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

Drusilla K. Brown, Alan V. Deardorff, and Robert M. Stern

8.1 Introduction

Our paper deals with the increasingly important issue of the exploitation of child labor in developing countries. This has in recent years attracted considerable attention and debate in trade policy circles in the United States and elsewhere. While child labor around the world is an acknowledged fact, its magnitude and characteristics are imperfectly measured. Notwithstanding this, our focus here is primarily analytical insofar as we attempt to model family labor supply decisions in the context of an open economy. This enables us to examine a number of policy options and programs for dealing with child labor exploitation. Hopefully, our work will motivate others to take the next important measurement and empirical steps that are needed to assess the current state of affairs and to devise methods for improving the work and living conditions of children and their families in developing countries.

We begin in section 8.2 with a discussion of the determinants of child labor and selected information on the global, national, and sectoral employment of children. In section 8.3, 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 8.4 to conceptual considerations, using a framework that we have developed to analyze the economic determinants of child labor and the expected conse-

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quences of alternative measures that are designed to reduce child labor. Conclusions and implications for further research and policy are presented in section 8.5.

8.2 Determinants, Magnitudes, and Characteristics of Child Labor

It is useful to begin by considering what is meant by *child labor.* In western societies, chronological age is customarily used to separate childhood from adulthood. In other societies, however, the way childhood is 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.

The distinction between work and education is also less clear in developing countries. There may be sectors in which children are apprenticed for long periods of time in exchange for benefits that may come later, after they are trained and have acquired on-the-job experience. Child labor can also be difficult to detect—for example, few child workers can be found in the export sectors. According to the U.S. Department of Labor's Bureau of International Labor Affairs (1994, 2) only about 5 percent of employed children work in the export industries in manufacturing and mining. Rather, children are usually found in family-based agriculture, in such services as domestic help, restaurants, and street vending, in prostitution, and in such small scale manufacturing as carpets, garments, and furniture.

As a consequence, there is a wide range of uncertainty about the actual magnitudes involved. Grootaert and Kanbur (1995, 188–89) report results from an International Labour Organization (ILO) survey that concludes that there were approximately 78.5 million economically active children under the age of fifteen years in 1990. Similarly, UNICEF reports 80 million children aged ten to fourteen whose work is characterized as "so long or onerous that it interfered with their normal development" (Grant 1991). However, the total number of working children worldwide is thought to be far greater. The ILO places the figure closer to 100–200 million (U.S. Department of Labor, Bureau of International Labor Affairs 1994, 2). An even larger estimate of child labor is found when the work of younger children is included. For children between ages five and fourteen, the ILO estimates that 250 million are working, of which 120 million are working full time (U.S. Department of Labor, 1998, 1).[1]

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 Department of Labor's Bureau of International Labor Affairs

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

(1995, 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 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, 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 six or seven years old are trafficked from the rural villages of Rajasthan to Mumbai annually. Further, Human Rights Watch (1996, 104–5) 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 itself. 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.

Working conditions for bonded child laborers can be horrific. The Bureau of International Labor Affairs (1995, 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 indus-

> try. . . . 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, 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.

8.3 Policies and Programs for Reducing Foreign Child Labor

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

8.3.1 U.S. Trade Policies

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 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 8.1. The most recent measure is one sponsored by Congressman Bernard 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."[2] With funding made available by Congress, the U.S. Customs Service is currently attempting to devise and implement monitoring and inspection

2. For further details, see http://www.customs.ustreas.gov/enforce, childfi2.htm. See also "Customs walks tightrope on new child labor law" (1997).

Table 8.1 **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)	Permitted imports 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	Extended criteria for eligibility as a beneficiary country 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	Extended criteria for eligibility as a beneficiary country to include whether 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	Required the corporation 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 twenty-five 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	Included prohibition of merchandise manufactured with forced or indentured child labor.

