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U.S. Trade and Other Policy Options and Programs to Deter Foreign Exploitation of Child Labor

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I. Introduction

The purpose of our paper is to explore issues of child labor exploitation in developing countries and the variety of trade and other policy options and programs that are available to the United States and other major industrialized countries to deter such exploitation. Child labor exploitation is by no means a new issue, but in recent years it has obviously become a highly emotionally charged one. It has evoked considerable discussion and controversy in the United States and elsewhere as labor unions and human rights and other public interest groups have advocated the pursuit of improved labor standards and conditions of work in developing countries. While we have explored the conceptual and policy issues involving international labor standards[1] and trade in a number of previous papers – Brown, Deardorff, and Stern (1996, 1998a,b) and Stern (1997, 1998) – our focus in this paper is more narrowly on child labor. It will be evident in what follows that there are numerous complexities involved in understanding the causes and consequences of child labor and therefore in devising appropriate measures that will effectively and beneficially reduce employment of children.

We begin in Section II with a discussion of the determinants of child labor and selected information on the global, national, and sectoral employment of children. In Section III, we discuss the range of policies and programs used in the United States to help effect a reduction in foreign child labor. With the foregoing as background, we turn in Section IV to conceptual considerations, using a framework that we have developed to analyze the economic determinants of child labor and the expected

[1] So-called core international labor standards, according to OECD (1996, p. 26), include: (1) prohibition of forced labor; (2) freedom of association; (3) the right to organize and bargain collectively; (4) elimination of child labor exploitation; and (5) nondiscrimination in employment.

consequences of alternative measures that are designed to reduce child labor. Conclusions and implications for further research and policy are presented in Section V.

II. Determinants, Magnitudes, and Characteristics of Child Labor

Determinants of Child Labor

It is useful to begin by considering what is meant by child labor. As Grootaert and Kanbur (1995, p. 188) point out, it is by no means obvious how to define a "child." In western societies, chronological age is customarily used. However, in other societies, the concept of a child is not merely a matter of chronological age. Rather, how children are viewed will often be determined by societal factors, including: (1) the level of economic development; (2) the level and composition of social expenditures; (3) cultural considerations; and (4) the phase of demographic transition. Thus, it is common and taken for granted in many developing countries that children may be involved in a variety of work-related activities, ranging from helping out with domestic tasks in the home, working in home enterprises or on farms, or working in wage employment outside the home. Attending school rather than working is of course another option, but this will vary depending on family circumstances and the conditions and availability of schooling.

In considering the potential supply of child labor, Grootaert and Kanbur (1995, p. 191) note that the household will allocate a child's time devoted to different activities depending on such factors as: (1) the size, age, and gender structure of the household; (2) the level and variability of family income in relation to work at home and in the market; (3) income and substitution effects between the labor of the child and parents; (4) parental education; (5) accessibility of schooling; (5) family wealth holdings; and (6) the complex of government economic and social policies that bear upon family decision making. The contribution that children may make to family income will in turn influence decisions on household size, both when children are young and when they may later become the source of support for aging parents.

On the demand side, Grootaert and Kanbur (1995, pp. 192-93) note that the level and flexibility of the wages of adults and children and the degree of monopsony power will influence the employment

decisions that firms may make and determine the mix between adult and child labor. The demand for child labor will also depend on the relative importance and the degree of segmentation of the formal and informal sectors in the economy. While children are more likely to be employed in the informal sector, there may be an interaction between the formal and informal sectors as firms decide to break up into smaller units or to subcontract parts of their production to households or informal enterprises in an effort to avoid the costs of conforming to social legislation. In these circumstances, the demand for child labor may increase.

There may be sectors in which children are apprenticed for long periods of time in exchange for benefits that may come later as they are trained and acquire on-the-job experience. The issue of course is whether the apprenticed children will in fact benefit at a later time, or whether instead their employers are simply exploiting them. An extreme form of exploitation occurs when children become the objects of forced or bonded (indentured) labor and can remain subjugated for long periods of time without adequate recompense and with resulting permanent damage to their long-run health and welfare.

The nature of production technology may also condition the demand for child labor according to Grootaert and Kanbur (1995, pp. 195-96) in cases where children may be preferred because of their pliability, small stature, and nimbleness of their fingers (e.g., as in the case of carpet weaving, operation of sewing machines in making clothing, and electronic assembly). By the same token, there have been technological changes that have reduced the demand for child labor, examples being mechanization of spinning and weaving, the green revolution and mechanization of agriculture, expanded use of electrical power, and more efficient equipment for transporting heavy loads.

Child Labor: What are the Facts?

Child labor is a pervasive phenomenon especially in developing countries, but there is a wide range of uncertainty about the actual magnitudes involved. Since child labor is prevalent especially in agriculture and in the informal sectors, it is obviously difficult to design and implement surveys that will

guarantee a high degree of accuracy within and across countries. Thus, as reported in Grootaert and Kanbur (1995, pp. 188-89):

> "The ILO recently produced statistics on child labour based on a uniform definition – economically active population under the age of 15 (Ashagrie, 1993). That attempt highlighted the difficulties that arise in terms of data availability; a number of sources had to be used, including a set of specially designed questionnaires sent to 200 countries and territories (with an uneven response rate across regions). On the basis of returns from 124 countries, the ILO obtained an acknowledged underestimate of 78.5 million economically active children under 15 years of age in 1990; 70.9 million of them were aged 10-14 (a participation rate of 13.7 per cent).

Similarly, UNICEF (1991) reports 80 million children aged 10-14 whose work is characterized as "so long or onerous that it interfered with their normal development." However, the total number of working children worldwide is thought to be far greater. The ILO places the figure closer to 100-200 million (Bureau of International Labor Affairs, 1994, p.2). An even larger estimate of child labor is found when the work of younger children is included. For children aged between 5 and 14, the ILO estimates that 250 million are working, of which 120 million are working full-time (US-DOL, 1998, p. 1).[2]

Child Labor and Poverty

Basu (1998, p. 7) reports cross-country data on participation rates for children, 10-14 years of age, taken from ILO (1996b) for the period from 1990 to 1995, with projections to 2010. In 1995, the regional participation rates were: Africa, 26.2%; Asia, 12.8%; and Latin America & Caribbean, 9.8%; and the participation rates for selected countries were: Brazil, 16.1%; China, 11.6%; Ethiopia, 42.3%; and India, 14.4%. While these participation rates are sizable and perhaps represent understatements, it is especially noteworthy that they have shown marked declines from their 1950 levels which, by region, were: Africa, 38.4%; Asia, 36.1%; and Latin America, 19.4%; and, by country: Brazil, 23.5%; China, 47.8%; Ethiopia, 53.0%; and India, 35.4%. According to Basu (p. 8), this striking decline in child-labor

[2] See Kruse and Mahony (1998) for estimates of children and youth working under conditions that violate U.S. federal and state child labor laws.

participation rates over these 4½ decades may be attributed to overall economic growth,[3] changes in technology, improved labor market conditions for adult workers, and greater availability and accessibility of schooling for children.[4] Basu also points out (pp. 12-13) the widespread use of child labor historically in the industrialized countries in the 18th and first half of the 19th centuries and the decline that occurred thereafter, which was due to the same set of factors just mentioned.

The importance of poverty as a major cause of child labor is formally documented in work by Krueger (1997), who finds a strong negative correlation between per capita income and labor force participation by children. Labor force participation by children under the age of 14 is clearly highest in the world's poorest countries, reaching as high as 49% in Burundi, 45% in Uganda and 42% in Rwanda. By comparison, Krueger finds virtually no children under 14 years of age working in countries in which GDP per capita exceeds $5000.

Child Labor in International Trade

Since issues of foreign child labor are addressed in the United States in the context of trade with developing countries, it is of interest to inquire about the employment of children in the export industries of developing-country U.S. trading partners. Though the United States has made much of the possibility of using trade sanctions to prohibit goods produced by children, it appears to be the case that few child

[3] Note that there is some risk in relying too much on economic growth to alleviate the financial burden that poverty places on children. That is, countries differ dramatically in terms of the income level at which child labor begins to decline. On the negative side, for example, Turkey continues to have a relatively high labor-force participation rate by children despite a standard of living that is closing in on those achieved by other industrialized countries. In comparison, China has virtually no industrial employment by children. The *one-child* policy has no doubt raised the value of children in the family. Mandatory, publicly funded, high quality education almost certainly has played a role, as well.

[4] Inadequate educational opportunities are often cited as a cause of child labor. Pakistan, for example, is one of the few countries targeted with complaints of child labor that does not have publicly-funded or compulsory education. According to Khan (1996), children who work in tanneries in Kasur had a drop-out rate of 63 percent and on average had only one year of schooling. Reasons given by the children for dropping out included physical abuse by teachers, teachers forcing students to do domestic chores at their homes, boring classes and economic reasons. By contrast, the high standards of formal education in China are frequently cited as a primary reason that children are not generally found in the work force.

workers can be found in the export sectors. According to the Bureau of International Labor Affairs (1994, p. 2):

> "Only a very small percentage of all child workers, probably less than five percent, are employed in export industries in manufacturing and mining. And they are not commonly found in large enterprises; but rather in small and medium-sized firms and in neighborhood and home settings. Those export industries which most commonly employ children include garments, carpets, shoes, small-scale mining, gem-polishing, food-processing, leather tanning, and furniture. In some cases, government policies to promote exports of low-skilled, labor intensive products, such as garments and carpets, may have resulted in an increase in the demand and use of child labor.

