Should Core Labor Standards Be Imposed Through International Trade Policy?

Keith E. Maskus

Weak provision of core labor standards in developing countries has complex effects on competitiveness and trade. The problem cannot be treated effectively by imposing trade sanctions, but should instead be approached through programs aimed directly at poverty reduction, education reforms, and disclosure of information.

Summary findings

Numerous proposals have surfaced recently to incorporate a clause about labor standards in the rules of the World Trade Organization (WTO). Such a clause would require each WTO member to recognize and enforce certain core labor standards: forbidding forced labor, discrimination, and the exploitation of child workers and guaranteeing the rights of workers to associate freely and engage in collective bargaining with employers. Failure to provide core labor standards would subject a country to international trade sanctions.

Maskus analyzes links between core labor standards and international trade policy. He develops a series of simple models to see whether limiting core labor standards in export sectors of developing countries can improve the countries' price competitiveness in export markets. he concludes that deficient provision of core labor standards generally diminishes export competitiveness rather than improving it, because of the distortionary effects of those deficiencies.

In other words, concerns about the negative impact on industrial countries of limited wage, employment, and labor standards in developing countries are largely misplaced — with one exception: exploiting child labor could expand exports in highly labor-intensive sectors. But wage spillovers into industrial economy labor markets must be trivial, and there is no empirical evidence that the use of child labor provides measurable competitive advantages.

Do international trade sanctions serve a legitimate, effective role in penalizing countries that fail to observe core labor standards? Maskus points out that trade restrictions are blunt, indirect instruments and may be counterproductive, harming the people they are designed to help and ineffective in achieving stated goals.

Thus, including in WTO rules a social clause guaranteeing core labor standards would reduce global efficiency for a small gain. Some approaches — including compensation programs from wealthy countries, focused on poverty reduction and better access to education — would be more effective and less costly than trade restrictions.

At the same time, the International Labor Organization could improve its monitoring and publicity efforts, to raise international consciousness about labor standards.

CORE LABOR STANDARDS: TRADE IMPACTS AND IMPLICATIONS FOR INTERNATIONAL TRADE POLICY

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1. Introduction

Issues of protection for workers' fundamental rights are again prominent in the international policy arena. Broadly stated, there appears to be substantial international agreement that certain core rights should be globally recognized and protected. There is far less consensus over means of ensuring such protection. The main objective of this report is to analyze claims about core workers' rights and proposals to employ trade policies to advance them. First, I discuss the nature of fundamental workers' rights and their reflection in core labor standards. Second, I provide a series of analytical models about the potential economic impacts of limited standards, with particular reference to economic competitive advantage and trade. With this analysis it becomes straightforward to demonstrate that trade sanctions can play only an indirect and potentially counterproductive role in improving international labor protection. Alternative mechanisms focused directly on alleviating poverty and improving educational opportunities are likely to be more effective. Third, I review major international institutional frameworks of relevance for labor standards.

International economists have long claimed that the linkages between varying international standards for labor protection and international trade policy, both in theoretical and empirical terms, are tenuous. As detailed in this report, the potential benefits from making such linkages are limited while the potential costs from doing so are high. Nonetheless, the issue has surfaced periodically at the forefront of debates about the role of trade policy in ensuring desirable social outcomes.

Repressive labor-market practices in developing countries are seen by some observers as providing an "artificial" advantage to exporting firms. It is conceivable that such behavior contributes to declining demand for lower-skilled labor in the rich nations. Further, to the extent that these practices place downward pressure on labor standards elsewhere, other countries may find it hard to sustain their higher levels of labor protection without incurring additional costs. Accordingly, there are numerous proposals for moving toward harmonized international labor standards, supported and disciplined by trade sanctions.

Interest in minimum global labor standards arises for altruistic reasons as well. There is growing awareness among consumers in the developed countries of the often appalling nature of working conditions in a number of developing nations. Clearly, therefore, the issue of defining trade policy's role in protecting worker's rights will remain in the public consciousness and some kind of resolution must be advanced and defended, even if it involves maintaining a separation between the two policy areas. Thus, even if the economic case for a linkage between trade policy and labor standards is weak, the political case may be overwhelming in the absence of alternative mechanisms for improving labor standards around the world.

In Section 2 I discuss the meaning of labor standards and provide a categorization for purposes of organizing later discussion. In Section 3 I analyze the operation of labor standards and their prospective linkages to trade policy, using partial-equilibrium and general-equilibrium trade theory. I focus particularly on the economic and trade impacts of limited labor protection.

Two primary questions are addressed.   First, does a policy of providing weak core labor standards improve competitiveness? Interestingly, in several situations this policy could actually *worsen* competitiveness and reduce exports.   Second, what are the effects of trade sanctions imposed by importing nations on countries that fail to adopt and enforce strong standards? In many cases such sanctions would be counterproductive in addition to being an indirect approach to the problem. I also indicate where further research would be most useful in clarifying the efficiency aspects of labor standards. In Section 4 I review the relevant international institutions influencing policies and thinking about labor standards and international trade. In Section 5 I draw some conclusions. The basic conclusion is that it would be a mistake to incorporate a clause covering rules on the provision of labor protection into the World Trade Organization (WTO). More appropriate and effective means of inducing changes in offensive practices are available, in principle.

2. Classifying Labor Problems and Labor Standards

It is useful to begin by describing the collection of problems in labor markets that are claimed to persist because of limited standards of labor protection. While it is fair to claim that these problems exist most prominently in poor countries, many of them persist in rich countries as well.

2.a Limited Protection for Workers' Rights

Exploitation of Child Labor

Children work in virtually all countries but the terms under which they work and the ages at which they are likely to enter the work force vary considerably across nations.   Richer countries tend to enforce more strongly their compulsory schooling laws, with mandatory schooling extending through a later age.   They also enforce minimum-age laws regarding working for commercial enterprises, but there are typically exceptions for family enterprises and farms.   Young workers in commercial enterprises are generally covered by minimum-wage regulations and sometimes are the subject of other protective regulations, including limitations on hours and night work.

Similar laws, perhaps with weaker provisions such as lower minimum age requirements, exist widely in poor countries.[1] However, these regulations tend to be less strongly enforced, in part because developing economies often have significant informal sectors in which regulations have little meaning or force. It is common for children to leave school before the minimum mandatory schooling is completed in order to enter the work force. Poverty generally means that families find the contributions of children to household income to be essential for subsistence. Accordingly, parents may pressure children to work at young ages. This problem is exacerbated

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[1]For example, the minimum working age in Egypt is 12 years.

if schooling fees are relatively expensive or if schooling is of ineffective quality. Of course, many children may not be members of intact families, placing them into a position of independent decision-making at an early age. For these children, work may be essential, even if it is dangerous street work.

That many children work in developing countries is well-documented.[2] For obvious reasons, data on this problem are scarce and fragmentary. The International Labor Organization (ILO) estimates that there are between 100 million and 200 million people under age 15 working in the world. Of these young workers, 95% are located in developing countries, with half of these in Asia. Child labor is estimated to make up 17% of the work force in Africa. Children rarely work in large-scale enterprises in the formal sector, except for assembly factories making labor-intensive goods (e.g., clothing and toys) in a few countries (U.S. Department of Labor, 1994). Rather, they are overwhelmingly located in agriculture (both family farms and plantations) and in informal-sector services, such as street vending, restaurants, domestic service, and sub-contracted manufacturing. Working conditions are often appalling, including long hours that interfere with schooling, hazardous and repetitive jobs, and meager pay. It is common in many countries for children to be apprenticed at very young ages in order to learn a trade, such as carpet-making and garment-sewing, but such apprenticeships can be long-lasting, often unpaid, and poorly monitored.

Bonded Labor and Slavery
Slavery is illegal throughout the world but still exists in some places.[3] More common is the related institution of bonded labor, in which people pledge their labor services for a period of time in order to discharge a debt. Often the time period becomes open-ended because the labor service is implicitly valued at no more than the interest on the debt, with the sustained principal becoming a *de facto* property right to workers. Further, there are reports that this form of forced labor can extend through generations because the debt is passed on from parents to children. Bonded labor is reported to be common in poor areas of Pakistan, Bangladesh, India, Thailand, the Philippines, and elsewhere.