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

procedures to ban imports produced by forced child labor in response to complaints filed.[3]

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 privileges. Evidence of a change in policies is a condition for the preferences to be reinstated.[4]

8.3.2 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. For our purposes here, we wish to call attention to U.S. assistance to address issues of child labor that are channeled through the ILO. Thus, as noted in U.S. Department of Labor (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 through the use of 'hot goods' [*sic*] laws, and using U.S. laws to suspend trade benefits in response to persistent exploitative child labor practices."

What is especially noteworthy in particular is the U.S. assistance provided to the ILO International Programme for the Elimination of Child Labor (IPEC):[5] "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 [non-governmental organizations], 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 8.2. The total U.S. contribution of $8.1 million to IPEC since its

3. According to the *New York Times,* the International Labor Rights Fund filed a complaint to ban imports of South Asian carpets under the provisions of the Sanders Amendment (see "Ban sought on South Asian rugs" 1997). This complaint is presently under investigation by the U.S. Customs Service. See also "Citrus squeeze" 1998.

4. Further details can be found in Brown, Deardorff, and Stern (1996, 234–36).

5. IPEC (International Labour Organization [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 occupations; and very young children (under the age of twelve).

Table 8.2 **U.S. Contributions/Pledges to IPEC as of March 1998**

Country	Program	Amount	Comments
Bangladesh	Phase 1 of project to remove children from garment factories and place them in schools	$867,273	Approximately 10,000 children have been phased out of factories and placed in 315 schools.
	Phase 2 of project: funding for continuation of monitoring and verifications project	$840,779	Monitoring continues.
Philippines	Statistical survey on child labor in the Philippines	$268,465	Completed.
Africa	Regional workshop on child labor in commercial agriculture	$170,381	Completed.
	Protection of children from hazardous work in plantations in selected countries in Africa (pledged)	$1,000,000	Project proposal underway.
	Funding of Uganda's participation in IPEC (pledged)	$1,500,000 over three years	
Brazil	Combating child labor in the shoe industry of Vale dos Sinos	$308,958	Ongoing.
Thailand	Phase 1 of Northern program to prevent children from being lured into exploitative child labor and prostitution	$484,923	Completed.
	Phase 2 of program	$261,070	Project underway.
Pakistan	Phasing children out of soccer ball industry; providing educational opportunities; internal and external monitoring	$755,744	Project underway.
Nepal	Elimination of girls' trafficking and of commercial sexual exploitation of children; 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. Department of Labor (1998).

inception in 1992 will be increased significantly by the funds appropriated in the FY 99 U.S. budget. Twenty donor countries are presently providing IPEC support to twenty-nine developing countries, with an additional twenty-four developing countries preparing to participate. The U.S.-supported IPEC programs noted in table 8.2 evidently address many different aspects of child labor. As noted in U.S. Department of Labor (1998, 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."

8.3.3 Supranational Measures

It should be clear from the preceding discussion that the ILO is the main international organization 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. The ILO is primarily concerned with (1) the definition of worker rights, especially through the adoption of ILO conventions and recommendations;[6] (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.

8.3.4 Codes of Conduct

On the domestic side, the Clinton administration has sought to work with U.S. firms to develop codes of 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, 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

6. 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, 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 not enforced.

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. Firms in industries such as apparel that rely heavily 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 making serious efforts to upgrade foreign labor standards and working conditions for both adults and children.[7] However, the degree of meaningfulness and effectiveness that the codes of conduct will achieve depends above all on their credibility. Of particular importance are the transparency of the codes of conduct, monitoring, and enforcement.

8.3.5 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 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 8.3. A thorough description of each program can be found in U.S. Department of Labor, Bureau of International Labor Affairs (1997). The programs differ dramatically in their structures, underlying philosophies, and objectives. However, all of them 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.