Rather, as noted in the Bureau of International Labor Affairs (1994, p. 2) children are usually found in family-based agriculture, in services such as domestic servants, restaurants, and street vending, prostitution, and in small-scale manufacturing such as carpets, garments, and furniture. Due to the informal nature of the type of work usually undertaken by children, their work is not always regulated by national law. [5]

The Working Conditions of Children

In addition to the incidence of child labor, it is worthwhile to consider the conditions under which children work. There is a wealth of information provided by various sources concerning the nature of child labor. For example, the Bureau of International Labor Affairs (1995, pp.2-5) describes work for children employed in commercial agriculture:

> "…Large numbers of children may be found toiling in the fields and fisheries from daybreak until dusk. Many of these children work for commercial farms and plantations or fishing operations. Plantations, which produce commodities exclusively for export, employ 20 million persons, or 2 percent of the persons working in the agricultural sector in developing countries. Children make up an estimated 7 to 12 percent of the work force on plantations. …Among the products produced by children are cocoa, coffee, coconuts, cotton, fruit and vegetables, jasmine, palm oil, rubber, sisal, sugar cane, tea, tobacco, and vanilla. Children also dive for fish, work on fishing platforms and boats, and work in factories that process fish. …The great majority of children in agriculture work as part of a family unit. …Workdays can be extremely long. …Children in agriculture face many

[5] Selected sectoral estimates of child labor for Africa and Asia based on micro-data collection undertaken to study household behavior are reported in Grootaert and Kanbur (1995, p. 190). These data indicate labor force participation rates ranging from 20-60 per cent, depending on the age and gender of the children and the type of work performed.

> safety and health risks. …Regular exposure to dangerous chemical fertilizers and pesticides poses another threat to children.

Children delivered into bonded labor for the purposes of intergenerational debt servitude perhaps suffer most of all. Human Rights Watch (1996, p. 54) has documented bonded child labor in the Indian footwear industry. They estimate that between 2,000 and 20,000 bonded child laborers as young as 6 or 7 years old are trafficked from the rural villages of Rajasthan to Mumbai annually. Further, Human Rights Watch (1996, pp. 104-105) estimates that 10 to 20 percent of child laborers in the Indian hand-knotted carpet industry are bonded workers. Generally, these children are trafficked from Bihar or Nepal. A similar situation exists in Nepal. Brokers, known as *naikes*, offer rural families loans in exchange for their children. The children are then sent to Kathmandu to discharge the families' debts by working in carpet factories.

Intergenerational servitude is clearly a form of child labor that is most easily characterized as *exploitative.* Children are removed from the home, have their housing and food provided by the employer and earn little or nothing for their work. Wages are remitted back to the families either in the form of a lump-sum payment when the child is taken or paid as earned. As a consequence, it is necessarily the case that the standard of living enjoyed by the child falls short of the child's total earnings. Thus, on balance, the child is subsidizing the living standard of his or her family.

Furthermore, working conditions for bonded child laborers can be quite horrific. The Bureau of International Labor Affairs (1995, pp.2-5) reports that

> …Forced and bonded child labor can be found in all sectors of the economy. Bonded children working in the carpet industries of India, Pakistan, and Nepal may work up to 20 hours a day. They often sleep, eat and work in the same small, damp room, and are sometimes locked in at night. …Many of the children suffer from skin ailments, chronic colds, respiratory problems, spine deformities, and weakened eyesight. …In the jungle of south-eastern Peru, children recruited by contractors to work for nine months in gold mines find they must continue to work well beyond that period to pay [what]… they owe the contractors. …The forced labor of children occurs in the fishing industries of Indonesia, Sri Lanka, the Philippines, India, and Pakistan. …Forced child labor is also widespread in the informal service sector, particularly in the employment of child domestic servants and in the sex industry. …A different form of child labor in the service sector is the use of young boys, usually kidnapped from southern Asia, as camel jockeys in Persian Gulf States.

Similarly, Human Rights Watch (1996, p. 104, 109) documents cases in the Indian hand-knotted carpet industry in which children are "forced to work long hours…for no wages or nominal wages…some being ill-treated, beaten, tortured, abused, branded, and kept half fed, half clad." Children working with sharp instruments, frequently cut themselves. The wounds may be treated by "…putting sulphur from match heads into the cuts and then lighting them on fire, thereby sealing the wound" and avoiding infection. As adults, these former child workers suffer from badly damaged hands and eyes and stunted growth.

III. Policies and Programs for Reducing Foreign Child Labor

Having discussed the determinants, magnitudes, and characteristics of child labor, we now consider the policies and programs used in the United States to deter the foreign employment and exploitation of child labor. These include: (1) U.S. trade policies; (2) economic and technical assistance provided though the ILO; (3) supra-national measures; (4) codes of conduct for U.S. firms engaged in foreign production, and (5) consumer labeling. We discuss briefly each of the foregoing.

U.S. Trade Policies

As indicated above, elimination of child labor exploitation is considered to be a core international labor standard, the others being: prohibition of forced labor; freedom of association; the right to organize and bargain collectively; and nondiscrimination in employment. For some time, the United States has had in effect a number of policies and programs designed to achieve these core standards and other standards that bear upon conditions of work. These are summarized in table 1. The most recent measure is one sponsored by Congressman Sanders (I, VT) in October 1997 as a rider to the Fiscal Year 1998 Treasury Appropriations Act, which was approved by voice vote in Congress and signed by President Clinton. Section 1307 of the U.S. Tariff Act of 1930 provides authority for the U.S. Customs Service to prohibit "…importation of products made, in whole or in part, with use of convict, forced, or indentured labor under penal sanctions." The Sanders Amendment makes it "…explicit that merchandise manufactured

with 'forced or indentured child labor' falls within the prohibition of this statute."[6] With funding made available by the Congress, the U.S. Customs Service is currently involved in devising and implementing monitoring and inspection procedures to take action to ban imports embodying forced child labor in response to complaints that are filed.[7]

The United States also uses preferential tariff treatment of exports to induce developing country trade partners to reduce child labor under the U.S. Generalized System of Preferences (GSP). Since 1984, the GSP program specifies a number of labor rights violations that might be cause for suspension of GSP. Evidence of a change in policies is a condition for the preferences to be reinstated.[8]

Economic and Technical Assistance Provided Through the ILO

The United States provides a significant amount of economic and technical assistance to developing countries through its bilateral foreign aid programs and its contributions to multilateral institutions. But for our purposes here, we wish to call attention to the U.S. assistance to address issues of child labor that is channeled through the ILO. Thus, as noted in U.S.-DOL (1998), President Clinton proposed in his Fiscal Year 1999 budget:

> "…a new initiative to fight abusive child labor. The initiative builds on the administration's record of reporting on child labor, aiding the private sector in the development of codes of conduct and labeling efforts, pressing successfully for a greater ILO focus on exploitative child labor, leveraging change in the domestic garment industry though the use of 'hot goods' [sic] laws, and using U.S. laws to suspend trade benefits in response to persistent exploitative child labor practices."

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[6] For further details, see: <http://www.customs.ustreas.gov/enforce, childfi2.htm>. See also the *Journal of Commerce*, October 14, 1997, NEWS, p. 1A, "Customs walks tightrope on new child labor law."

[7] According to the *New York Times*, November 6, 1997, p. 12, "Ban Sought on South Asian Rugs in Campaign Against Child Labor," the International Labor Rights Fund filed a complaint to ban imports of South Asian carpets under the provisions of the Sanders Amendment. This complaint is presently under investigation by the Customs Service. See also *The Wall Street Journal,* September 9, 1998, p. A1, "Citrus Squeeze: U.S. Child Labor Law Sparks a Trade Debate over Brazilian Oranges."

[8] Further details can be found in Brown, Deardorff, and Stern (1996, pp. 234-36).

What is especially noteworthy in particular is the U.S. assistance provided to the ILO International Programme for the Elimination of Child Labor (IPEC):[9]

> "The President's FY 99...budget proposes that the U.S. contribute a total of $30 million – *a 10-fold increase* – to IPEC in support of programs aimed at reducing the most intolerable forms of child labor – forced or indentured work, work by very young children, and work in the most hazardous occupations. The U.S. funds will support multi-dimensional programs including key elements such as in-country ownership, innovative partnerships between governments, workers, and NGOs, development of reasonable educational alternatives, monitoring, creative use of media, and documentation."

U.S. contributions/pledges to IPEC as of March 1998 are indicated in table 2. The total U.S. assistance of $8.1 million contributed to IPEC since its inception in 1992 will be increased significantly by the funds appropriated in the FY 99 U.S. budget. There are presently 20 donor countries providing IPEC support to 29 developing countries, with an additional 24 developing countries preparing to participate. The U.S.-supported IPEC programs noted in table 2 evidently address many different aspects of child labor. As noted in U.S.-DOL (p. 3), this range of programs: "…suggests that interventions need to be made on all fronts and that no single type of intervention is sufficient in itself. It is exactly this type of broad based multi-sectoral action that ILO-IPEC is promoting." It is also noteworthy that IPEC strives to involve trade unions and NGOs in its programmatic activities. Thus (p. 6): "In recent years, a broad social alliance involving governments, NGOs, workers, and employers' organizations, media, academic institutions and various other actors has emerged in many countries – often as [a] result of the catalytic and facilitating role IPEC has played."

Supra-National Measures

It should be clear from the preceding discussion that the ILO is the main international organization that is concerned with labor standards. Established in 1919, the methods and principles set out in the ILO constitution deal with all conceivable aspects of labor standards. In particular, the ILO is primarily concerned with: (1) the definition of worker rights, especially through the adoption of ILO

[9] IPEC (ILO, 1996a) identifies three conditions that characterize "intolerable" child labor: children working under forced labor conditions and in bondage; children in hazardous working conditions and

Conventions and Recommendations[10]; (2) measures to secure the realization of worker rights, especially by means of international monitoring and supervision, but not by imposition of trade sanctions; and (3) assistance in implementing measures, especially through technical cooperation and advisory services.