Prison Labor
The use of prison labor is common throughout the world. Indeed, in many states in the United States prison work is seen as a key component of rehabilitation. The primary issues relate to the extent to which prisoners can choose not to work or to influence the conditions

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[2]This is a vast literature, much of it reported in the popular media. Extensive surveys are provided in U.S. Department of Labor (1992, 1994, 1995) and International Labour Organisation (1996).

[3]For example, as reported on National Public Radio (June 20, 1996), two reporters from *The Baltimore Sun* recently purchased two boys for approximately $500 in the Sudan, who were then set free. The reporters indicated that the Sudanese government encouraged members of its militia to consider people taken in villages in areas of insurrection to be their personal property as a form of monetary compensation for (otherwise unpaid) military service. There are also common reports, though little systematic evidence, of brokers buying or kidnapping children in rural areas of poor Asian countries and then selling them into prostitution, domestic service, and the like.

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under which they work, and the ways in which the output of prison labor is used. Regarding the latter issue, allegations are commonly made that products made by prison labor in poor countries in Asia, especially China, make their way directly or indirectly into commercial markets and exports.

Discrimination

Discrimination is the practice of setting different working conditions, access to employment, and wages for different laborers on the basis of some characteristic that is not evidently related to the ability to perform the work, such as gender or race. Again, prohibitions against discrimination are common in the world, but discrimination persists. At times the discrimination is sponsored by governments (e.g., job set-asides in the United States, ethnic preferences in Malaysia) in an effort to achieve some social goal. In the context of labor standards, however, complaints persist about discrimination in the marketplace, against which governments seem to take little action.

Absence or Repression of Organizing and Bargaining Rights

Workers are often limited in their abilities to form labor associations and to bargain with employers over wages and working conditions. Almost by definition, child workers and employees in the informal sector are prevented from doing so by the nature of the labor markets and enterprises in which they work. Even in the larger enterprises in the formal sector, however, organizing rights are often poorly recognized or enforced, while rights to strike can be seriously attenuated by government actions (OECD, 1996). Indeed, some governments view limitations on organizing rights in particular sectors (e.g., electronics in Malaysia) or within specially designated regions, such as export-processing zones (EPZs, common in China, the Philippines, Mexico, and elsewhere) to be an important component of export-promotion programs.

Poor Working Conditions

Weak standards covering child labor and organization rights may lead to the persistence of undesirable working conditions (long hours, unpaid and forced overtime, hazardous jobs in terms of injury and toxic exposure, inadequate provision of water, sanitation, and rest time, little health care or day-care) that are insufficiently compensated in wages. Such working conditions are common in poor countries, though they exist in impoverished areas of wealthy countries as well. Further important working conditions include how wages are set and whether a legislated, binding minimum wage is required.

2.b.   Classification of Labor Standards

A useful classification of labor standards is in Table 1, which is modified from Portes (1990). The first category, called "basic rights," constitutes elements that are widely claimed to enjoy universal acceptance as fundamental human rights. These elements include freedom from coerced labor (slavery and bonded labor), freedom from discrimination, and the absence of exploitative use of child labor. Indeed, they are recognized as human rights in various U.N.

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declarations that have been widely ratified, suggesting widespread acceptance of the principles involved.[4] As such, they comprise a set of minimum rights that all countries, regardless of economic situation or cultural values, are expected to provide in their labor legislation. There remains some gray area since definitions of what constitutes exploitation of child labor are not uniform across countries. Social conventions about the positions of persons of different genders and ethnic backgrounds in the workplace differ as well.

The second group constitutes "civic rights," which refer to labor's position vis-à-vis firm management. Again, it is widely accepted (and enshrined in the U.N. Declarations) that if workers are prevented from organizing freely and bargaining collectively with management, they are deprived of a crucial form of exercising choice in the workplace and of being protected from coercion. In this context, and defining exploitation of child labor as employment that in some substantive way does not involve free choice by the child and her family, the first two groups of rights are typically considered fundamental workers' rights that should be observed as a floor level of labor protection by all nations. In Sengenberger's (1995) terminology, these are "elementary standards." It must be noted, however, that considerable disagreement exists in different nations about the framework defining freedom of collective action by employees. For example, if employers are free to fire and replace striking workers the strength of employees' collective action is questionable.

"Survival rights" and "security rights" go on to define conditions of work that, in most instances, would be expected to improve worker well-being but do not refer to situations in which the worker is denied freedom of choice. Sengenberger refers to these as "substantive" standards and most analysts seem to agree that substantial discretion should be left to countries in selecting their levels to be consistent with levels of economic development and social choice. However, Fields (1995) argues that it is an act of compulsion for firms not to reveal the risk characteristics inherent in the jobs they offer to employees, so that information revelation should be considered a fundamental right of the worker. Other observers argue that the provision of effective occupational safety and health should be considered a fundamental right for labor. Still others point to the need for a minimum wage that provides at least a "living wage" for employees as a fundamental privilege of labor.

These considerations lead most analysts to posit a set of *core labor standards* (CLS) that are presumed to be incumbent on all countries to sustain and which are the focus of debate over their relationship to trade policy. A useful summary is provided by the OECD (1996):
>   1. Prohibition of slavery and compulsory labor, such as bonded labor;
>   2. Nondiscrimination in employment among genders, ethnic groups, and so on;
>   3. Prohibition of exploitative forms of child labor;
>   4. Freedom of association (the right to organize workers' groups);
>   5. Freedom of collective bargaining over working conditions.

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[4]Covenant on Economic, Social, and Cultural Rights (1966); Covenant on Civil and Political Rights (1966); Convention on Rights of the Child (1989).

That these provisions should be considered "core" or "universal" labor standards is justified in two ways. First, they reflect some shared global vision of morality, as suggested above. Since nearly all countries have recognized these rights as humane principles within the UN Declarations, they are often called "internationally recognized workers' rights." As discussed in Section 4, however, international ratification of related Conventions promulgated by the International Labor Organization (ILO) is far from uniform. This situation suggests that, while there might be widespread support of the principle of CLS, there is much less agreement over the need for, and form of, minimum international standards.

Second, these principles could underpin the efficient operation of labor markets. Except (perhaps) for elimination of exploitative child labor, observation of each of the other core standards removes constraints on choices facing laborers in the economy and also removes from employers access to anti-competitive employment practices. Accordingly, we would expect workers to be employed more efficiently than in the absence of CLS and for welfare to be higher.[5] These conclusions must be qualified in the case of freedom of association and collective bargaining, however. It is possible that the institutional framework of labor markets permits labor unions to introduce inefficiencies into the economy, including distortions in labor supply. Thus, the appropriate statement is that CLS raise efficiency if the underlying institutional framework does not encourage such distortions. In this context, the CLS operate as "framework conditions" in the labor market (OECD, 1996), without which the economy may not operate on the efficient frontier. Standards adopted beyond this level build upon this framework, depending on the particular economic conditions of each country.

Gray areas inevitably accompany issues of morality. The core labor standard that gives economists greatest pause is the exploitation of child labor. Prohibition of child labor under a certain age is problematic, despite the implicit assumption that young children are incapable of making informed decisions, both because sensible minimum-age standards surely would vary across countries, industries, and ownership structures, and because a mandated minimum working age imposes a constraint on children that fails to recognize the limited alternatives they may have.

Some treatments of child workers are universally condemned as exploitative, such as kidnapping, delivery into bonded servitude or prostitution, and work that imposes physical dangers that young children are incapable of handling. A broader definition would involve any activity that employs young children in long hours in dangerous conditions, or in jobs with excessive responsibility, or in ways that reduce educational opportunity, or in ways that limit social, psychological, and physical development. Such definitions have some economic justification to the extent that prohibiting such activity would improve the educational opportunities and health status of children, with a consequent important gain in dynamic productivity for the economy. However, these desirable outcomes may well not be the result of such a prohibition. It should also be recognized that decisions about child labor supply are

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[5]See Swinnerton (1996) for a basic analysis of this proposition.

typically made by families. An impoverished household could well find it rational to allow its children to work, even taking into account educational alternatives and market constraints. Hence, the inclusion of limitations on child labor as a core labor standard remains debatable, though I treat it as one.

It should be noted also that the efficiency gains from permitting collective bargaining depend on the objectives and practices of labor unions, as discussed further in Section 3. Thus, the *outcome* of protecting this core labor standard may not be economically efficient. Nonetheless, restrictions on organization and collective bargaining do prevent the exercise of a valid form of choice in labor markets. Hence, the inclusion of these rights as CLS is largely uncontroversial.[6]

In summary, core labor standards share two important characteristics. First, the principles they embody command universal respect as a matter of humane treatment of laborers. Second, their observance is capable of improving the choice set of workers, thereby enhancing both static and dynamic efficiency. At this level of analysis, there seems to be widespread international agreement, though there are numerous practical difficulties in giving form to these CLS, as the discussion in Section 4 will suggest.