Labeling as a strategy for reducing child labor has received analytical support from Freeman (1994), but it is not without its critics. 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. Work may simply be the difference between life and death for some children. Eliminating jobs could easily leave child workers with greatly worsened choices. In fact, some of the labeling programs (such as for hand stitched soccer balls) 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. More effective may be

7. According to the *New York Times,* 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 for wages and working conditions in foreign apparel factories used by American companies (see "Apparel industry group" 1997). 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.

Table 8.3 **Product Labeling Programs Claiming Nonuse of Illegal Child Labor**

Program	Country	Year	Fees	Monitoring	Child Development	Label	Penalty
				A. Hand-Knotted Carpets			
Rugmark (private)	India Nepal Pakistan	1994 1995 In process	Importers: 1–1.75% of carpet value Exporters: 0.25% of carpet value	Licensing, random inspection, carpet tracking, loom registration	Five schools for weavers' children and former child weavers, funded from importer fees	On carpet	License revoked after second violation
Kaleen (quasi-governmental)	India	1995	Exporters: 0.25% of carpet value	Registration of carpets and looms, random inspection	Contributions to fund twelve 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 education, 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 thirty-five projects in India and Nepal, one school in Pakistan	Retailer display	Placed on list of noncompliant firms
Jackciss (carpet weaving collective)	Pakistan	1987		Supervisor inspections	Contributes to schools or builds schools where nonexistent	On carpet	

				B. Leather Footwear			
Abrinq Foundation (nonprofit)	Brazil	1990	none	Commitment letter, background check, self-monitoring	Individual members undertake child development projects	On product and retailer display	30 days to correct violation, followed by decertification
Pro-Child Institute (nonprofit)	Brazil	1995	$50–200/month	Commitment letter, self-monitoring		On shoes	30 days to correct violation, followed by decertification
				C. 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, switching of 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: U.S. Department of Labor, Bureau of International Labor Affairs (1997).

greater attention to educational opportunities, and/or a subsidy that can replace a child's contribution to family income if the child attends school.[8]

The rehabilitation programs maintained by some labeling programs are clearly an attempt to improve the options for children while eliminating or reducing work. However, many child welfare projects associated with labeling programs have encountered difficulties in providing services to children. In the case of Rugmark Internationale (in table 8.3), resources for supporting former child workers are inadequate. In other cases, the administrators of labeling programs find that they lack the expertise or legal authority to administer child care programs.

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. However, some organizations believe that credible monitoring is simply an impossible task. Licensed employers have been quite skillful in undermining the effectiveness of even the most carefully designed monitoring effort, and it is not uncommon for many of them to counterfeit labels.

8.4 Conceptual Considerations and Analysis of Alternative Measures to Reduce Child Labor

In order to shed some light on possible effects of various policies regarding child labor, we use this section of the paper to examine the issue in the context of a theoretical model. We will first use the model to demonstrate analytically the conditions under which child labor exploitation might occur. We then use the model to analyze the impact of three policies intended to deter child labor, which are a complete ban on child labor, a nonprohibitive tax on child labor, and a subsidy for education.

The model consists essentially of a microeconomic model of labor supply by a family—parent and child—embedded in a standard Heckscher-Ohlin (HO) 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.[9]

8. 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 forgone 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 percent to less than 1 percent. 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' decisions as to how each family's 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.

9. For related work, see Basu and Van (1998) and Basu (1999).

8.4.1 The HO Model

We use a two-cone version of the HO model, which most closely and simply captures the large differences that exist between the developed and developing parts of the world.[10] That is, while we assume that countries everywhere share the same constant-returns-to-scale technologies for producing 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. One may think of human capital as being implicit 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 micromodel of labor supply, several familiar properties of this HO 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 variations in their factor supplies. This is the lesson of FPE,[11] and it applies within a cone of a multicone model as much

10. See Deardorff (1979).

11. Causing Leamer and Levinsohn (1995) to call it the "Factor Price Insensitivity Theorem."

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 within a cone—say, the South—depends on whether that good is produced there at all, and, if it is produced, on the factor intensity of the good relative to that of others in the same cone.[12] 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 this 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 HO model, in their perhaps unfamiliar guises in the multicone model, will be useful later, when we discuss the general equilibrium and world market implications of various policies for dealing with child labor.