Since the establishment of the GATT following World War II, the United States has attempted unsuccessfully on several occasions, most recently in the Uruguay Round, to place labor standards on the multilateral negotiating agenda. When the Uruguay Round accords were signed in April 1994, the United States put the international community on notice that it intended to pursue issues of labor standards in future multilateral negotiations. Subsequently, efforts were made to develop a so-called social clause dealing with core labor standards that would be monitored by the ILO and that included trade sanctions for noncompliance that might be incorporated into the newly created World Trade Organization (WTO). The United States, with support from some members of the European Union, Canada, and Japan, sought to add this issue to the agenda of the WTO Ministerial Meeting held in Singapore in December 1996. As a result, there was considerable debate and controversy at the Singapore Ministerial over whether labor standards should be brought under WTO auspices. But, in the end, this was not done. As reported in *The Financial Times*, December 16, 1996, p. 4:

> "…hardest to resolve was the issue of labour standards, where the U.S. threatened to veto the entire declaration if no mention was made. Ministers eventually agreed to uphold internationally recognised core labor standards….But trade sanctions to enforce them were rejected and there is no provision to follow-up such work in the WTO, which is asked simply to maintain its (minimal) collaboration with the International Labour Organization."[11]

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occupations; and very young children under the age of 12.

[10] It is interesting that formal ratification of ILO Conventions differs considerably among ILO members, apparently because particular conventions may be at variance with national laws and institutional practices. Thus, for example, as Rodrik (1996, pp. 15-16) notes, the United States has ratified only 11 of the 176 ILO Conventions, whereas several other industrialized and developing countries have ratified a significantly larger number. Ratification of ILO Conventions may therefore not be an accurate indicator of existing national regulations governing labor standards, and there are many cases in which ratified Conventions are in fact not enforced.

[11] In considering whether or not the WTO is an appropriate forum for dealing with trade and alleged violations of core labor standards, it is pertinent to note the conclusion reached in OECD (1996, pp. 16-17):

> "Existing WTO provisions have not been designed for promoting core standards. Some of the suggestions under discussion would imply a reinterpretation of WTO practices and procedures while others would require to a greater or lesser extent renegotiation and

In the U.S. Congress, the Republicans have been opposed to linking labor standards and trade. The Clinton Administration made an effort in the fall of 1997 to induce Republicans to approve fast-track negotiating authority by downplaying its support for including labor standards in future trade agreements. However, organized labor, environmental interest groups, and labor and human rights public interest groups mounted an intensive campaign to oppose fast track unless the legislation included protection of labor rights and the environment. When it became clear in mid-November 1997 that there were insufficient Democratic votes to obtain fast-track approval in the House of Representatives, the legislation was withdrawn. Fast-track legislation was re-introduced in the fall of 1998 and again failed to pass. The link between trade and labor standards thus remains a highly visible and controversial issue of public discourse on future trade legislation.

On a global level, it seems evident that the ILO has been ceded responsibility for dealing with issues of international labor standards. With regard to child labor, as noted above, the United States has greatly increased its support for the ILO's International Programme for the Elimination of Child Labor (IPEC). In our judgment, it would be desirable for the United States to enlarge further its financial and technical support for the ILO and to encourage efforts to increase the effectiveness of the ILO's role in monitoring and bringing about improvements in labor standards.[12]

> amendment of WTO articles. …a consensus among WTO Members on the appropriateness and effectiveness of using WTO procedures to promote core labour standards and on the institutional changes required would have to be reached. Such a consensus does not exist at present."

[12] See Brown (1998) for a transactions cost politics analysis of the handling of child labor issues as between the ILO and the WTO and a conclusion that supports giving the ILO sole authority and responsibility for dealing with child labor and other labor standards. In contrast, Bagwell and Staiger (1998) provide an analytical structure in which they develop a negotiating strategy designed to accommodate national sovereignty over labor standards in a context that resembles the negotiating procedures spelled out in the GATT/WTO. They do not address the question of which of the two international organizations may be best suited to deal with labor standards.

Codes of Conduct

On the domestic side, the Clinton Administration has sought to work with U.S. firms to develop codes of the conduct that would limit imports of goods produced by children as a matter of corporate policy. As noted by the Bureau of International Labor Affairs (1996, p. 12):

> "Corporate codes of conduct are policy statements that define ethical standards for companies. Corporations voluntarily develop such codes to inform consumers about the principles that they follow in the production of goods and services they manufacture or sell. Corporate codes of conduct usually address many workplace issues – including child labor – and, according to some observers are part of a broader movement toward corporate social responsibility."

Codes of conduct have become more widespread in recent years, especially in the apparel industry. However, how meaningful and effective codes of conduct will be depends above all on their credibility. Of particular importance are: (1) the transparency of the codes of conduct; (2) monitoring; and (3) enforcement (pp. 9-10):

> "First, codes of conduct cannot be effectively implemented without transparency. It is critical that all actors affected by a code – buying agents, contractors, subcontractors, union representatives and the workers themselves – be aware of its provisions. Research conducted for this report suggests that codes of conduct in the headquarters of U.S. apparel importers are not necessarily well known in the overseas facilities that produce their goods.
>
> Second, while a credible system of monitoring -- to verify that a code is indeed being followed in practice – is essential, there is no agreement on the best way to conduct monitoring. Some companies only monitor their largest contractors or contractors that produce private-label merchandise for them and rely on buyer agents or self-monitoring for other facilities. Several methods of monitoring are currently being used and developed, including monitoring by outside auditors and local and international NGOs. The most effective type of monitoring may vary according to the characteristics of the importing company, such as whether it has a strong presence abroad or whether it is vertically integrated. It appears that the closer a company is to the production, the more leverage it has to ensure that the conditions of manufacturing facilities comply with its policies. There also appears to be some dispute among retailers, manufacturers, overseas contractors and other parties as to who has the ultimate responsibility for monitoring.
>
> Third, the issue of enforcement presents some complex issues. If a company discovers child workers in a facility, the quickest and perhaps easiest way to resolve the problem is to require their immediate dismissal. A small number of companies have strived to come up with more comprehensive solutions to the problem – such as providing financial support for the education of the children."[13]

[13] Programs intended to subsidize educational expenses by the family can sometimes have disappointing results. For example, the Carpet Export Promotion Council (ECPC) is a quasi-governmental body which

It is evident from the foregoing that many difficulties may arise in designing and implementing codes of conduct. For the reasons mentioned above, firms in industries like apparel that rely importantly on foreign production may have a strong incentive to articulate and carry out codes of conduct. By doing so, the firms can reassure consumers that they are seriously making efforts to upgrade foreign labor standards and working conditions for both adults and children.[14]

Consumer Labeling

Several American and European importers have recently attempted to go beyond a corporate code of conduct to communicate standards of employment to consumers. Many firms have adopted the strategy of labeling products with statements that are intended to give the impression that child labor was not employed during production.

Product labeling as a strategy for improving labor market conditions has a century-long history in the United States. The length of the work day and working conditions for women and children were targets of labeling efforts toward the end of the 19th century. Product labeling as a market-based avenue in which consumers could express their views on desirable labor market conditions subsequently received analytical support from Freeman (1994).

Product labeling intended to combat illegal child labor began in earnest in the 1990s. A brief summary of existing programs in hand-knotted carpets, footwear and soccer balls is provided in Table 3.

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oversees the mandatory registration of all Indian carpet exporters and issues export licenses. Since 1995 the CEPC has been providing funding for twelve schools, two of which are part of Project Mala in the village of Amoi. The program provides children with three years of non-formal vocational education, medical check-ups, a mid-day meal, and a $2.90 monthly stipend. However, it was found that the stipend was used by the family to retire debt rather than for the intended purpose of furthering the child's education. The monthly stipend was replaced with a contribution to a special account that could be used by the student at the end of the three year program only for specified purposes.

[14] According to the *New York Times*, April 9, 1997, p. A11, "Apparel Industry Group Moves to End Sweatshops: Agreement to Bring Worldwide Inspection," a Presidential task force comprising human rights groups, labor unions, and apparel industry giants reached an agreement that seeks to end sweatshops by means of a code of conduct on wages and working conditions for foreign apparel factories that American companies use. Subsequently, it turned out that it was not possible for all parties concerned to reach agreement on the link between wages and the basic needs of workers. For this reason, some of the participating labor unions and labor rights groups declined to support the agreement.

A thorough description of each program can be found in the Bureau of International Affairs (1997). The programs differ dramatically in their structure, underlying philosophy and objective. However, all state either on the product label or in the program's literature that the objective is to produce goods that are not manufactured with illegal child labor.

Rugmark, is one of the most widely publicized and rigorous of the product labeling programs. Like most labeling programs, the founders include a combination of governmental agencies, international agencies, human rights activists, labor activists and industry interests in both the importing and exporting countries. Initial funding for the program in India was provided by the German Development Agency. The program in Nepal has received funding from UNICEF and the German Development Agency as well as from the Asian American Free Labor Institute which is now part of the AFL-CIO's American Center for International Labor Solidarity.

Rugmark's primary goals are to eliminate child labor in the carpet industry and to rehabilitate former child weavers. However, *Rugmark* is distinguished by its rigorous licensing and monitoring procedures. A license applicant must submit a list of all looms and their locations on which carpets are produced. The number of looms is compared to the applicant's production level as a device for ensuring that all of the applicant's looms are identified. *Rugmark* agents then inspect a random sample of the applicant's looms. If child workers are found on two separate inspections, the application is rejected. Otherwise, the applicant is accepted.

All of the looms of a licensee are assigned an individual identification number. Each purchase order received by the licensee must be registered with *Rugmark* and is assigned a serial number. The licensee must maintain detailed records concerning each carpet's production. During the production process, the site is subject to random inspection in order to determine whether child labor is employed. If children are found working during two separate inspections, the licensee is decertified.

Rugmark employs an array of devices to maintain the credibility of the inspection process. Inspectors are university graduates who are paid significantly above the region's average wage.

Inspectors work in pairs that are changed daily and are not informed of each day's inspection assignments until the morning of the inspection. As of June 1997, *Rugmark* India had 18,400 registered looms.

During the preceding year, *Rugmark* had conducted 22,800 inspections, finding 1,060 children on 635 looms. Of the children found, 15 to 30 percent were bonded child laborers. Typically, inspectors find a child worker on one out of every thirteen looms inspected.