2.c. International Trade Issues

That labor standards, working conditions, and employment practices vary around the world is clear. However, the main question underlying this report relates to the international economic implications of this fact. At this point, therefore, it is appropriate to set out the international trade issues that emerge.

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[6]Recognize, however, that resistance to rights to free association can be based as easily on political concerns as on economic inefficiency. For example, the Polish government resisted Solidarity because of its fear of that labor union's political agenda.

TABLE 1: TYPES OF LABOR STANDARDS

Type	Examples
1. Basic Rights	Right against involuntary servitude
	Right against physical coercion
	Right to compete without discrimination
	Right against exploitative use of child labor
2. Civic Rights	Right to free association
	Right to collective representation
	Right to free expression of grievances
3. Survival Rights	Right to a living wage
	Right to full information about hazards of job conditions
	Right to accident compensation
	Right to limited hours and work week
4. Security Rights	Right against arbitrary dismissal
	Right to retirement compensation
	Right to survivors' compensation

Source: modified from Portes (1990).

First, to the extent that individuals in different countries are bothered by the use of child labor and limited worker rights, there is a spillover impact across levels of national welfare. It is clear that the demand for strong labor standards rises with per-capita income (or economic development). Accordingly, one would expect some disutility among rich-country consumers as they become aware of labor conditions in poor countries. This altruism lies at the root of much of the current advocacy of strong international labor standards.

Also important are claims that limited labor standards in poor countries generate "artificially" low wages and contribute to the natural comparative advantage low-wage nations have in labor-intensive goods in international trade. This additional wage margin is then seen as a potentially important determinant of competition for unionized and/or low-skilled workers in the developed economies. This spillover through trade is viewed as a threat to employment and incomes of such workers.

It is feared that as trade expands with countries maintaining weak labor standards, competitive pressures will be placed on the higher-standards countries to relax their regulations. The notion is that multinational enterprises (MNEs) search the world for competitive locations to produce. In the context of labor-intensive goods, MNEs locate in low-wage countries; to the extent these wages are repressed by weak labor standards, jobs are displaced among low-skilled workers in the rich countries. Accordingly, authorities in the rich countries find it necessary to lower their labor-protection rights in turn in order to attract or retain employers, or to pay an economic price to sustain the higher standards.

Finally, these international impacts have resulted in growing calls for trade restrictions as a means of dealing with them. Those consumers who are bothered by production processes abroad sometimes advocate import bans in the offending products. Supporters of high standards see trade restrictions as a means of sustaining the standards or limiting the price of sustaining them. A more sophisticated variant of this argument is that trade restrictions could simultaneously reduce opposition by local firms to raising home standards and increase the incentive for foreign firms and governments to enact higher standards abroad for fear of losing market access (Anderson, 1995; Steil, 1994). And there seems little doubt that, to some extent, proposals for placing trade barriers against exports of low-standard countries are an effort to sustain incomes of unionized and/or low-skilled workers in the rich countries.

It is also argued that an international trade agreement covering labor standards would help maintain broad support within the rich countries for the multilateral trading system. In this view, failures by exporting countries to implement CLS constitute an unfair trade practice that erodes confidence in the system as consumers become more aware of the issue and competing workers come under greater pressure. A trade agreement could convince workers in high-standards countries that they are not competing with workers who face deficient CLS. This might raise the former group's support for freer trade. In this context, the main international trade issue becomes whether and how to incorporate into the World Trade Organization (WTO) rules on labor standards. This is a complicated issue in itself, to which I devote considerable attention in Section 4.

2.d. *The Particular Case of Export Processing Zones*

Many of the arguments made above refer particularly to the operations of firms in export processing zones (EPZs). Because this issue is controversial, it is important to consider the evidence early in the report.[7] Further analysis is provided in Section 3.

EPZs (also called Special Economic Zones, Duty-Free Zones, Industrial Free Zones, and Maquiladoras, among other names) exist in over 70 developing countries. A useful definition is provided by UNCTAD (1993, p. 5):

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[7]See UNCTAD (1993), Warr (1987), and Johansson (1994).

"The definition of an EPZ which conforms most closely to the original concept is that of a well-defined geographical area, enjoying customs privileges and other incentives, in which the primary activity is processing of goods for export."

According to UNCTAD, the main objective of governments in establishing EPZs is to attract FDI in order to promote manufacturing exports, generate foreign exchange, and create employment for cheap, low-skilled labor in depressed regions. It is hoped that EPZs will attract new technologies and impart better management techniques to local workers, along with improved work skills. Countries also point to the possibility of backward linkages to domestic supply sources and sub-contractors. To achieve such goals, the EPZs offer streamlined approval for FDI projects, public financing of facility upgrades and infrastructure, fiscal incentives, including lower taxes and input and production subsidies, and tariff rebates on imported intermediates. The formation of EPZs has also been encouraged by tariff preferences in the United States and the EU.

EPZs overwhelmingly involve assembly operations for export. EPZs attract primarily highly labor-intensive activities, including apparel, textiles, footwear, electronics assembly, some types of food processing, and data-processing services. However, industrial firms in less labor-intensive sectors exist in EPZs as well, including pharmaceuticals. Employment for assembly is dominated by female workers; UNCTAD (1993) claims that 70-90% of employees in EPZs in developing countries are female. Labor turnover is rapid as females leave for marriage or move on to better employment.[8] Unionization rates tend to be low, both in countries where governments actively discourage union organization and strike rights (OECD, 1996) and in countries where such rights are protected. The latter observation points to the inherent difficulty in organizing workers from an elastic labor pool with high turnover rates. Wages and conditions of work vary considerably by country and industry. Where problems with low wages and hazardous working conditions are frequent, the problem seems more to be one of inadequate inspection and enforcement by the authorities, rather than limited national labor laws.

There are cases, however, in which governments choose to suspend or modify labor laws inside EPZs in the evident hope that this limitation on labor rights will attract investment. There is no systematic evidence that this policy is effective or ineffective. Finally, the notion that firms in EPZs are exclusively owned by foreign capital is misleading. Currently over two-thirds of such firms are locally-owned or joint ventures between local and foreign capital. It is clear that the primary inducement to such FDI is the pool of low-wage, trainable labor. According to UNCTAD, these firms are far less "footloose" than is commonly supposed.

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[8]According to Romero (1995, p. 249), many workers tend to view jobs in the EPZs as a "stepping stone to better employment opportunities and career prospects elsewhere."

Wages and Hours

The preponderance of evidence indicates that firms in EPZs pay higher wages and offer less onerous working conditions than do firms in the remainder of the country. The OECD (1996) reviews evidence that wages in EPZs tend to be higher than those outside EPZs. Romero (1995) also cites ILO surveys that find wages and benefits are generally higher in EPZs than outside them, although this depends on the industrial activity, particular company policies, and the country of location (including that country's labor laws). At the same time, critics of weak labor standards have claimed that wages (and benefits) are lower in EPZs, and working conditions are worse, than in the rest of the formal economy.

Romero (1995, p. 253) notes that "there are several reason why average wages in EPZs are generally higher than those outside the zones." These reasons include:

a. Firms in EPZs tend to provide productivity incentives (payments for piece work) and overtime bonuses (note, however, that critics charge that excessive piece-work targets are abusive);

b. Firms in EPZs tend to be considerably larger than like firms outside the EPZs. Pay scales and working conditions tend to rise with firm size due to scale economies in both outputs, affecting wages positively, and in organization of benefits and also to the fact that large firms are more likely to be regulated effectively;

c. Company policies in foreign-owned firms and joint ventures often call for higher wages and better working conditions than in the surrounding economy, evidently because such firms desire to attract and train semi-skilled workers and because such firms tend to be bound by their headquarters into "best practices" in labor standards (this is most likely if the headquarters firm is from an OECD nation);

d. Wages tend to rise within EPZs more rapidly than in firms located outside the zones during periods of labor shortages;

e. Some countries have set higher minimum wages in EPZs than elsewhere in the belief that this would help establish more stable and productive work forces.