8.4.2 Parent and Child Labor Supply

Unlike most applications of the HO 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 production, and market production. 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 encompass the future return to education. Home production represents whatever the family member can contribute directly to the family's welfare by working in the home (or on the family's land) to produce goods and services for the family's own consumption. It does not include work he or she may do at home to produce goods for sale or in a subcontracting arrangement with a firm. Such work, although done at home, is part of market production, 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 shortly. The contributions of parent and child to each of these arguments, however, are taken to be perfect substitutes for each other, though not on a one-for-one basis. Thus, each hour of home production by the parent will yield some fixed amount of home consumption, while each hour of home production by the child

12. See Davis (1996).

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 with 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 the family does 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 here to explore this model in full detail and rigor, but it may nonetheless be useful to lay it out formally.

8.4.3 The Model

The notation in the model is as follows:

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 production by family member, $i = p, c$ for parent and child respectively
v_i, a_i, w_i	Productivity of time allocated to leisure v_i (in terms of utility), home production a_i (in terms of home produced consumption), and market production w_i (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)
$\rho_j = (\sigma_j - 1)/\sigma_j$	CES utility parameters, $j = U, C$

The equations for the model are as follows. The family is assumed to choose T_i, H_i, L_i, $i = p, c$, to solve the following maximization problem:

$$\max[C^{\rho_U} + T^{\rho_U}]^{1/\rho_U}, \tag{1}$$

subject to

$$C = [C_h^{\rho_C} + C_m^{\rho_C}]^{1/\rho_C}, \tag{2}$$

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

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

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

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

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

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 while keeping their proportions fixed, total labor supply first rises with the wage at 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's each having comparative advantage in one or another activity, much as in a Ricardian trade model with three goods. That is, we can order the three activities—leisure, home production, and market production—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 he or she has a comparative disadvantage unless the other family member is already devoting all of his or her time to it as well.

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

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

The motivations here are (1) that the child is less productive than the adult at both home and market production, so that the first and second ratios are both less than one; (2) that the family sees greater utility 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, so that the third ratio is greater than one; and (3) that the child's greatest comparative disadvantage is in market production. With this assumed ordering, the child will never engage in market production unless the parent is already devoting all of his or her time to market production as well; but this can happen, if the wages of both are low and productivity of home production is even lower.

In general, under the assumptions in equation (8), the only patterns of intrafamily specialization that can be observed are those depicted in table 8.4. 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. Two aspects of this 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 8.1.

Table 8.4 **Patterns of Intrafamily Specialization**

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

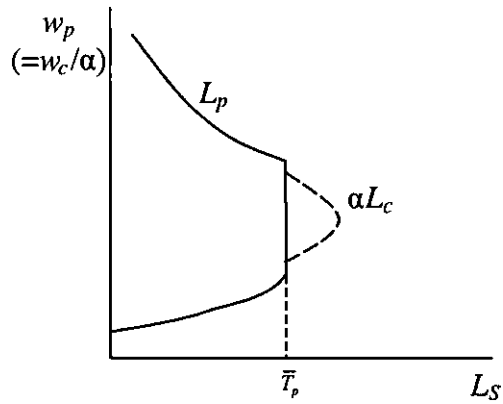

Fig. 8.1 **Family labor supply as wages vary together**

Here it is assumed that the parent's and the child's wages move together, as they would (and will in our discussion) if the child's productivity in market production 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. When both wages are very low, even the parent provides very little market production, since the parent can use his or her time more productively at home. As the wages rise, the parent increases his or her labor supply, but because of the child's comparative disadvantage in market production, the child remains at home, engaged in leisure and probably home production. Only when the rising wage has drawn the parent into market production 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 while holding the other fixed. Of greatest interest 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 8.1, that the child's wage now changes while the parent's does not. (Of course, if the child was not working initially, then a small change in the child's wage will not change the child's employment status. Most interesting therefore are cases in which we start with the child already working.) Two such cases are shown in figure 8.2.