Funds garnered from importer licensing fees are used to educate and support former child weavers and the children of adult weavers. *Rugmark* maintains a primary school in Bhadohi which enrolls 250 weaver's children and a rehabilitation center for former child weavers. The latter program provides education, vocational and human rights awareness training, shelter and medical care to 37 former child weavers (21 of whom are former bonded laborers).

Welfare of Former Child Workers

Labeling as a strategy for reducing child labor is of course not without its critics. Some elements of the *Rugmark* program have been designed to address various potential weaknesses. First and foremost, any campaign that removes a child from the workplace is vulnerable to the charge that the welfare of the child has not necessarily been improved. For example, the decline of the carpet industry appears to have eliminated jobs for children in Kathmandu. Technological change and changing comparative advantage are two possible explanations. However, the consequences for at least some children are quite negative. According to UNICEF (1995, p. 7) there are some reports that 5,000-7,000 young girls have been trafficked from carpet factories in Kathmandu into the Indian sex trade. More generally, work may simply be the difference between life and death for some children. Eliminating jobs could easily leave child workers with greatly worsened choices.

Some of the labeling programs that appear to have the greatest success in credibly eliminating child workers have in fact the worst record in demonstrating that children's lives have been improved. The recent public outcry over child labor used to stitch soccer balls has led some soccer ball retailers to make changes in their production practices. It appears that firms such as *Reebok* and *Baden Sports* have

earnestly set about to eliminate children from their suppliers' facilities. *Reebok* has worked with its Pakistani supplier and is planning an educational project for children in the Sialkot region. The program will target displaced child workers.

However, *Baden Sports*, exasperated with the inability to gain a credible commitment to use only adult labor from its Pakistani suppliers, moved production to China and substituted machine-stitched balls for hand-stitched ones. While *Baden Sports* can quite credibly claim that their soccer balls are not sewn by children, the relocation of their production facility undoubtedly did nothing for their former child workers and their families. Arguably, the former Pakistani workers and their families have been made worse off by the switch in location and the change in the production process.

Furthermore, the outcry against child labor in soccer ball manufacturing was glibly caught in the concern that American children were playing soccer with balls sewn by children. However, of the array of possible employment in which impoverished children might engage, soccer ball stitching is probably one of the most benign. In 1996, 75 percent of the world's hand-stitched soccer balls were made in Sialkot, Pakistan. This is a region that has been known for over 80 years for its skilled sporting goods craftsmen. Children generally work alongside other family members in the home or in small workshops. Bonded child labor is not considered to be an issue. Nor are the children exposed to toxic chemicals, hazardous tools or brutal working conditions. Rather, the only serious criticism concerns the length of the typical child stitcher's work-day and the impact on formal education. Seventy percent of these children work 8 to 9 hours a day and some work as much as 10 to 11 hours per day. Many have never attended school.

Centralizing the production process in a single facility can also adversely impact families. Some soccer balls are sewn by mothers in between other household tasks and thus provide supplemental income to the family. However, such practices are not tenable when stitching is centrally located at some distance from the family home. In addition, since children are not permitted in the factories, mothers must obtain child-care which may be costly.

It thus appears to us that the case for eradicating child labor in soccer ball stitching is not compelling. A more appropriate policy response would be improvement of educational opportunities and/or a subsidy paid for children who attend school that can replace the child's earnings as a contribution to family income.[15]

The rehabilitation programs maintained by *Rugmark* for child carpet weavers are clearly an attempt to increase the likelihood that the options for children are improved while eliminating or reducing work. However, many child-welfare projects associated with labeling programs have encountered difficulties in providing services to children. *Rugmark* officials acknowledge that many former child laborers are not placed in transition and rehabilitation facilities. In the case of *Rugmark*, the agency has been unable to locate the child's parents and obtain permission to remove the child from work. In addition, both of *Rugmark*'s facilities have a waiting list that equals the current enrollment. Many children reach the legal age to work before a space in the facility becomes available.

Rehabilitation projects for other labeling programs face even greater difficulties. For example, the Kaleen labeling program in India imposes a fee on licensees equal to 0.25 percent of their carpet export value that is contributed to a Child Welfare Fund. Only 12 percent of licensees consistently pay the fee. Furthermore, as of 1997, the fund had accumulated approximately $500,000 of which only 6.3 percent has been spent on child welfare programs. A similar problem plagues Care and Fair, a Hamburg-based association of carpet importers. During the program's first year of operation, 1995, $700,000 was collected for child welfare programs. Currently, the fund has $2.5 million in unspent funds. The culprit in this case appears to be India's strict regulation of foreign contributions to welfare programs.

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[15] An educational subsidy program targeted at the children of Brazilian orange pickers has produced very suggestive results. Citrovita Agro Industrial Ltd., the largest juice producer in the town of Catanduva, funds an educational center for underprivileged youth. In addition, the local government gives needy parents whose children maintain a specified school-attendance record a stipend of $45 per month per child. The stipend roughly equals the child's foregone earnings as an orange picker while in school. In the year since the program has been in effect, truancy in Catanduva has dropped from 18% to less than 1%. The success of the program in Catanduva clearly stems from two characteristics. First, the subsidy is paid only *in lieu* of work by the child. And, perhaps more importantly, the program designers are willing to accept the parents' decision as to how the subsidy is spent. As a consequence, the community has replaced work with school as a way for the child to bring resources into the household.

Label Credibility

Product labeling programs have also been criticized on grounds of the credibility of the claims made on their labels. In order to address these criticisms, elaborate monitoring procedures have been adopted. *Rugmark*, for example, has endeavored to design a monitoring scheme that at least makes a good faith effort to monitor its licensees. The evidence suggests that their efforts have had some effect. *Rugmark* executives argue that when the program was first put in place, children were found on one out of every six or seven looms inspected. Currently, child workers are found on one in twelve or thirteen looms. Hence, the credibility of their monitoring program has had a positive impact on licensee compliance.

However, other organizations believe that credible monitoring is simply an impossible task. For example, the Secretary General of *Care and Fair*, argues that there are "…280,000 looms in India spread over 100,000 square kilometers…" (U.S. Department of Labor, 1997, p. 46.) Thus it is argued that credibly monitoring such a large number of geographically dispersed looms is simply not tenable. To the extent that these efforts succeed, they do so by raising awareness of the plight of child workers locally and in the west.

In fact, there is some evidence that *Rugmark* has had some difficulty with effective monitoring in spite of the great care put into their monitoring program. Difficulties have been noted by U.S. Labor Department observers during site visits. In one village, *Rugmark* inspectors were unable to find any of the looms or loom owners listed by a *Rugmark* licensee. It is also frequently the case that a loom targeted for inspection is unattended, making it impossible for the inspector to determine whether the weaver is an adult or a child. (U.S. Department of Labor, 1997, p. 34.)

Monitoring carpet weaving in Nepal is considerably more straightforward. Most carpet manufacturing is undertaken in large centrally located facilities.

The nature of the soccer ball also lends itself well to credible monitoring. *Reebok* has had considerable success concentrating all of its soccer ball manufacturing into a single facility. *Reebok* has

enlisted the services of two human rights activists to monitor their subcontractors conduct with regard to child labor. *Reebok* has gone so far as to hire a guard who searches employees entering and leaving the facility in order to guarantee that no soccer ball kits are removed for stitching in locations where children might be working. In nine inspections over a five-month period, no child workers were found at the *Reebok* plant.

Reebok also employs what is sometimes referred to as *natural* monitoring. Large posters printed in the local language stating *Reebok*'s policy on child labor are posted in the plant. Reebok estimates that the cost of benefits and transportation will increase the stitching cost by 15%, or about 10 cents per ball. (U.S. Department of Labor, 1998, pp. 104-105.)

In some cases, however, a poorly designed or absent monitoring scheme appears largely to have the intent of distorting the product quality signal provided by the more rigorous labeling efforts. For example, the Carpet Export Promotion Council (CEPC) of India sponsors the *Kaleen* label and has a monitoring procedure that resembles that employed by *Rugmark*. However, the outcome is quite different. The CEPC retains the Academy of Management Studies to undertake monitoring. They inspect 10-11 percent of looms each year. This is in stark contrast to the monitoring intensity maintained by *Rugmark*. Virtually all of *Rugmark*'s looms will be inspected once or twice a year.

The outcome of the monitoring efforts is also uninspiring. During the first year of *Kaleen* inspections (October 1995 - October 1996), 22 percent of the looms targeted for inspection were either sold or could not be found by the inspectors. Of the looms inspected, 43% were idle. As a consequence, the inspector could not determine whether the operator was typically an adult or a child. Therefore, the actual annual inspection rate is only about 4.5%. Finally, out of 9,400 *Kaleen* inspections, only 100 illegal child weavers were found. By contrast, 22,800 inspections by *Rugmark* monitors located 1,060 children, which is about five times the discovery rate achieved by *Kaleen*.

Other programs have provisions for de-certification of licensees but no monitoring program at all. For example, the *Abrinq Foundation for Children's Rights* in Brazil has no formal monitoring procedure. Rather, they rely on reports of violations by employees, subcontractors, suppliers, buyers or other

affiliates. However, it was generally found that *Abrinq* licensees do not publicize their policies regarding child labor. Not surprisingly, no reports have been made and no licensees have ever been decertified.

Monitoring in Labeling Programs

The intensity with which labeling programs are monitored and enforced is the single greatest source of disagreement among labeling program architects. The central issue generally debated turns on whether or not monitoring can be carried out credibly. In some cases the answer appears to be a qualified "yes" as with the soccer ball industry. In other cases, monitoring is characterized by some as "a joke" as with the geographically dispersed rug-making industry.

However, it may be more interesting to evaluate the issue of monitoring from the point of view of the welfare of the children involved. As we discussed above, programs that remove children from work without addressing the alternatives available to the displaced child workers are unlikely to actually improve the welfare of children. The only case in which one can feel confident that a displaced child has been made better off is one that forecloses options chosen by parents which reflect the low standing that the child has in the household. As a consequence, a program that seeks to remove children from work must have a feature that raises revenue that can be used to replace the child's lost income or at least to improve the educational opportunities available to the family. With a few exceptions, most labeling programs have such a child-welfare component.

