reduction of the time needed to undertake them would release these children from parts of their work. Ray (1998) found in his studies of Peru and Pakistan that improvements in the water supply even reduced wage child labor (nonwage child labor was not analyzed).

The absence of risk-management instruments such as credit and insurance may lead to child labor and even bonded child labor. Introduction of both permanent risk reduction and mitigating instruments such as credit, income security schemes, and insurance and other risk coping instruments might be relevant. Trade-related measures like codes of conduct, trademarks, and even unilateral or multilateral agreements are useful only to the extent that they help change the reality on the ground or help to resolve collective action problems among states. Reduced trade in itself would probably increase child labor and/or lead to deteriorating working conditions. Interventions helping to change things on the ground, however, would have a different effect. These might include such things as change in attitude or behavior, which could help to change inferior institutional settings or market equilibriums. An example of this might be the use of trade sanctions to press for investments in education or enforcement of child labor legislation, where not doing so today is a result of one particular interest group’s dominating the political scene. Basu and Van (1997) describe situations like this.

Actions on the demand side must reflect the different types of child labor. Most child laborers work either in their own household or at the family plot; even among the remainder, working children normally only assist their parents or close relatives. Demand-side intervention could have some effect if the employment of children is based on the child’s

19 For theoretical elaborations on this see North (1990).
being paid less than the productivity-adjusted adult wage level. Demand-side intervention in the form of legislation against child labor has important implications beyond this, however. First it may help the labor market in a particular industry to move from a low-wage child-labor equilibrium to a high-wage no–child labor equilibrium or at least may reduce the downward pressure on adult wages as a result of the child labor supply. A ban on child labor may take away income opportunities from some poor families. Adult income is, however, more important for households where child labor exists than children’s income. Most children do not get any remuneration at all for their work. The negative welfare implications for working children may therefore be larger if child labor is not banned. But individual families may get a disproportionate share of the negative effects from a ban.

Another reason for legislating against child labor is the positive effect it may have on school enrollment, both by reducing the shadow price of education and by getting the household to spend more resources on education. A third and partly linked reason is the norm-setting effect of legislating against child labor. Norms play a role in the household supply of child labor.

An explanation for the lack of support for abolishing child labor in individual countries may be the effects that such a ban would have on producer revenues. Abolishing child labor would lead to higher wage bills in the relevant industries. This increased expense can only be recouped by reducing profits, increasing prices, or both. If the manufacturer is able to transfer prices to the world market price to only a limited extent, the increased wage bill will have to be covered by a reduction in profits. Without universal regulations, therefore, manufacturers could have an interest in not seeing unilateral national legislation in this field.

The country specifics in designing programs against child labor are important. In countries with strong legislation and good education coverage, child labor emerges as a problem mainly linked to poverty. In countries with weak legislation, like India, an industrial demand for child labor emerges. In countries with low education coverage, like Pakistan, the absence of the school option seems to explain a lot of child labor. The educational,
legislative, and economic situation must therefore be taken into account in the design of a country program.

Reducing the daily inflow is the most cost-effective way to reduce child labor. Still there seems to be a stronger emphasis on rehabilitation of child laborers than on preventive measures.

Successfully reducing child labor, and in particular reducing the worst forms of child labor, requires a framework of measures including legislating against child labor in the formal labor market, universal and compulsory quality education, and a policy to address poverty and elevate low-income groups. Policy makers must look at the links between development and child labor, focusing on not only the extreme forms, but work toward a comprehensive program preventing children from taking on too much work at too early an age.
References


Levison, et al. 1995. *Is child labor really necessary in India’s carpet industry?* ILO/IPEC.