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 arbitrary 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 as at A, its response to a fall in only the child's wage is more elastic than if both wages fell together; if the labor supply was negatively sloped as at B, the response becomes less elastic.

From this we see something like a trade-off between the income of the family and the effect that can be obtained on child labor by changing the child's 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 at which further wage increases will reduce child labor, a fall in the child's wage will have the perverse effect of causing him or her to work more. As we will see, this case may have some relevance for policy.

Not depicted previously 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 already working, a rise in the parent's wage has the same effect on the family as an increase in the family's 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 production that the family asks the child to provide, and this increases the child's leisure. By the same token, a fall in

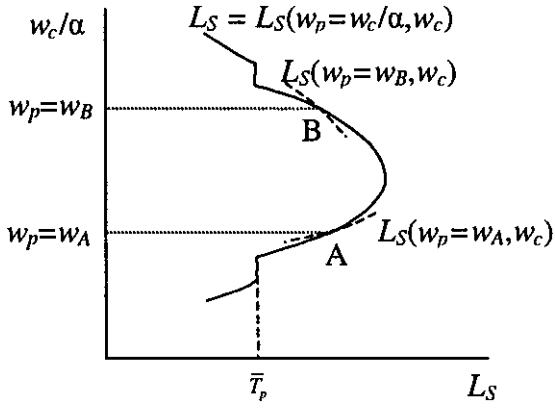

Fig. 8.2 Family labor supply as child's wage varies

the parent's wage will increase child labor supply if it is already positive, and it may well put the child to work if he or she 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 of only 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 cause the child to work longer hours. That this may nonetheless benefit the child, however, is quite possible, since the family enjoys greater market consumption as a result.

8.4.4 The Bad Parent

The case we have considered so far, with equation (8), provides the most favorable interpretation of child labor, in which 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 (in forgone leisure) of working. The family nonetheless sends the child to work if the need for what the child can earn is large enough due to both low wages overall and 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.

It does not capture all of it, however. As we have discussed, 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 instead of to them, then it seems clear that only the parents are benefiting, and at the children's expense.

Our model can capture at least one aspect of such behavior by simply

reducing the utility 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 possible patterns of specialization that one may now observe are altered from those previously laid out. 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 before 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 induce the parent to force the child to work more, not less, though only if the child is not already working the maximum.

8.4.5 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 nonprohibitive 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 less developed countries [LDCs] as a group).

Ban on Child Labor

Suppose first 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 exceeding 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 bid up. That would be true in a closed economy, but in the small open economy, as 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 an effect on adult wages. In that case, the ban reduces labor supply in enough of the world to reduce the supply in 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 the parents. This is hopeful, but there is still no assurance that the increased wage of a parent more than makes up for the lost wage of the child and thus that families or their children are made better off. This will depend on many things, including the elasticity of demand for labor-intensive goods.

A Nonprohibitive Tax on Child Labor

We next consider a nonprohibitive tax on child labor. We do this 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 their 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 in the small to start with. The productivity of children's 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 8.2. 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. Note in this case, however, that labor supply may rise, not fall, such that the effect on world prices would be opposite that of a ban and could lower prices of unskilled-labor-intensive goods and thus the implied unskilled wage.

Of course, the analysis of a tax is not complete without an 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 previously, then there is no revenue, even potentially, to offset the adverse effects on the child workers and their families.