In this connection, then, it is useful to evaluate monitoring in light of the implications for the revenue raised by a monitoring program. Without exception, labeling programs generally follow a trigger-strategy as a punishment device for licensees who are found to have violated agency rules governing child workers. Generally, if after one or two inspections, children are found working, the licensee is decertified and no longer permitted to use the agency's label.

Consider a very simple two-period model of the labeling and employment choices facing a firm. The set of decisions and payoffs facing a prospective licensee are depicted in Figure 1. At the initial node, a firm must chose whether or not to join a labeling program. In the event that the firm chooses not

to label, the firm sells into a perfectly competitive market of non-labelers. Hence, the price received, P, equals the average total cost of producing with child labor, ATC_C, and the payoff is zero.

Alternatively, the firm may choose to join a labeling program. Once accepted, the firm must decide whether to comply with the terms of the label, hiring only adult labor, or to cheat and continue to employ children. In the event that the firm chooses to hire only adults, it receives the going price of a labeled good, P_L, but must pay a certification fee of T to the labeling agency and must bear the additional cost of hiring adult labor. Therefore, the payoff is given by $2(P_L - T - ATC_A)$ where ATC_A is the average total cost of the adult-only production process. Here, we have ignored discounting which needlessly complicates the analysis.

In the event that the firm chooses to cheat, continuing to employ children, the payoff depends on whether the cheating is detected. With probability $1-\pi$ the cheating will go undetected so that the firm will receive the price for a labeled product, P_L, but at a production cost of ATC_C. Hence the payoff from undetected cheating is given by $2(P_L - T - ATC_C)$. However, with probability π the cheating will be detected. The firm will receive the cheating profits in the first period, but will subsequently be decertified. At this point, the firm will simply revert back to employing both adults and children and receive the unlabeled price, P. Hence, the firm receives the cheaters payoff in the first period but the payoff in the second period is zero.

The optimal monitoring regime adopted by the labeling agency, and, therefore, the behavior of the firm, depend on the size of the labeling premium offered by the customer. Three cases are depicted in Figure 2. Here we have drawn a unit-value isoquant showing the various combinations of adult and child labor that are technologically feasible. The isoquant intersects the adult labor axis indicating that it is feasible to produce with adult labor only.

In the absence of labeling, cost-minimizing firms will chose to produce at a point like N, in Figure 2, where the unit-value isoquant is tangent to the unit value isocost line, “n.” If, alternatively, the

firm chooses to use adult labor only, then it must produce at a point like A, the cost of which is given by the isocost line denoted by "a."

Case 1: First, suppose that the labeling premium falls short of the additional cost of hiring adult labor only. In this case we have $P_L - ATC_A < 0$. That is, the firm cannot break even using adult labor only. Clearly, we cannot satisfy the participation constraint with compliance. The certifying agency will have to live with certain cheating.

Therefore, the firm will earn labeling profits in both periods, $2(P_L - T - ATC_C)$, with probability $1-\pi$ and labeling profits in only one period, $P_L - T - ATC_C$, with probability π. Since we know that $ATC_C = P$, the participation constraint becomes $T < P_L - P$. That is, the certifying agency can collect nearly all of the labeling premium which can then be directed toward child welfare programs.

The revenue earned by the certifying agency is given by $Revenue = nT + (1-\pi)nT$ where n is the number of certified firms. The second period revenue is smaller than the first period revenue since the cheaters detected in the first period have been decertified and are no longer labeling. Clearly, the only effect of monitoring in this case is to reduce the number of firms contributing to the child welfare fund in the second period. Therefore, there should be no effective monitoring. That is, $\pi=0$.

Equilibrium in this case, therefore, is characterized by monitoring which has no credibility. The consumer may respond to the lack of credibility of the certifying agency by setting $P_L=P$. But there is actually no real reason for them to do so if their true interests lie with the welfare of child workers. Virtually all of the labeling premium paid is contributed to a child welfare fund.

Case 2: Consider next the possibility that the labeling premium is just barely sufficient to cover the additional cost of employing adults only. In this case, $P_L - ATC_A = 0$. Clearly, cheating with labeling will continue to be the equilibrium outcome. Firms that do not label will just break even. This is the case as well for firms that label and comply with rules regulating the employment of children. However the expected payoff to cheating will be $[2(1-\pi)+\pi](P_L - ATC_C)$ which is positive. Even with intensive monitoring, all firms will earn a higher payoff by hiring adults and children.

Case 3: This brings us to the final case. In order to satisfy the incentive compatibility constraint that induces a firm to comply with child labor restrictions, the expected value of lost profits due to de-certification in the second period must be larger than the gains from cheating in the first period. That is

$$2(P_L - T - ATC_A) > 2(1-\pi)(P_L - T - ATC_C) + \pi(P_L - T - ATC_C)$$

$$>(2-\pi)(P_L - T - ATC_C).$$

It is worth noting that even with intensive monitoring, the certifying agency will be unable to tax away all of the extra normal profits earned by the compliant firms generated by the labeling premium. Solving for the certifying fee, T, under the assumption that monitoring is perfect we have

$$T < (P_L - ATC_A) - (ATC_A - ATC_C).$$

The first term on the right is the extra-normal profit that the labeling firm receives above and beyond the cost of using the adult-only technology. This is the payoff that a compliant firm receives in the second period if it does not cheat in the first period. The second term on the right is the payoff from cheating in the first period. In order to deter cheating, the certifying agency must allow the compliant firm to retain enough of the extra-normal profits in the second period in order to compensate the firm for the foregone profits from cheating in the first period.

In terms of figure 2, compliant firms must earn revenue given by the isocost line l. That is, the extra-normal profits given by the line segment L must be as large as the gain from cheating given by the line segment K.

It remains to be determined, however, whether any monitoring is desirable. Once again, it turns out the equilibrium will be characterized by zero monitoring and universal cheating. If the certification fee is set sufficiently low to satisfy the incentive compatibility constraint then revenue raised from each firm is less than L in Figure 2. However, if cheating is tolerated, then the certification fee can be set just short of L+K and the firms will still chose to label.

The results obtained from this simple model suggest that zero monitoring and universal cheating is optimal from the point of view of the welfare of children when the certifying agency adopts a trigger strategy as a punishment device.

Monitoring Reforms

The foregoing analysis suggests that labeling as a strategy for raising revenue for former child workers will be hampered by two effects. First, some of the labeling premium paid by consumers must be captured by the firm in order to defray the more expensive and less efficient use of adult labor. Second, an additional part of the labeling premium can be captured by the firm in order to prevent firms from cheating, thereby creating extra-normal profits.

There is nothing to be done about the need to compensate firms for higher production costs when no children are employed. However, from a theoretical point of view, at least, it is possible to reform the labeling program to eliminate much or all of the extra-normal profits earned to deter cheating.

The choice to set the certification fee to be equal to P_L - ATC_C guarantees that a participating firm will not be able to break even employing only adults, thereby undermining the ultimate objective of reducing the number of working children. Therefore, the certifying agency may want to constrain the certification fee T to be smaller than P_L - ATC_A. That is, the labeling agency is only trying to capture the line segment L in Figure 2 for the child welfare fund.

With labeling programs as currently configured, the extra-normal profits given by L must be retained by the firm in order to deter cheating. However, if an applicant is required to post a bond equal to L which it forfeits if caught employing children, then the certifying agency can retain the extra normal profits L for the child welfare fund.

Introducing a bond into the licensing procedure addresses the problem raised by the need to pay compensation in order to deter cheating by licensees. However, it does not address the second problem that bedevils labeling agencies: the entry of labeling agencies that purport to monitor the employment of

children but, in fact, do not. Legitimate certifying agencies such as *Rugmark* have had difficulty distinguishing themselves from their less meticulous competitors.

There is a substantial literature on self-regulation, of which product labeling is an example.[16] In all cases the regulating agency arises due to the lack of information that consumers have concerning product quality. Consumers are able to acquire information concerning the reliability of the regulating agency by evaluating the quality of previously certified products. However, it is difficult to apply such logic to the labor practices of foreign firms since the consumer never has an opportunity to gain information on the labor quality characteristics by consuming goods produced. For this reason, producers employing children may be unable to regulate themselves. It seems inevitably the case that legitimate certifying agencies such as *Rugmark* will have to acquire credibility from an international or governmental agency.

IV. Conceptual Considerations and Analysis of Alternative Measures to Reduce Child Labor

In order to shed some light on what the effects of various policies regarding child labor might be, we use this section of the paper to examine the issue in the context of a theoretical model. The model consists essentially of a microeconomic model of a family – parent and child – labor supply that is imbedded in a standard Heckscher-Ohlin (H-O) general equilibrium model of production and trade. For both, we draw upon more detailed work that has been done elsewhere, contenting ourselves here with giving only the flavor of some of the results that can be obtained together with the intuition behind them.

The H-O Model

We use a "two-cone" version of the H-O model as most closely and simply capturing the large differences that exist between the developed and developing parts of the world.[17] That is, while we

[16] See, for example, Donabedian (1995), Donnenfeld, Weber and Ben-Zion (1985), Gehrig and Jost (1995), Bagwell and Staiger (1989), and Palma and Deneckere (1995).
[17] See Deardorff (1979).

assume that countries everywhere share the same constant-returns-to-scale technologies for several goods from primary inputs of capital and labor, the factor endowments of countries are sufficiently diverse as to prevent factor price equalization (FPE) among all of them. Instead, the world is divided into two "cones" of factor proportions. In the more capital-abundant cone of the "North," we find the factor endowments of the rich developed countries. Within that cone, these countries have FPE among themselves, and they produce and collectively export goods from the capital-intensive end of the factor-intensity spectrum. At the same time, the less capital-abundant countries of the "South" occupy a more labor-abundant/intensive cone. They too have FPE among themselves, and they specialize in labor-intensive goods. Factor prices can differ markedly between these two parts of the world, with the South having much lower wages (and higher returns to capital) than the North.