There are at least two other reasons why wages in EPZ firms would exceed those in firms in surrounding areas. First, competitive pressures in labor markets force firms in EPZs to pay a compensating differential to entice workers to move into the area. Second, because such firms produce for export they face pressure to maintain higher product quality. To induce more sustained effort from workers and to avoid shirking these firms likely pay higher wages than firms producing for the domestic market.[9]

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[9]Aitken, et al (1996) provide evidence that MNE subsidiaries in Mexico and Venezuela pay higher wages than local firms in similar industries.

Finally, it is critically important to note that if firms in EPZs attempted to suppress wages below equilibrium levels, they would face constraints in attracting labor, as the models in Section 3 demonstrate. The impact would be to reduce employment, output, and competitiveness, rather than to raise them as is often claimed.

However, there are also cases in which EPZ firms have been found to provide pay levels that are inferior to those of comparable local enterprises. This appears to happen both in countries with liberal wage policies and in those with minimum-wage legislation. Reasons for this phenomenon appear to include:

a. Minimum wages are not enforced within EPZs or lower minimums are set;

b. Limited trade union rights inhibit collective bargaining within certain EPZs (presumably this situation must coexist with stronger rights elsewhere in order to support lower EPZ wages);

c. Inspection procedures are lax in many nations.

Neither Romero (1995) nor UNCTAD (1993) mentions the existence of barriers to labor migration between EPZs and the remainder of the country. It is often alleged that national or local labor regulations (location permits, identification cards, and guarded fences) make it difficult for workers to enter or exit industrial enclaves. I found no credible analysis or systematic evidence that this is true. However, given the preponderance of evidence that wages are higher in EPZs, presumably such restrictions exist to limit entry of workers, rather than to force them to remain in the area.

Union Rights

Romero (1995, p. 259) claims that workers in virtually all EPZs in the world have a legal right to form and join trade unions In fact, a strong majority of countries that host EPZs have also ratified ILO Conventions number 87 and number 98, which cover association rights (see Section 4). In some countries unionization rates in EPZs are little different from the general economy, while in a few the rates are higher. Overall, however, EPZs tend to experience low unionization rates, both because of the difficulty or organizing such labor forces and due to lax enforcement of organizing rights. Again, some countries exempt or relax their labor laws from application in EPZs (Malaysia, Mauritius, and Zimbabwe are examples). Rights to strike are attenuated in some countries by imposing compulsory arbitration, declaring EPZ industries as "essential" or declaring EPZs to be strike-free zones (OECD, 1996). It also appears that in some EPZs where union rights are protected and wages and working conditions are better than average, employees prefer not to join or form unions for fear of being pushed into the remainder of the economy.

Occupational Safety and Health (OSH)

There is a strong positive correlation between the adequacy of working conditions and the presence of foreign firms, who tend to follow higher standards (especially firms from OECD nations) and to collaborate effectively with local labor authorities. There are exceptions, however, and these exceptions tend to be concentrated in low-skilled, labor-intensive assembly operations with an elastic labor supply and lax government regulations and enforcement. Thus, conditions tend to be worst in garment and gem-cutting firms owned by locals and may be only slightly better in those activities in joint ventures and foreign-owned firms. In some countries, OSH laws are outdated and do not adequately protect workers. The frequency of accidents is also related to average age of factories. Finally, information about true hazard rates is not often well circulated within countries that have lax enforcement. Accordingly, complaints about OSH conditions are frequently lodged against nations in which OSH laws apply on paper to EPZs. It also seems that OSH conditions are more adequately revealed and compensated in EPZs in which union rights are recognized. Thus, to some extent the claim that FA rights provide a framework for ensuring efficiency-enhancing job practices is supported in EPZs.

3. Analysis of Labor Standards and Trade

My purpose in this section is to set out a series of hypotheses about trade and labor standards and to develop models that help clarify thinking about them. The primary analytical focus is on the question of whether and how deficient CLS affect economic competitive advantage and trade. For this purpose, prevailing standards are taken as exogenous to each model. Results are summarized in the text, while the models themselves are presented in Annex One. The analysis is complementary to that in OECD (1996) and Brown, Deardorff, and Stern (1996), but several additional points are addressed here. Important among these are a treatment of child labor use dealing with external costs, an analysis of discrimination under constrained markets, and a study of union rights in a distorted labor market. Moreover, I consider the effects of various policy proposals, which are not the focus of the other studies.

Before considering specific models, it is important to note briefly that labor standards are endogenous outcomes of economic and political processes. There is widespread agreement that labor standards rise endogenously as income rises, along with some compelling evidence to that effect.[10] There is room for research in this area because to date there are only simple correlations that provide little guidance (OECD, 1996). Labor standards naturally vary across countries, depending on such factors as endowments, income growth and culture (Srinivasan, 1996). In this context, there seems little room for arguing for harmonized global standards, assuming that

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[10]Several analysts point to the experience in the East Asian newly industrializing economies of rising real wages leading to improved bargaining rights (with or without fundamental FA rights provided) rapidly in the last two decades. The case is not definitive (World Bank, 1995 and OECD, 1996), however, Rama (1995) discovers that an aggregate indicator of labor-market interventions in Latin American nations rises with per-capita GDP. Careful histories of labor legislation in the United States and Europe would likely support the same conclusion.

national standards reflect underlying social preferences. Neither does the existence of varying standards alter the case for mutual gains from free trade based on comparative advantage (Srinivasan, 1996; Stern, 1996; Bhagwati, 1995; Casella, 1995).

At the same time, market distortions and political imperfections may interfere with the standards-setting process (Maskus, 1996). For example, limited CLS are possible as equilibrium outcomes in distorted economies. In turn, the imposition of CLS may or may not improve welfare and may not be the first-best approach (Bloom and Noor, 1994). If the analysis goes on to incorporate political-economy problems, it becomes easier to explain denial of CLS. Models based on rent-seeking behavior could support outcomes with monopsony employers protected by limited product-market competition and deficient CLS on the input side. Thus, it seems that political imperfections strongly raise the likelihood that CLS will not be adequately provided in distorted economies.

I turn now to a series of theoretical models regarding core labor standards and trade. While in each case, I remind the reader of the endogeneity of CLS, I treat them as exogenous parameters in the trade models. These models are not exhaustive but they do make several points about the role of deficient labor standards and point toward effective policy solutions. Results of the models are summarized in the text while the models are found in Annex One.

3.a. Exploitation of Child Labor

Standards for protecting child workers, or minimum-age regulations, may be expected to rise with income levels and educational attainment. They also should rise as economies shift from agrarian societies to having a larger share of manufacturing in GDP, because manufacturing activities tend to require greater labor skills. This latter process strengthens as the manufacturing sector shifts out of low-skill, labor-intensive production into more complicated activities. Thus, preferences for higher minimum educational attainment (and, therefore, minimum working ages) expand with output mix and per-capita incomes.

San Martin (1996) demonstrates that labor-force participation rates by children aged 10-14 decline significantly with GNP per capita. Participation rates are also negatively correlated with school enrollment rates, measured by the percentage of children reaching 5th grade across a sample of 54 countries. Grootaert and Kanbur (1995) review evidence strongly suggesting that, among children aged 15 or younger, participation rates rise with age. Boys are more likely to be involved in market work and girls are more likely to be involved in home work.

There is a large literature on the determinants of child-labor supply, as reviewed by Grootaert and Kanbur (1995). Children enter the market as a result of household decisions regarding consumption, fertility, and time allocation subject to budget constraints.[11] In this

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[11]Goldin (1979) and Horrell and Humphries (1995) find similar processes regarding child-labor use in the United States and the United Kingdom during 19th-century industrialization.

context, the most important influences on the amount of child labor include parents' educational levels (especially the mother's), parents' income, and overall household income. Particularly important is the mother's income. A rise in the mother's income has both a substitution effect (causing children, especially daughters, to perform more home work and attend less school) and an income effect (freeing up resources to educate children). The income effect may be expected to dominate as household income grows, though there is little evidence about the level at which this typically happens. In Egypt, the cross-elasticity of supply of children with respect to female employment ranges from -1.5 to -3.0, suggesting that higher female wages sharply reduce the supply of young workers (Levy, 1985). Also important are fertility decisions, with large families tending to provide more child labor,

Viewed in the household context, the existence of child labor largely reflects poverty, a point on which there is wide agreement. A related aspect is that poor households may face significant risks of catastrophic declines in household income due to poor harvests or parent layoffs from employment. Accordingly, there is a valid self-insurance strategy implicit in encouraging children to work.