A Subsidy to Education

We noted earlier the recent moves that have been made toward pulling children out of work instead of pushing them into not working. 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 previous model, this would alter equation (5) to include the market consumption that can be financed by the subsidy:

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

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, a broadly used education subsidy has the potential to reduce the world supply of unskilled labor. This in turn can raise the world prices of goods that these workers produce, as well as their wages.

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 a market failure is being corrected, a subsidy will itself distort markets and cause a net reduction in overall economic welfare. In this case, because the gains to the poor families of the child workers seem clear, 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 advocates of redistribution would not condemn a policy such as 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, many would view the effort as worth the cost.

8.5 Conclusions and Implications for Policy

In section 8.3 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 8.4 and of broader considerations. To avoid repetition, we address the policies and programs in three groups.

8.5.1 Trade Policies

As might be expected from trade theory, the case for the use of trade restrictions to deter child labor has several analytical weaknesses. Objec-

tions could arise partly from the usual distortions that trade intervention causes or from a concern that the real motivation for such policies is the protection of domestic interests of the developed countries rather than the welfare of exploited children. It is also the case that if such protection is the actual objective, then there are forms of intervention other than trade restrictions that provide higher welfare for all concerned.

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 earlier. 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 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 that of a tax on child labor. Here, as we saw, the children are hurt while their employment may actually rise.

8.5.2 ILO Assistance and Other Supranational Measures

We have already noted that funds 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; but they potentially provide the means 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 the education of 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 a subsidy to education. It is notable that the amount of money contributed to these programs by the United States, though laudable, is miniscule compared to what the United States contributes to many other domestic and even international initiatives.

8.5.3 Codes of Conduct and Labeling

Neither codes of conduct nor consumer labeling (which in effect simply helps producers to gain a marketing advantage from their codes of conduct) unambiguously improve the welfare of children. 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 needs of the children who are said to be their focus. Indeed, simply to stop employing an impoverished child could be viewed in some cases as more harmful than employing the child—again with perhaps the exception of children of bad parents or children in forced or bonded labor.

The welfare impact of a code of conduct or of any labeling cannot be evaluated simply by determining whether the affected children are still working. Rather, the outcomes for children should also be measured in terms of standard of living, educational attainment, and so forth. As we have discussed, the more carefully constructed codes and labeling schemes have in fact devoted some of their revenues to educating, feeding, and housing former child workers. 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.

The role for consumers in improving the welfare of children hinges on the need to identify the fundamental sources of child poverty (not merely child labor) and to make their product choices accordingly. Perhaps the pursuit of profits by corporations can be harnessed to this end, but the benefits will accrue to child workers only if they and their families actually receive additional resources.

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Comment

Robert W. Staiger

Brown, Deardorff, and Stern have written a very useful paper on an important topic. The topic is child labor, and the first thing the paper does is to provide a very thoughtful survey of existing research with regard to the determinants, magnitudes, and characteristics of child labor. This survey

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is especially valuable in serving at a broad level to remind the reader of two important points. First, the magnitude of the problem in developing countries is huge (tens and possibly hundreds of millions of children working under conditions that "interfere with their normal development"). And second, developed countries will face severe limitations if they seek to address this problem directly by withholding market access for goods produced with child labor (evidently only a very small percentage of all child workers are employed in the export industries of developing countries).

The second thing the paper does is to provide a description of the various programs and policies used in the United States to deter child labor in foreign countries. These include unilateral actions taken by the U.S. government, actions taken by the U.S. government that work through international agencies, attempts by the U.S. government to facilitate corporate codes of conduct, and private sector attempts to engineer product labeling programs. An important issue associated with the last two mentioned programs concerns monitoring, and the paper elaborates, from the perspective of a simple theoretical model, on a number of the problems involved with monitoring.