For the most part, too, the South produces different goods than the North, while within the South countries specialize further among the various labor-intensive goods depending on their factor endowments relative to other countries in the southern cone. The countries with the smallest endowments of capital per worker, which will be the focus of our attention here, will pay the same wages as other countries in the same cone, due to FPE among them. However, they will tend to produce and export a different selection of goods, concentrating on the most labor-intensive of the larger group of labor-intensive goods produced in the South.

For simplicity and concreteness of results, we allow only two factors in our discussion, capital and labor. Implicitly one may think of human capital as being present in the model but aggregated together with capital. One could also allow some exogenous variation in the amount of "effective" labor per worker, especially across countries. More importantly, we explicitly allow the labor factor in the South to encompass both adult and child labor as perfect substitutes, with children contributing only a constant fraction of the effective labor input of an adult.

Before moving on to the micro model of labor supply, several familiar properties of this H-O trade model may be noted. First, as long as world prices of all goods remain unchanged, factor prices of countries within a cone will not change with their factor endowments or factor supplies. This is the

lesson of FPE,[18] and it applies within a cone of a multi-cone model as much as in the more familiar textbook model with a single cone. Second, if prices of goods change, as they will when large changes in factor supplies cause changes in world supplies of goods, then factor prices change in accordance with the Stolper-Samuelson Theorem. However, that Theorem must be interpreted within the context of a cone of specialization. That is, when the relative price of a good goes up, the effect on factor prices in a cone – the South, say – depends on whether that good is produced there at all, and, if it is produced, on the factor intensity of the good relative to others in the same cone.[19] If the good is not produced, then its higher relative price simply lowers the real wages of all factors in the cone. But if it is produced, then it raises the real return to the factor used intensively in its production, relative to other goods in the same cone.

These familiar properties of the H-O model, in their perhaps unfamiliar guises appropriate to the multi-cone model, will be useful later on as we discuss the general equilibrium and world-market implications of various policies for dealing with child labor.

Parent and Child Labor Supply

Unlike most applications of the H-O trade model, ours will assume variable labor supply, and in particular we will make a distinction between supply of adult labor and supply of child labor. Our model of a family has just two people, a parent and a child, with a single utility function that is intended to reflect the interests of both. Both members of the family can potentially contribute to that utility by three means: leisure, home work, and market work. The model is static, but the leisure of the child can be taken to include time spent in school, and the contribution of the child's leisure to family utility can therefore implicitly encompass the future return to education. Home work represents whatever the family member can contribute directly to the family's welfare by working in the home (or implicitly on the family's land) to produce goods and services for their own consumption. It does not include work they may do at home to produce goods for sale or in a subcontracting arrangement with a firm. Such work,

[18] Causing Leamer and Levinsohn (1995) to call it the "Factor Price Insensitivity Theorem."
[19] See Davis (1996).

although done at home, is part of market work, which of course may also be done elsewhere in a factory or on a plantation.

Family utility depends on these three arguments, leisure, home consumption, and market consumption, each of which may be contributed by one or both family members. These three arguments in the utility function are not, in general, perfect substitutes, and indeed we will further specify the pattern of substitution among them below. The contributions of parent and child to each of these arguments, however, are taken to be perfect substitutes for each other, though not one-for-one. Thus, each hour of home work by the parent will yield some fixed amount of home consumption, while each hour of home work by the child will yield a similarly fixed, but presumably smaller, amount of home consumption. Likewise, working in the market, each family member earns a fixed wage, again the child's wage presumably being smaller than the parent's. The contributions of each family member's leisure time to family utility are similarly fixed per hour, although here we presume (and hope) that the family places a higher value on the child's leisure than on the parent's. If they do not, then we may get what we take to be the pathological (but perhaps all too common) case of true exploitation of child labor.

We will not attempt in this paper to explore this model in full detail and rigor, but it is perhaps useful in spite of that to lay it out formally.

The Model:

Notation:

C_h, C_m	= Consumption of home-produced and market-purchased goods
T_i, H_i, L_i	= Time allocated to leisure, home production, and market labor supply by family member i=p, c for parent and child respectively
v_i, a_i, w_i	= Productivity of time allocated to leisure (in terms of utility), home production (in terms of home-produced consumption), and market labor (the wage) for family member i.
C, T	= Effective total consumption (CES aggregate) and leisure
$\overline{T}_p, \overline{T}_c$	= Time available for parent and child respectively (excludes biologically necessary leisure)
$\rho_j = \frac{\sigma_j - 1}{\sigma_j}$	= CES utility parameters, j=U, C

Equations:

The family is assumed to choose T_i, H_i, L_i, i=p, c, to solve the following maximization problem:

$$\max \quad \left[C^{\rho_U} + T^{\rho_U}\right]^{\frac{1}{\rho_U}} \tag{1}$$

$$\text{s.t.} \qquad C = \left[C_h^{\rho_C} + C_m^{\rho_C}\right]^{\frac{1}{\rho_C}} \tag{2}$$

$$T = v_p T_p + v_c T_c \tag{3}$$

$$C_h = a_p H_p + a_c H_c \tag{4}$$

$$C_m = w_p L_p + w_c L_c \tag{5}$$

$$H_p + L_p + T_p = \overline{T}_p \tag{6}$$

$$H_c + L_c + T_c = \overline{T}_c \tag{7}$$

If home and market consumption are relatively close substitutes, such that $\sigma_C > 1$ as we assume, and if consumption and leisure are not close substitutes, such that $\sigma_U < 1$ as we also assume, then this formulation yields a backward-bending supply curve of labor. That is, if we raise both wages keeping their proportions fixed, total labor supply first rises with the wage for low wages but falls thereafter with further increases in wages.

Exactly who does what within this family depends both on the level of the wages and on the productivities of the parent and child in satisfying their various needs. Because the formulation here is linear, it is convenient to think in terms of parents and children each having comparative advantage in one or another activity, very much like a Ricardian trade model with three goods. That is, we can order the three activities – leisure, home production, and market work – by the ratio of the parent's and the child's productivity, to get a chain of comparative advantage. It follows, exactly as in a Ricardian trade model, that neither family member will engage in any activity in which it has a comparative disadvantage unless the other family member is already devoting all of their time to it as well.

To illustrate, we will assume throughout most of our discussion that the following ordering prevails:

$$\frac{v_c}{v_p} > \frac{a_c}{a_p} > \frac{w_c}{w_p} \tag{8}$$

The motivation here is: (1) that the child is less productive than the adult at both home production and market work, so that the second and third ratios are both less than one; (2) that the family sees greater value in the child's leisure than in the parent's, partly out of care for the child and partly because the child's leisure includes the benefits of education; and (3) that the child's greatest comparative disadvantage is in market work. With this assumed ordering, the child will never engage in market work unless the parent is already devoting all of its time to market work as well. But this can happen, if wages of both are low and productivity of home production is even lower.

In general, under the assumption in (8), the only patterns of intra-family specialization that can be observed are those depicted in the table below.

T Leisure	H Home Production	L Market Work
C,P	P	P
C	P	P
C	C,P	P
C	C	P
C	C	C,P

Which of these patterns is chosen then depends upon all of the parameters, including the market wage rates.

For our purposes here, we care most about the implications of the model for labor supply. There are two aspects of this that will be of interest: how the total labor supply of the family varies when wages of parent and child move together; and how they vary when the wage of only one family member changes while the other is fixed. The first case is depicted in figure 3.

Here it is assumed that the parent's and child's wages move together, as they would (and will below) if the child's productivity in market work is some fixed fraction of an adult's while both become more or less valuable with varying market conditions. Letting $\alpha = w_C / w_P < 1$ be that fraction, we graph

the family's total effective labor supply in units of the parent's labor, $L_S = L_P + \alpha L_C$, as a function of the parent's wage. For both wages very low, even the parent provides very little market labor, since they can use their time more productively at home. As the wages rise, the parent increases its labor supply, but because of the child's comparative disadvantage in market work, the child remains at home, engaged in leisure and probably home production. Only when the rising wage has drawn the parent into market work full time does the family even consider putting the child to work as well, and even then the wages must rise a bit more before that happens. Now as wages rise further, we finally do see child labor, its amount increasing, for a time, with the wage.

With the assumed elasticities of substitution, however, there comes a point at which further increases in (both) wages cause the family to reduce labor supplied to the market, and with the assumed pattern of comparative advantage it is the child's labor that is withdrawn first. Only when the wages have risen to the point that the child no longer works in the market does the parent's labor supply begin to decline as well.

We can also ask how labor supplies vary if we change one wage holding the other fixed. Of greatest interest below will be changes in the child's wage, so that is the case we consider here. Suppose, starting from some point on the labor supply curve in figure 3, that the child's wage now changes while the parent's does not. Of course, if the child is not working initially, then a small change in the child's wage will not change that. Most interesting therefore are cases in which we start with the child working. Two such cases are shown in figure 4.

Here we have magnified the portion of the family labor supply curve along which the child works, shown as the solid curve L_S. Then for two points selected on this curve, marked A and B, we draw portions of the labor supply curves that would be observed if only w_C were then to change. In both cases, the broken curves show what would happen if w_C were to vary as it does along L_S but w_P were to remain fixed at w_A and w_B respectively. In both cases, because a fall in the child's wage is now not accompanied by the income loss of a fall in the parent's wage as well, the family cuts back more on the child's labor

supply than it does along L_S. Thus, where the labor supply was positively sloped at A, its response to a fall in only the child's wage is more elastic than if both wages fall together. If the labor supply was negatively sloped at B, the response become less elastic.

From this we see something like a tradeoff between the income of the family and the effect that can be obtained on child labor by changing the wage. If the family is very poor, as at point A, then a reduction in the child's wage rate will discourage the family from having the child work, at the cost, of course, of reducing the family's income still further. On the other hand, if wages are somewhat higher to start with, as at B, so that the family has reached the point where further wage increases will reduce child labor, a fall in the child's wage will have the perverse effect of causing it to work more. As we will see, this case may have some relevance for policy.