The quality of education available and its costs are further determinants of labor supply for children. San Martin (1996) shows that labor force participation rates among children aged 10-14 years rise with the primary-school student-teacher ratio across countries. In some regions, work in the informal sector may be considered better training for adulthood than school attendance, given the inadequacy of schooling (Bonnet, 1993). Regarding costs, San Martin (1996) cites studies that show that outlays for books and a school uniform for one child can command as much as one-third of a family's income, providing a strong disincentive to enrollments. However, there seems to be a positive and elastic response of enrollments to reductions in schooling costs.

Thus, a critical determinant of child-labor use is household decisions to educate children. In Model A.1 in Annex One, I develop a simple model of schooling choice, in which a representative household maximizes two-period utility over two goods: food, which has a minimum consumption requirement, and other goods. If children go to school, which entails a first-period cost, they receive a higher second-period wage, with the premium depending on the productivity of education. In the model, demand for education falls with a rise in the cost of education and an increase in the minimum food consumption requirement. It rises with the productivity of education. Demand also depends on the (uneducated) adult wage, the discount rate, the stock of first-period children, and commodity prices. An equilibrium Euler equation generates an equality at the margin between the child-labor wage and the net return to education less the cost of education. While the model is simple, it points out that the most direct means of raising incentives for attending school include raising current adult (parent) wage, reducing the costs of education, and raising the productivity of education.

The demand for child labor is, in the first instance, derived from product demand. Beyond this, primary determinants of child-labor demand stem from aspects of labor-market structure (Grootaert and Kanbur, 1995). Important characteristics include substitution

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possibilities between child labor and adult labor, monopsony hiring practices, the length of apprenticeships, and segmentation between the informal and formal labor markets. Regarding the last factor, child employment is scarce in the formal sectors of any economy. However, economic activity in the formal sector can strongly affect child-labor demand through sub-contracting of assembly work to households and small enterprises in the informal sector. Finally, technical change has strong effects on the demand for child labor to the extent that machines replace the need for small bodies and nimble fingers.

Some important implications of limitations on the use of child labor are worked out by Brown, Deardorff, and Stern (1996; BDS) and OECD (1996), though their focus lies more on general effects of mandated reductions in labor supply than on child employment. They assume that all workers are perfectly substitutable, that exports are labor-intensive in a Heckscher-Ohlin framework, and that no distortions exist. In this context, a higher minimum working age would have simple Rybczynski effects, causing a reduced trade volume at fixed international prices. The interesting conclusion is that if the standard-adopting nation is large, the fall in trade volume would improve its terms of trade and worsen the terms of trade of its trading partner. BDS point out that this implies we should observe developing (or labor-abundant) countries adopting excessively strong CLS and developed (or labor-scarce) countries adopting excessively weak CLS, each measured relative to its own optimum without accounting for term-of-trade effects. Accordingly, there may be some need for international policy coordination, though the authors do not advocate harmonization. While this result is interesting and potentially important, it surely would surprise those advocating the adoption of stronger labor standards in poor countries, where such standards are seen as inadequate, rather than excessive in any sense. Proposals to levy tariffs against poor-country exporters do not evidently stem from a desire to offset terms-of-trade losses associated with CLS in those countries.

BDS and OECD do not attempt to capture aspects of the exploitative use of child labor specifically for output and trade. I develop a simple model for this purpose.[12] In the literature, the word "exploitative" is defined in numerous ways. The analytical definition taken here is that children are employed beyond a socially optimum level, where the social optimum reflects preferences for minimum-age standards. That is, the utility function incorporates tastes for child safety and education. I distinguish between private valuation for the working-age standard and its social valuation. The private valuation does not incorporate any social external effects of inappropriate standards. This idea relates to a negative externality: if children younger than the market-determined age were prevented from working, social utility would rise. One justification for this view is that people suffer a psychic loss from exploitation of child labor but the market is incapable of adequately revealing these losses and incorporating them into prices. Another is that young children may be forced by their families to work rather than to remain in school. Poor families could choose to do this in order to maintain subsistence living standards; the essence of poverty is an inability to defer consumption in order to invest in human capital.

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[12]The model is a component of a general-equilibrium specification of child labor standards in Maskus and Holman (1996).

However, a static externality arises to the extent that poorly educated young people make poorly trained citizens. A dynamic externality (unmodeled here) arises to the extent that the economy's future income growth is retarded by inadequate schooling rates now.

Consider a small open economy that produces an adult-labor-intensive exportable final good X and a capital-intensive importable final good Y. The country also has a non-traded informal sector that produces an input (N) into the X sector. This informal-sector output is produced only by child labor. Thus, the informal sector produces a service directly for use in the export good. This idea is meant to capture the phenomenon of sub-contracting by exporting firms with enterprises in the informal (unregulated) sector. Changes in demand for the export good translate directly into changes in demand for child labor.

Let the supply of child labor into sector N be a rising function of the child wage, as in Figure 1 below. This assumes that the substitution effect of child wage changes dominates any income effects. If income effects dominated, a higher wage would induce children to opt for more leisure, home work, and education, which decision would be made in a household optimizing framework, but I ignore that case here.[13] To capture the linkage between household income and child-labor supply, I make this supply curve a negative function of the adult wage. That is, a higher adult wage induces parents to remove some of their children's labor services from the market in favor of schooling, as explained above.

The demand for child labor depends negatively on the wage and positively on output in sector X. A negative demand-side externality is depicted by placing curve D^{op} below the market demand curve D, with the difference between them reflecting the unpriced disutility costs from child employment. In this context, standards and policies reducing exploitative child labor practices are treated as a public good in that they appear identically in the utility functions of all households (Stern, 1996). In Figure 1, the marginal worker at market equilibrium point A is the youngest worker, with other child workers (e.g., those below age 17) arranged from the origin in descending order of age. Because all child workers are substitutable, the youngest would have the highest reservation wage because she would have the highest opportunity cost from not attending school. This assignment of ages facilitates interpretation of policies.

This discussion presumes that children removed from the labor market are no longer exploited (for example, they revert to the status of unpaid household members adopting leisure or household work) or that they enter education for longer periods of time. In practical terms, however, these positive outcomes of a stronger child labor standard are not assured if the displaced children are forced into activities that are less desirable than producing an input for the formal sector. Such activities could include living on the streets and engaging in crime and prostitution. More simply, they might be forced into other informal activities that might be

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[13] A backward-bending child-labor supply curve would raise the interesting possibility of multiple stable equilibria, pointing policy toward trying to shift from a high-employment, low-wage equilibrium to a low-employment, high-wage equilibrium, as discussed in Basu and Van (1996).

subject to even more abuse. In this context, it is conceivable that the externality is positive, suggesting that a stronger labor standard would worsen social utility.

w_c

S_c^B $S_c(w_c;w_a)$

E

w_c^B
w_c^0
w_c^{op}

A

D

F

G

$D_c(w_c;X)$

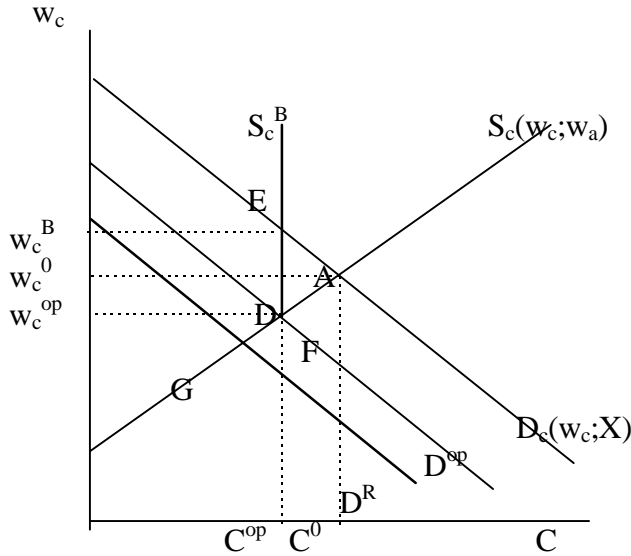D^{op}

D^R

C^{op} C^0 C

Figure 1: Market for Child Labor

In Figure 1, the market equilibrium at point A generates excessive child employment in the amount $C^{op}C^0$. A tax imposed on child labor use sufficient to reduce the demand curve to D^{op} would achieve the social optimum at point D.   Note that this solution involves a lower wage for children who continue to work, because the private valuation of child workers at A had exceeded the social evaluation (see point F). Revenues from this tax could be devoted to ensuring that the external benefits of removing the youngest workers actually ensue, with the most obvious programs being educational assistance and enhanced schooling opportunities. Net social gains from this first-best intervention would be the area DFA.