The third thing the paper does is to develop a simple general equilibrium model to examine the impacts of various policies on the use of child labor. A model of family labor supply is embedded in a traditional two-cone Heckscher-Ohlin model. Within the family, the parent and the child can allocate their time to leisure, home production, and/or market production, and children are assumed to have a comparative disadvantage in market production. With appropriate elasticity assumptions, family labor supply will eventually become "backward bending": that is, fixing the relative wages of parent and child, rising wages will first lead to greater family labor supply but eventually to reductions in family labor supply. Given the comparative disadvantage of the child in market production, family labor is supplied to the market first by the parent, and only as the wages rise further (in fixed proportion) will the child eventually be pulled into market employment. As wages rise further still, and the backward-bending portion of the family labor supply curve is reached, child labor supply to the market is reduced.

If, after the description of the complexities associated with the problem of child labor contained earlier in the paper, any reader still believes that policy responses to the problem should be obvious, then this simple model should dispel that view. Consider, for example, the relatively straightforward goal of reducing child labor (and forget about the far more subtle task of attempting to ensure that child welfare is actually enhanced). The model nicely illustrates how the supply of child labor to market production will be a non-monotonic function of wages, and this result is most evident when only the child's wage is varied: As the child's wage is reduced, very poor families (on the upward-sloping portion of the family labor supply)

will reduce child labor supply to the market, while better-off families (on the backward-bending portion of the family labor supply) will increase child labor supply to the market. Hence, whether aggregate child labor rises or falls as the market wage of children is reduced depends on, among other things, the distribution of family income across the economy. The broader implication is that it may be extremely difficult for the developed world to find simple policies that reliably reduce child labor in the developing world if these policies work through their effects on prices and wages.

The Heckscher-Ohlin features of the model are also nicely put to work in the analysis of the effects on family welfare of an outright ban on child labor. Unless the ban applies to significant portions of the developing world, it will not significantly affect the prices of internationally traded goods, and hence factor prices in a developing country to which the ban applies will not be affected (factor price insensitivity), and the impact on family income will simply be the lost income of the child. Only if goods prices are altered by the ban will family incomes in the developing world also be affected by changes in the wages of parents, with the direction of these changes predicted by the Stolper-Samuelson theorem.

My discussion thus far has focused on things that are in the paper which I like, and there are many of these. There are also things that are not in the paper which I would like to have seen the authors discuss (of course, I can always hope that these things will be the topic of some of their future work). In particular, I think that to make much more progress on the issue of child labor in the developing world, we are going to have to begin to confront in a systematic fashion a number of questions that the paper doesn't really raise, though these are questions that to some extent lurk around the edges of the discussion. The first question to which I refer is simply this: Why is the developed world unhappy with the treatment of child labor in the developing world? (I.e., What is the problem?) Only after we are comfortable with our answer to this first question can we seek answers to the second: What should be done about the treatment of child workers in the developing world? (I.e., What is the solution?) The remainder of my comments will focus on a number of possible answers to these questions.

Why is the developed world unhappy with the treatment of child labor in the developing world? One possible answer is the "race-to-the-bottom" fear that low-cost products of child labor will erode the living standards of workers in the developed world, who must compete with these developing country exports. For example, the additions to the labor force of the developing world that are implied by the lax or nonexistent child labor laws in these countries may affect living standards of workers in the developed world through the greater availability of labor-intensive exports from developing countries. According to this answer, the developed world cares

about the treatment of child labor in the developing world because of the resulting *trade effects,* and a pecuniary externality of international dimensions is thereby created through the impact of child labor laws on exporter prices.

Whether this externality leads to inefficient policy choices, and hence to a "problem" that all governments could in principle agree to "solve" through negotiations of some kind, depends at least in part on whether countries can affect exporter prices through their policy choices. But even if there is an inefficiency of this type, it is tied fundamentally to concerns over market access (i.e., trade effects), and this has important implications for answers to the second question raised earlier. In particular, as I have argued in other work (Bagwell and Staiger 2000 and forthcoming), this problem can be handled at least in theory with market access negotiations under existing GATT rules (appropriately modified). Hence, if this is the problem, then GATT's existing principles may be well equipped to provide the solution, and as a consequence there may be no need to embark on a major shift of approach to find solutions to the problem of child labor in the developing world.