Not depicted above but always true under the assumed pattern of comparative advantage is the effect of a change in the parent's wage on child labor. Starting again from a situation in which the child is working, a rise in the parent's wage has the same effect on the family as an increase in its wealth, since it simply raises the income from the maximum number of hours that the parent is already working. Because the utility function is homothetic in consumption and leisure, this can only reduce the amount of market labor that the family asks the child to provide, and increase the child's leisure. By the same token, a fall in the parent's wage will increase child labor supply if it is already positive, and may well put the child to work if it was not already there.

What our model cannot tell us very clearly is the effect of any of these changes on the welfare of the child alone. We have chosen to model the utility only of the family unit, not of the individuals within it. Certainly a rise in either wage benefits the family as a whole, even though a rise in the child's wage may put the child to working longer hours. That this may nonetheless benefit the child, however, is quite possible, since the family enjoys greater market consumption as a result.

The Bad Parent

The case we have considered so far, with assumption (8), provides the most favorable interpretation of child labor. Here, children work only if their parents are already working the maximum that they biologically can, and the family acknowledges the high cost to the child of working, in foregone leisure. It nonetheless sends the child to work if the need for what it can earn is large enough due to low wages overall and a low productivity at home. Based on the evidence we have described earlier in the paper, we believe that this captures reasonably well a large fraction of the child labor observed in the world.

But it does not capture all of it. As we have discussed above, many children are trapped in situations so harsh that it is implausible that they are benefiting at all from the arrangement. When children are essentially sold, as bonded laborers or in other similar arrangements, and when they live apart from their families with their wages given to the family, not to them, then it seems clear that the parents are benefiting at their expense.

Our model can capture at least an aspect of that behavior by simply reducing the value that the family unit places on the child's leisure, v_c. Reduced sufficiently, this will alter the ordering in equation (8), putting the child's comparative advantage in leisure below that of both kinds of work. The patterns of specialization that one may observe are now altered from those laid out above. It is now easy to generate a scenario in which it is the child who works the maximum that is physically possible, either at home (Cinderella) or in the market (as essentially slave labor). Indeed, if we completely reverse the ordering of equation (8), the same graphs of labor supply that we used above will apply, but with the identification of parent and child labor supply reversed. It is worth noting that, even in this case, a reduction in the wage of the child worker may cause its parent to make it work more, not less, though only if it is not already working the maximum.

Policies toward Child Labor

We turn now to a discussion of several policies that might be used to discourage child labor, in the hope that our model may help to illuminate their effects. We will consider three policies: a complete ban on child labor; a non-prohibitive tax on child labor; and a subsidy to education. In each case we consider first the effects if the policy is applied "in the small," to a small enough part of the developing world that it will not change world prices, and second if it is applied "in the large," to all LDCs as a group.

Ban on Child Labor

Suppose first, then, that child labor is simply and effectively banned within a single small LDC. If that does not alter wages of parents, then under the assumptions of our model the families of child workers are unambiguously made worse off. They lose the income of the children, and we know from their choice to put the children to work in the first place that they view the benefits of that income as outweighing its costs. We can question whether the children themselves are worse off, of course, but only if we doubt the goodwill of the parents.

But won't the ban in fact alter the parent's wage? With less labor supplied by children, then one might expect the wages of the remaining workers to be driven up. That would be true in a closed economy, but in the small open economy assumed here it is not. As long as factor price equalization holds, the wages of parents – which are determined by unchanged world prices of goods – will not be changed by the ban on employing their children.

Thus it is only when we expand the ban on child labor to much or all of the developing world that we can expect to find this effect. In that case, the ban reduces labor supply in enough of the world to reduce the supply on world markets of the most labor-intensive goods, and the prices of these will rise as a result. It is through this mechanism – the Stolper-Samuelson Theorem in action – that we can expect to see the ban on child labor improving the wages of their parents. This is hopeful, but there is still no

assurance that families or their children will be made better off. This will depend on many things, including the elasticity of demand for labor-intensive goods.

A Non-Prohibitive Tax on Child Labor

We next consider a non-prohibitive tax on child labor, not because anyone has proposed this as a desirable policy, but because many policies that have been proposed and used have effects similar to such a tax. A campaign of opprobrium, for example, leveled against employers of child labor, implicitly raises the cost to them of that employment, but it may not raise it enough to stop them doing it. A well advertised program of labeling can have a similar effect, by causing unlabelled merchandise to sell at a discount.

Suppose then that such a tax is implemented, again, to start with, in the small. The productivity of child labor is not altered by the tax, and therefore potential employers will continue to be willing to employ them for a wage equal to that productivity minus the tax. In other words, the effect of the tax is simply to lower the wage received by child workers. Since it does not alter the wage of their parents (FPE again), the scenario is exactly that of figure 4. The tax may therefore either increase or decrease the hours worked by children, depending on which portion of the labor supply curve they were in. But unambiguously the welfare of the children's families is reduced. Thus the tax almost certainly does not make the children better off (except perhaps in the case of the bad parent), and it may even cause them to work more.

As in the case of the ban on child labor, the tax may possibly become beneficial if it is levied in the large, on enough of the developing world to alter world prices. But note in this case that labor supply may rise, not fall, in which case the effect on world prices would be the opposite of a ban, and could lower prices of unskilled-labor-intensive goods and the implied unskilled wage.

Of course, the analysis of a tax is not complete without accounting for how the revenue from it is used, but that is an issue only if it really is a tax. If costs are increased by other means, as suggested

above, then there is no revenue, even potentially, to offset the adverse effects on the child workers and their families.

A Subsidy to Education

We have noted earlier in the paper and, with approval, the recent moves that have been made toward pulling children out of work instead of pushing them into work. By offering families a cash subsidy to send their children to school, one can obviously alter in an important way the calculus of their decision making. In the model above, this would alter equation (5) to include the market consumption that can be financed by the subsidy:

$$C_m = w_p L_p + w_c L_c + s_e T_c \qquad (5')$$

where s_e is the education subsidy. If $s_e > w_c$, then the effect is extreme, since the family would never then send the child to work. Even with a smaller subsidy, however, the change in incentives can have important effects, and it seems clear that this can only reduce child labor. Furthermore, and unlike the other policies, this subsidy can only benefit the families, not harm them.

This is true in the small, when wages are fixed by FPE, and it is equally true in the large. For once again, by reducing the supply of child labor, the education subsidy has the potential, if used broadly enough, of reducing the overall supply of unskilled labor and raising the world prices of goods these workers produce, as well as their wage.

This all sounds fine, but of course we have not accounted for the very real cost of financing the subsidy. As usual in matters of this sort, unless there is a market failure being corrected, a subsidy will itself distort markets and cause a net reduction in economic welfare. In this case, since the gains to the poor families of the child workers seem clear, this means that these gains are smaller than the cost of the subsidies. It probably would not be hard to dream up market failures to justify this cost, but we do not view that as necessary. Redistribution of world income toward the poor is sufficiently difficult that one should not condemn a policy like this on the grounds of a little economic inefficiency. On the contrary, if

the world can harness the righteous indignation over child labor to the cause of truly helping these children and their families, the effort seems to us to be truly worthwhile.

V. Conclusions and Implications for Policy

In section III we noted five kinds of policies and programs that have been suggested or used for deterring the employment of children. We conclude by revisiting them, providing our assessment of their desirability from the perspectives both of our analysis in section IV and from broader considerations. To avoid repetition, we address the policies and programs in three groups.

Trade Policies

As might be expected from trade economists, we have a very low opinion of the use of trade restrictions to deter exploitation foreign child labor. Our objections arise only partly from the usual distortions that trade intervention brings about, or from our concern that the real motivation for such policies is the protection of domestic interests in the developed countries rather than the welfare of the exploited children. As usual, if such protection is the real aim of policies, then there are better ways for all concerned to achieve it than by restricting trade.

More importantly, however, is the welfare of the exploited children themselves, and whether they are truly helped by, say, a boycott of the goods they are employed to produce. If such a boycott were truly complete, then the effect would be that of a ban on child labor, as discussed above. Such a ban would indeed reduce the employment of children, but except perhaps in the case of bad parents, it would hurt the children rather than helping them. Furthermore, if trade restrictions effect only a partial boycott – being implemented by only some importing countries rather than all – or if they merely lower the net prices of imported goods that continue to be produced with child labor, then the effect will be similar to a tax on child labor that we also discussed. Here, as we saw, the children are hurt while their employment may actually rise.

ILO Assistance and Other Supra-national Measures

We already noted with approval the funds that have been contributed by the United States and other developed countries to the ILO's IPEC for improving labor standards. These funds can be used in a variety of ways, and they are not without their pitfalls, as we have noted along the way. But they provide the best means we have seen for truly alleviating the plight of working children, and not just removing them from view. To the extent that such funds are used to subsidize education among poor youth, and in particular to provide them and their families an incentive to remove them from more arduous activities, these programs act much like the subsidy to education that we discussed above. The gains are clear and unambiguous, and we strongly recommend that such efforts be expanded. It is notable that the amount of money contributed to these programs by the United States, though laudable, is miniscule compared to what the U.S. contributes to many other domestic and even international initiatives.

Codes of Conduct and Labeling

Both codes of conduct and consumer labeling (which in effect simply help producers to gain a marketing advantage from their codes of conduct) are not, in our view, unambiguously desirable. To the extent that they only reduce the demand for child labor or, equivalently, raise its perceived cost to potential employers, these initiatives cater more to the sensitivities of western firms and their customers than to the children that are said to be their focus. Indeed, simply to stop employing an impoverished child should be viewed in many cases as a greater form of exploitation than employing them – again, however, with perhaps the exception of children of bad parents in forced or bonded labor.

The focus of a code of conduct and of any labeling that results should not be the negative one of not employing children, but the positive one of actually helping them. As we have discussed, the better codes and labeling schemes have in fact devoted some of their revenues to educating children, and that is the truly positive role that they can play. So far, this role has been a very limited one, limited by the licensing fees that labelers can collect and by the generosity of corporations. What is really needed, we believe, is for the public to recognize the true problems of child poverty, not child labor, and for them to

contribute, in whatever ways can be designed, to programs that will help children in poverty. If the desire for profits by corporations can be harnessed to this end, that is all to the good, but the focus *must* be on getting resources from those who have them, to those who have not.