Taxing child labor use in the informal sector may be impossible. A second approach would be simply to ban the use of child workers below age C^{op}, thereby erecting the vertical child-labor supply curve S_c^B. The difference between these policies is that now the wage of remaining child workers would rise to w_c^B, implying that a wedge remains between private and social valuations of children workers at points E and D. A tax on these rents would yield a result equivalent to the direct tax above, though it is no more practical in this case. A ban on too-young employment in the informal sector may be equally unfeasible, though it depends on the quality of inspection efforts. Particularly important in this regard would be effective truancy programs

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The difficulties in enforcing regulations in the informal sector suggest a search for alternative, though indirect, policies. In this simple model, three possibilities arise. First, efforts to raise adult wages should reduce child-labor supply, with the extent of this shift dependent on the elasticity of supply with respect to adult incomes. However, unless these are lump-sum transfers to adults with young working children, numerous difficulties would arise in implementation. For example, subsidies to all adult workers would affect adult labor supply and could distort output decisions. Second, since demand for child labor is directly dependent on output in the X sector in this model, the government could impose a tax on X output sufficient to produce the desired reduction in derived labor demand in Figure 1. The difficulty here is that the tax would impose a secondary distortion through altering the producer price of X.

A third possibility is that the rest of the world (ROW) could act to influence child-labor demand. Much of the controversy over labor standards surrounds the fact that individuals in wealthy countries might be negatively affected by limited labor standards in poor countries. The model provides a consistent way of incorporating one such spillover. Suppose that ROW considers the country's minimum-age standards to be deficient. That is, ROW's utility function also exhibits tastes for reducing child labor use in its trading partner. In Figure 1, I assume that ROW has stronger preferences to do so than does the country itself, so that from ROW's standpoint the appropriate demand curve is D^R.

Two ROW policies could be considered: an import tariff on X and a lump-sum tax that ROW levies on itself for purposes of compensating the country to remove underage workers. A tariff calibrated to reduce X exports sufficiently to shift labor demand to D^{op} would result in the appropriate level of child employment, from the exporting nation's viewpoint, but would impose standard efficiency costs from the tariff and worsen the country's terms of trade. A larger tariff to achieve demand curve D^R would exacerbate these problems in addition to reducing child employment excessively and further lowering the wage of children workers. Thus, remaining child laborers bear a portion of the burden of ROW's tariff. This solution is not optimal from the exporter's standpoint since it maintains a wedge between private and social valuations of child workers, generates no tax revenues, and imposes efficiency losses from the tariff. There is a utility gain to ROW from reducing child employment, but ROW has not paid for the utility gain.

A global social planner would instruct ROW to pay compensation for inducing the exporter to select an excessive labor standard. In principle, this could be achieved by transferring the tariff revenues (or, equivalently, convincing the poor country to impose an export tax on X). However, trade taxes are inefficient means of accomplishing social goals of this type. A less distortionary means would be for ROW to transfer revenues from its general budget. Since this policy is not a trade tax, it would not necessarily affect demand for X, and therefore for child labor, in the exporter. Rather, it would be paid to induce the latter to adopt a higher minimum working age.

One important linkage that is missing from this partial-equilibrium model is that changes in the child-labor market affect adult-labor wages, which feed back into the child-labor supply.

Sector X, which is adult-labor-intensive, is the only user of good N. In general equilibrium, a rise in the cost of the intermediate input reduces X output and lowers the real wage of adult laborers.[14] In turn, there would be some increase in the child-labor supply curve, to some extent offsetting the impacts of a tax or ban on child labor. Note that a ROW tariff on X would directly reduce the adult wage through Stolper-Samuelson effects, also expanding child labor supply, though the reduction in child wage would mitigate the tariff's effect somewhat through a lower intermediate price. Such effects, governed by the elasticity of child-labor supply with respect to the adult wage, are crucial in calculating various policy approaches. With a highly elastic response, for example, it is conceivable that net child employment would rise after a ROW tariff is imposed.

The simple theory presented here generates the results listed in Table 2, which presents qualitative predictions for key variables in cases where the export good, X, intensively uses the intermediate input produced by child labor, as discussed above. It also considers cases where the import good, Y, does so. If the latter situation holds, the ROW tariff could actually raise child employment by pushing resources into the Y sector. While this may seem unlikely, it does point to the need for careful assessment of the inter-industry structure of employment linkages. The rows marked "ROW Compensation" assume that the rest of the world pays the exporter to adopt a higher minimum working age.

The analysis suggests that international compensation is, in principle, an effective route to reducing child labor employment in line with tastes in developed countries. However, a major difficulty lies in the external nature of the benefits of higher labor standards. Consumers in both the exporter and ROW are liable to free ride on these gains, suggesting that revealing their preferences for higher standards could be problematic. Thus, extracting these compensatory taxes could be impossible. Moreover, costless transfer of the payments may not be possible; political failures and transactions costs in both countries could inefficiently absorb some or all of the revenues, with little impact on labor demands.

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[14] This is easily seen with the use of value-added isoquants in goods X and Y; in fact all that matters for this result is that X intensively uses N relative to Y.

Table 2. Impacts of Policies to Correct Inadequate Minimum-Age Standards

Panel A: Good X is N-intensive

Policy	Externality	Child Empl.	Child Wage	Adult Wage	Exports
Tax on Child Labor	Corrects	Lower	Lower	Lower	Lower
Higher Minimum Age	Corrects	Lower	Higher	Lower	Lower
Tax on Intermediate	Corrects	Lower	Lower	Lower	Lower
ROW Tariff	Overcorrects	Lower	Lower	Lower	Lower
ROW Compensation	Corrects	Lower	Higher	Lower	Lower

Panel B: Good Y is N-intensive

Policy	Externality	Child Empl.	Child Wage	Adult Wage	Exports
Tax on Child Labor	Corrects	Lower	Lower	Higher	Higher
Higher Minimum Age	Corrects	Lower	Higher	Higher	Higher
Tax on Intermediate	Corrects	Lower	Lower	Higher	Higher
ROW Tariff	Does not correct	Higher	Higher	Lower	Lower
ROW Compensation	Corrects	Lower	Higher	Higher	Higher

Such difficulties call for developing mechanisms that can be more directly aimed at efficient compensation and preference revelation. Among these might be:

1. Product-labeling schemes. Providing information on the production process (including use of child labor) in products helps reveal information to consumers. If they value higher standards they should be willing to pay some price for this information (through higher product prices), which should in principle be higher than the cost of providing the information. The excess could be used to promote training and education programs. However, there are conceptual difficulties with this approach, which I discuss again later.

2. Targeted educational programs. Since the utility spillover discussed above relies on the belief in ROW that child workers will gain from being removed from the labor market, it seems incumbent that these alternatives actually are made better.

Compensation payments aimed at improving schools and broadening school access are appealing.

3. Poverty alleviation. The decision of parents to allow children to work largely reflects the essential contribution of children wages or effort to family income. A direct means of inducing decisions to keep children in school (and out of the workforce) longer is to increase parent incomes through poverty reduction programs and employment creation.

Practical mechanisms for implementing these approaches are not always straightforward and effective. At this point I note the strong conclusion that the most effective way to reducing child labor problems is to improve educational access and the effectiveness of education. Most particularly, impoverished countries could be urged to develop primary educational systems and provide more schooling opportunities, through some articulated minimum school-leaving age that is monitored by a truancy system. To avoid imposing additional costs on families, school fees and book charges might be reduced or subsidized and compensation might be enacted through direct payments .

Some observers might object to the notion of pinning the need for government intervention to the existence of a demand-side externality. An alternative source of market failure in poor countries is the inability of capital markets to provide short-term finance to impoverished families in the event of falling income, forcing them to place their children into work for the self-insurance motive discussed earlier.[15] In terms of Figure 1, ignore the externality but imagine that the supply of child labor depends negatively on the depth of capital markets. As financial markets deepen, the supply of children shrinks and, in this case, it is likely that children withdrawing from the workplace attend school. This interpretation of the child-labor problem points toward government efforts to improve access to short-term borrowing for poor households. Another interpretation is that there is a failure in the education market related to inadequate and high-cost schooling, making the private return to education lower than the social return (Grootaert and Kanbur, 1995). In this case the market supply curve is again too far to the right. The first-best policy in this case is to improve the quality of schools and raise access to education.