However, there are other possible answers to this first question. The mere fact that the United States has federal child labor standards of its own suggests the possibility that, as a country, we are uncomfortable with the child labor outcomes that an unconstrained market would deliver. Perhaps, if we want to answer the question of why we care about the labor standards of other countries, we might seek answers through national introspection: Why do we perceive the need to adopt labor standards of our own? I can think of at least three distinct answers (and I am sure there are many more).

First, a national child labor standard may provide parents with a commitment device with respect to their children, and hence solve an intrafamily time-consistency problem. For example, a parent may hope to induce his or her child to expend effort throughout the school year by announcing that the child will have to continue to attend school the following year, regardless of this year's performance; but at year's end, if the child is failing school, the parent may well have reason to rethink his or her announced policy, perhaps allowing the child to quit school and enter the workforce after all. If the child anticipates this, he or she may be less inclined to expend effort at school, and the parent may then encounter difficulties achieving the desired educational goals for the child. In this situation, a federal child labor standard, which keeps children below a specific age out of the workforce and in school and is enforced by sanctions, can help parents achieve a desired degree of credibility with respect to their children. Notice, however, that while this argument might provide a rationale for a country to adopt a child labor standard of its own, it does not by itself provide a separate reason why one country might care about the labor standards of another country.

Second, a national child labor standard may be in place to prevent an influx of low wage child labor from undercutting the wages of adult workers. Under this logic, if we choose to prevent our own children from undercutting the wages of our adult workers, we might well wish to prevent the children from developing countries from doing this as well. Notice, however, that this simply gives a reason for the developed world to care about the trade effects of the developing world's child labor standards, and thus this is a special case of market access concerns generated by an international pecuniary externality, as just noted. Hence, this would not by itself provide a separate reason why one country might care about the labor standards of another country.

Third, a national child labor standard may be in place to correct a nonpecuniary externality that each family's child labor supply decision exerts on others. In this case, the key question is whether this externality is national or international in scope. For example, if the externality related to child labor supply decisions concerns the impact of these decisions on the likelihood of criminal activity later in life, then this is likely to be an externality of national scope, and as such it would not provide a separate rationale for why one country might care about the labor standards of another country. On the other hand, perhaps we care directly about the welfare of children other than our own *and* we don't trust all parents to make decisions that serve the welfare of their children. For example, it may be that most parents are well equipped to solve on their own the time-consistency problem noted earlier, but that as a nation we support the cost of administrating federal child labor standards because some parents are not so equipped, and we care about the welfare of their children. In this case, our direct concern for the welfare of children might extend as well to the children of the developing world, and then we would be directly affected by the child labor standards chosen by a developing country. Here is a reason, separate from market access concerns, why one country might care about the labor standards of another country.

I don't know which, if any, of these cases is relevant in practice, and it may well be that I have left out entirely the most important reason or sets of reasons for why the developed world cares about the labor standards chosen by the developing world. It seems clear, however, that identifying the possible reasons for the problem is a crucial step in finding a solution. For example, if the sources of the problem can be tied to market access concerns, as in the race-to-the-bottom sort of fears described previously, then GATT's market access focus can probably be utilized to provide the solution. On the other hand, if the source of the problem is not tied to market access concerns, but reflects instead international externalities of a nonpecuniary nature as in the final case described previously, then solutions might be better found outside of GATT, perhaps utilizing instead the ILO.

In any event, let me summarize. The paper written by Brown, Deardorff,

and Stern has contributed to the important task of characterizing the facts of child labor in the developing world, and it has also taken an important step in showing how our familiar models of international trade can help to illuminate the impacts of various policy options on the supply of child labor in the developing world and on the welfare of child workers. What is now needed is to take a step back, and to ask why the developed world cares.

References

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