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Figure 1

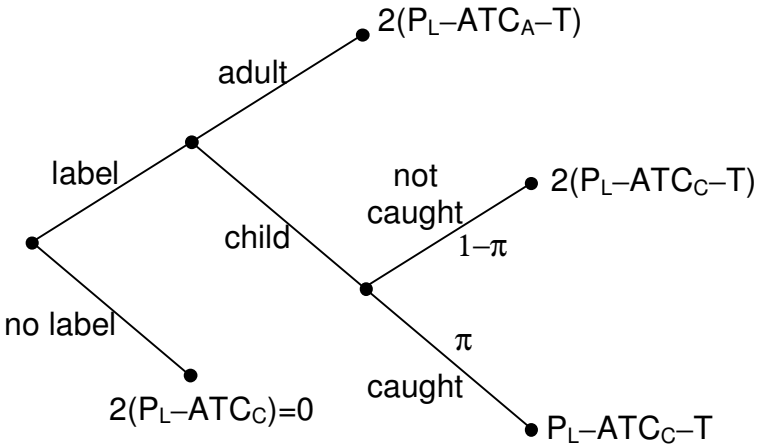


Figure 2

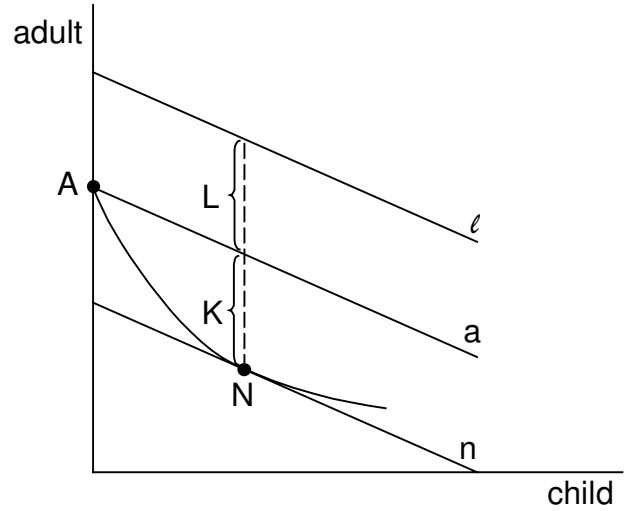
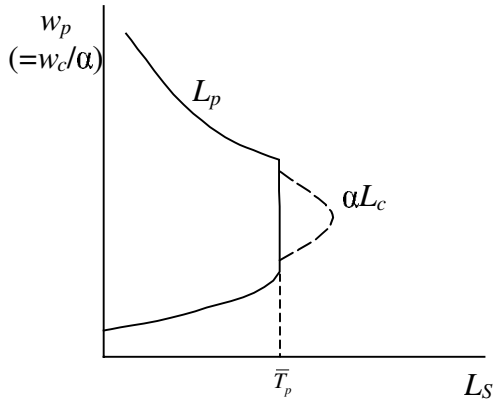
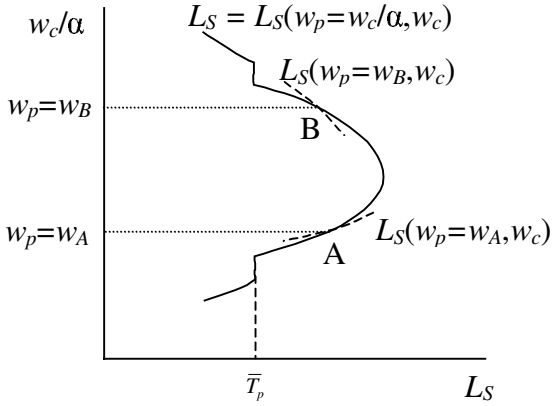


Figure 3



Family labor supply as wages vary together

Figure 4



Family labor supply as child's wage varies

Table 1
Evolution of Labor Standards in U.S. Trade Policy Legislation

Year	Act	Labor Standards Provisions
1890	McKinley Act	Prohibited imports made by convict labor.
1930	Tariff Act, Section 1307	Prohibited imports of goods made by convict labor, forced labor, or indentured labor under penal sanction.
1933	National Industrial Recovery Act (judged unconstitutional by U.S. Supreme Court in 1935)	Imports permitted only if produced according to U.S. domestic fair labor standards, including the right to organize and bargain collectively, limits on maximum hours of work, and minimum wages.
1974	Trade Act	Directed the President to seek the adoption of fair labor standards in the Tokyo Round of GATT negotiations.
1983	Caribbean Basin Economic Recovery Act	Criteria for eligibility as a beneficiary country extended to include the degree to which workers are afforded reasonable workplace conditions and enjoy the right to organize and bargain collectively.
1984	Generalized System of Preferences Renewal Act	Criteria for eligibility as a beneficiary country extended to include whether or not the country has taken, or is taking, steps to afford its workers internationally recognized worker rights defined as including freedom of association, the right to organize and bargain collectively, freedom from forced labor, minimum age for the employment of children, and acceptable conditions of work with respect to wages, hours of work and occupational safety and health.
1985	Overseas Private Investment Corporation Amendments Act	The Corporation is to insure, reinsure, guarantee or finance a project in a country only if the country is taking steps to adopt and implement internationally recognized worker rights as defined for GSP purposes above.
1986	Anti-Apartheid Act	Made it incumbent on U.S. firms employing more than 25 persons in South Africa to follow a Code of Conduct that includes fair labor standards.
1987	U.S. participation in Multilateral Investment and Guarantee Agency of World Bank	Made U.S. participation conditional on countries affording internationally recognized worker rights to their workers.
1988	Trade Act (Omnibus Trade and Competitiveness Act)	Made the systematic denial of internationally recognized worker rights (as defined above) by foreign governments an unfair trade practice and liable for U.S. countermeasures where such denials cause a burden or restriction on U.S. commerce.
1997	Sanders Amendment to 1930 Tariff Act, Section 1307	Merchandise manufactured with forced or indentured child labor falls within the prohibition of this statute.

Source: Adapted in part from Alam (1992, p. 25)

Table 2
U.S. Contributions/Pledges to IPEC as of March 1998

Country	Program	Amount	Comments
Bangladesh	Project to phase children out of garment factories and place them in schools Phase 2 of project: funding for continuation of monitoring and verifications project	$867,273 $840,779	Approx. 10,000 children have been phased out of factories and placed in 315 schools. Monitoring continues.
Philippines	Statistical survey on child labor in the Philippines	$268,465	Completed.
Africa	Regional workshop on child labor in commercial agriculture. Protection of children from hazardous work in plantations in selected countries in Africa (pledged). Fund Uganda participation in IPEC (pledged).	$170,381 $1,000,000 $1,500,000 over 3 years	Completed. Project Proposal Underway
Brazil	Combating child labor in the shoe industry of Vale dos Sinos	$308,958	Ongoing
Thailand	1) Northern program to prevent children from being lured into exploitative child labor and prostitution (Phase I) 2) Phase II of program above	$484,923 $261,070	Completed Project Underway
Pakistan	Soccer Balls: Phasing children out of soccer ball industry; providing educational opportunities; internal and external monitoring.	$755,744	Project Underway
Nepal	Elimination of girls' trafficking and commercial sexual exploitation of children. This includes children trafficked into India.	$192,809	Project Underway
Central America	Combating child labor in selected Central American countries (specifics TBD) (pledged).	$1,000,000	Awaiting Project Proposal

Source: U.S.-DOL (1998).

Table 3
Product Labeling Programs Claiming Nonuse of Illegal Child Labor

Program	Country	Year	Fees	Monitoring	Child Development	Label	Penalty
Hand-Knotted Carpets							
Rugmark (private)	India Nepal Pakistan	1994 1995 in process	importers: 1-1.75% exporters: 0.25% of carpet value	licensing random inspection carpet tracking loom registration	5 schools for weavers' children and former child weavers funded from importer fees	on carpet	license revoked after second violation
Kaleen (quasi-gov't)	India	1995	exporters: 0.25% of carpet value	registration of carpet and looms random inspection	contributes to fund 12 schools in rugmaking region	on carpet	license revoked after third violation
STEP (Swiss industry group)	India Nepal Pakistan	1995	importers: $2.40 per square meter	none few site visits	support to child care center, health ed., two schools	retailer display	deregistered after one violation
Care and Fair (German industry group)	India Nepal Pakistan	1994	importers: $125 + 1% of carpet value exporters: 0.25% of carpet value	self-monitoring	support to 35 projects in India and Nepal, one school in Pakistan	retailer display	placed on list of noncompliant firms
Jackciss (carpet weaving collective)	Pakistan	1987		supervisors inspect	builds or contributes to schools where non-existent	on carpet	
Leather Footwear							
Abrinq Foundation (non-profit)	Brazil	1990	none	commitment letter background check self-monitoring	individual members undertake child devel. projects	on product retailer display	30-day period to correct followed by decertification

Program	Country	Year	Fees	Monitoring	Child Development	Label	Penalty
Pro-Child Institute (non-profit)	Brazil	1995	$50-200/month	commitment letter self-monitoring		on shoes	30-days to correct violation followed by decertification
Soccer Balls							
Reebok (firm)	Pakistan	1996		centralized production in one facility, guarded entrance and exit, external monitoring by human rights activist	educational project targeting displaced child workers	on balls	
Baden Sports (firm)	China Pakistan	1977		centralized production automation switch production from Pakistan to China		on balls	
Dunkin' Donuts (firm)	Pakistan			detailed records on sites and workers, random inspection by labor rights activists.		on balls	
Seneca (firm)	Pakistan			centralized production facility			
Franklin Sports (firm)	Pakistan			centralized production			

Source: Bureau of International Labor Affairs (1997).