These ideas come through in other models of child-labor use as well. For example, Melchior (1996) presents a simple model in which children are a specific factor in a low-skill export sector, capital is specific in a high-skill import sector, and adult labor is mobile between them. Comparative statics in the model rest on the assumption of specific factors. For example, a partial ban on child labor removes some of them from the workplace, generating less output in the export sector, more output in the import sector, and a higher wage for remaining children workers. A foreign tariff reduces demand for children workers, though he argues that because a tariff does not discriminate between firms that use child workers and those that do not, it is a

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[15] I am grateful to Ann Harrison for pointing this out.

blunt and potentially ineffective instrument. He argues also for raising consumer information through product-labeling schemes.

3.b. Discrimination

Labor-market discrimination can be based either on limited wages or restricted employment, or both, of workers on a basis other than productivity.   Labor economists view discrimination as sustainable in equilibrium in competitive markets because it arises in the utility functions of employers. Employers are willing to sacrifice some profit in order to meet their demand to discriminate.[16] In equilibrium the loss in profits just offsets the gain in psychic utility from discriminating. A related notion is that fellow workers feel disutility (are prejudiced) if they are asked to work with members of a particular group. Such feelings affect cost functions and result in lower wages for the disliked group unless employers succeed in establishing a segregated workplace.

Because tastes for discrimination are given in utility functions, economists tend to ignore the sources of these tastes for prejudice and focus on their effects on employment, wages, and output (Cain, 1986).   Economists also can point out least-cost approaches to reducing discrimination. However, because discrimination is thought to be widespread in developing countries, particularly against female workers, it is worth briefly discussing its source. A full treatment would require an extensive sociological analysis. It is conceivable that cultural and religious customs generate a preference to discourage women from entering work , to pay them less for equal or comparable work, and to segregate men and women. This situation leads to economic discrimination in Becker's sense, though some would dispute the cultural meaning of the term.

Perhaps more likely is the existence of "statistical discrimination," (Thurow, 1975) in which there is no intent to discriminate but employers perceive that female workers have lower expected productivity than men because of different group characteristics. For example, if traditions of work suggest that women are more likely to leave employment than men, the perceived marginal product of women could be less than true marginal product for particular females. This possibility seems particularly relevant for poor countries with substantial entry of women into the workplace occurring only recently.

Both sources of discrimination result in reduced demand for female workers that can be sustained in competitive markets until social mores and work traditions change or until more precise signaling mechanisms become available in labor markets. Again, it is clear that to an important degree standards for protection from discrimination are endogenous to economic development, work needs in the labor market, changing output mixes, and educational attainment of women.

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[16]Oaxaca and Ransom (1994), Cain (1986), and Becker (1971).

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Discrimination in Competitive Markets

Here I discuss some simple, partial-equilibrium models of the competitiveness effects of discrimination against women. Suppose first that labor markets are competitive and there is sectoral wage discrimination. In Figure 2, consider the market for female labor (or any group experiencing discrimination) in a particular industry, which is initially in equilibrium at wage w^*. Assume that the government mandates discrimination against women or that employers prefer to do so by setting a maximum wage of w'. This wage is below the market-determined wage and below the marginal value product of female workers. A simple analysis that focused solely on the demand side might conclude that employment and output (and hence competitiveness in product and export markets)

Figure 2. Implications of Discrimination Against Female Labor
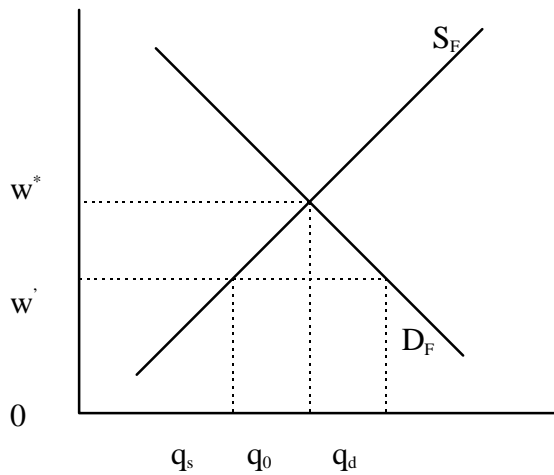
would rise, generating employment of females at q_d. However, in such a disequilibrium situation, the short side of the market determines employment. Here, the market would be supply-constrained because some women are forced out by the lower wage. The distance $q_s q_d$ becomes excess demand for female labor. In this simple case, employment, output, and competitiveness would all fall, rather than rise, in the affected sector.

If there were another, unregulated sector in the economy, the labor forced out of the first market would flow into the unregulated sector, driving down female wages there. In equilibrium the latter wage must be driven to w' or less in order for the original sector to retain any of the employees being discriminated against. If this condition is satisfied, the resulting outcome will be stable, indicating that sectoral wage discrimination against women in the primary market will reduce female wages generally and increase output and competitiveness in the residual sector. This final outcome is different from the concern that appears to have motivated worries about export competitiveness through wage discrimination. The intersectoral mobility of labor would

also tend to raise the male wage in relation to its prior level. This is evident if there are two factors (male and female labor) and fixed output prices in a small open economy.

The discrimination represented in Figure 2 can be generated by employer prejudices against women, with the margin of discrimination (w^* - $w^'$) determined by the least-prejudiced employer under constant costs.[17] In the long run, however, it is inconsistent with rational behavior by employers. Thus, unless tastes for discrimination remain unabated in employers' utility functions, it would be profitable for them to pay more than the discriminatory wage rate to secure the services of an additional worker, whose marginal product is above $w^'$. In this context, such tastes might be expected to diminish because of this profit incentive or we might expect to see entry of entrepreneurs with less prejudice. If the discrimination is associated with poor information about productivity of employees, incentives should emerge to improve the accuracy of such information. One conclusion is that governmental efforts to reduce discrimination should raise market efficiency.

Considering trade, export volume falls if the discrimination is in the exportable sector but import volume rises if it is in the importable sector. In Figure 2, suppose the industry depicted is the exporter and the residual sector competes with imports. A tariff lodged by ROW in protest would shift down the demand for female labor in the exportable. This would have no effect on women if the discrimination is stated in terms of a fixed wage (unless the falling demand renders the constraint nonbinding and wage falls) but would harm women if discrimination involves a fixed wedge below the true demand curve. If discrimination lies in the import-competing good, the ROW tariff on exports would reduce demand for women in the (residual) exportable sector, tending to reduce female wage in both goods below its constrained level. In this model, then, a foreign tariff could not help women and could harm their position, unless it induced some reduction in legislated or preferred discrimination.[18]

The prior model assumed a fixed supply of female workers in the economy. If female labor supply has positive elasticity, however, economy-wide discrimination would affect the production frontier. Here I describe results from a two-sector general-equilibrium model that is provided in Annex One (Model A.2). Suppose that both (all) sectors of the economy agree to offer a wage below the non-discriminatory equilibrium to women. This would be the case if there is national government-mandated discrimination or uniform preferences to discriminate across all firms. The effect would be to reduce aggregate employment of women, shifting in the production frontier, with the displaced women being forced into home work or leisure. This shift would tend to reduce output in the female-labor-intensive sector (say X) and to raise output in the male-labor-intensive sector (Y). The result is reinforced by the relative increase in the

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[17]Cain (1986) discusses this condition, which depends on competition, free entry, and constant costs. The discrimination margin is different from the "exploitation margin," which would be the proportional difference between the discrimination wage and female workers' true marginal value product.

[18] These results come from the partial-equilibrium model. In general equilibrium the effects would depend on the female-labor intensity of the exportable versus the importable. In the case that seems to dominate competitiveness concerns, with the exportable being female-worker intensive and the locus of discrimination, a foreign tariff would raise male wages but have either no effect or a depressive effect on female wages.

male wage (given fixed output prices), inducing a movement along the reduced frontier toward sector Y.[19] Thus, the distorted equilibrium involves reduced production of the good that makes intensive use of the discriminated-against factor. If this is the export sector the economy's export competitiveness is impaired. If it is the import-competing sector there would be a larger trade volume. In any case the conclusion holds that discrimination interferes with the competitive operation of the economy. Again, unless tastes for discrimination firmly remain in employers' utility functions, incentives should emerge over time to undo the discrimination since the marginal value product of female workers is above wage in both sectors. We might observe firms paying non-pecuniary benefits as a result.

Some additional comments are worth making. Here, the effect of discrimination is clearly *not* to create competitive advantage in exports, rather it has the opposite effect. However, if sector X were intensive in male labor, the effect would have been reversed, with its production rising along the lower production frontier. In this case, export volume might be larger than in the unconstrained case, though the discrimination is still costly and inefficient. Regarding international prices, because discrimination in our main example reduces the home country's trade offer, it would get a terms-of-trade gain if it were a large country. This means that eliminating the discrimination (thereby expanding exports) would cut its export price, transferring some of the gains to ROW (the opposite would pertain if X were male-labor-intensive). This outcome is just opposite to the main conclusion in Brown, Deardorff, and Stern (1996), because here the labor standard increases the supply of labor rather than reduces it.

Would a tariff imposed by ROW on this country's exports help or harm the women discriminated against? In the case where exports are intensive in female labor, they would be harmed by reducing wages even further and exacerbating the output effects. In the case where exports are intensive in male labor, the tariff would raise demand for female labor, causing female wages to place upward pressure on the female maximum wage. In this case, firms might prefer to relax the discrimination to some degree.

Now consider employment discrimination, or setting a binding maximum level of employment of some group. If there is such discrimination against female (or child or ethnic) workers in competitive markets it operates through a decline in aggregate demand for that factor and has identical effects to the economy-wide wage discrimination case analyzed above, including a lower female wage. Overall, the country would sacrifice real income because of the restriction, unless some terms-of-trade gain is sufficient to overcome the efficiency loss (though using discrimination to enforce export-price changes is inefficient compared to an export tax). One difference in the models, however, is that now the quantity of female employment is constrained, rather than the female wage. A ROW tariff harms women if exports are intensive in female labor but helps them if exports are intensive in male labor.

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[19] This assumes that sector Y can absorb the additional male labor and that the new female-labor equilibrium remains at the lower wage (so that there was initially an even larger fall in the female wage). Such an equilibrium may not be assured for some technologies.

Similarly, if employment discrimination occurs only in one sector it will have identical effects to sectoral wage discrimination except for the nature of the constraint. In Figure 2 above, imagine that the female labor-demand curve becomes vertical at employment level q_s, reducing the wage to w'. Output rises in the residual sector while women's wage is reduced in both sectors. The general-equilibrium model for this case is presented in Annex One (Model A.3). An important insight from that model is that, if the discrimination lies in the export sector, there is a reduction in export volume both due to the inefficiency caused and substitution along the shrunken-in production frontier.

Here a ROW tariff could harm women if the discrimination is in the export sector because it could lower demand for female labor below the constraint and reduce wage further. If discrimination lies in the importable good, the ROW tariff would reduce demand for women in export (residual) sector , reducing wages of all women.

Before continuing it should be noted that, from the home country's standpoint, the optimal policy intervention in each case is to remove the discrimination. Interest arises here, however, in whether a tariff imposed by ROW will help or harm the female workers discriminated against as I have discussed in each case. It should also be kept in mind that the ROW tariff policy is an indirect approach to the problem, even in those cases in which it extends pressure for change in the correct direction. In any event, collecting the results of this section generates Table 3. The relevant technical factors include whether exports are female-labor intensive and the female labor-supply elasticity. [20]

It might be argued that the ROW tariff would increase incentives to remove discrimination. In cases where the tariff reduces the demand for female labor, it actually relaxes wage pressure on the discrimination constraint at the margin, making it easier to sustain the discrimination. However, if subsequent tariff removal were tied to abolition of discrimination, export interests could be expected to work for such abolition to the extent that expected export gains outweigh expected increases in labor costs. How effective such lobbying would be, either in eliminating government-mandated discrimination or in inducing importable sectors to overcome preferred discrimination, would depend on a variety of economic and political factors.

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[20] Also relevant would be the mobility of male and female labor and capital. It is possible to analyze discrimination with sector-specific female labor forces, for example, though the main difference would be that discrimination would effect a rent transfer from women to men or capital.

Table 3. The Impacts of Discrimination in Competitive Labor Markets

Type	Causes Inefficiency	Effect on Exports	Effect on Export Price[a]	ROW Tariff Effect on those Discriminated Against[b]
General Wage or Employment; Elastic Labor Supply	Yes	Lower if exports are F-intensive	Higher	Harms
		Higher if exports are M-intensive	Lower	Helps
Sectoral Wage or Employment; Fixed Labor Supply	Yes	Lower if discriminate in exportable	Higher	No effect or harms
		Higher if discriminate in importable	Lower	Harms

Notes: [a]Assumes home country is a large exporter; [b]Conditional upon the discrimination being maintained.

Discrimination in Imperfectly Competitive Markets

The likelihood of persistent discrimination is higher in imperfectly competitive output and labor markets (Cain, 1986). A monopolist in the product market earns above-competitive profits with which it can indulge its preference for discrimination or the tastes of majority groups among its workforce for workplace segregation. It may choose not to discriminate, in that segregating or compartmentalizing its workforce by group minimizes costs if segregation is feasible and low-cost. A choice to discriminate does not maximize profits, however, so engaging in it might leave the monopolist vulnerable to takeovers by investors with less prejudice. Thus, the existence of discrimination in a monopoly relies on imperfections in the capital market. Government restrictions against takeovers are one source of such imperfections, with regulated monopolies and state-owned enterprises providing an extreme example of particular relevance in many poor countries. These firms do not face takeover threats nor must they strive to maximize profits. Accordingly, freeing up capital markets and introducing further product-market competition are likely to be effective second-best approaches to reducing discrimination.

A more likely source of persistent discrimination is imperfectly competitive labor markets. As shown in the next section, a monopsony employer (or collusive set of employers) maximizes profits by hiring at a level where labor's value marginal product lies above its wage, which is the neoclassical definition of exploitation. The markup over wage is higher the more inelastic is labor supply. It follows that if one group has a more inelastic labor supply than another, the first will suffer more exploitation (higher markup) and discrimination (a lower wage) for identical levels of productivity, assuming they are not otherwise homogeneous factors

(Madden, 1973). It is debatable whether the latter outcome should be labeled "discrimination" since it does not rely on a taste for prejudice, though the label is accepted by labor economists. There could also be true discrimination in such markets since the monopsony profits support it. Monopsony employment is most likely to exist in localized labor markets and where workers are immobile and have little information about alternative employment opportunities in other regions. These situations characterize the rural areas of most developing economies. Monopsony may also be relevant in those EPZs where there are only a few employers.

Labor unions are often cited as a source of persistent discrimination (Cain, 1986). Strong collective bargaining rights provide majority workers the ability to enforce both higher wages for themselves and their tastes for exclusion through discrimination. This outcome requires some entry restriction against minority workers. Entry limitations are more easily sustained among homogeneous majority membership groups. One implication is that introducing strong bargaining rights into an economy bears some potential for worsening discrimination that may exist for other reasons.

The issue here is whether discrimination is harmful or helpful, in efficiency terms, when labor markets are not competitive. Because discrimination is a form of market distortion, it should come as little surprise that in a second-best framework the introduction of discrimination could actually unravel some inefficiency effects of other distortions. Consider one example: let there be two sectors, X and Y, each with a monopsonistic labor employer. (I discuss monopsony further below in the context of no discrimination.) Let there be four differentiated factors, female workers in each sector and male workers in each sector, each with differential elasticities of labor supply (allowing for labor-leisure tradeoffs). The monopsonists will set employment levels to establish profit-maximizing markups of marginal hiring costs over wages, so that all workers are paid below their marginal revenue products. Without yet worrying about discrimination, it follows that the economy suffers efficiency losses as a result.

The effect of discrimination would be to set lower maximum wages or maximum employment levels for women in either or both sectors. Both policies would make worse the monopsony distortion with respect to female labor, however, firms would also hire more male labor, reducing the monopsony distortion in that factor. The discrimination could have the impact of lowering net efficiency losses in the economy. Impacts on trade volumes and the effectiveness of ROW tariffs would depend on which commodity is exported and the extent of monopsony distortions by sector and factor, which would be dependent on female and male labor-supply elasticities. It is certainly not clear that discrimination provides an effective export subsidy, as is sometimes alleged. "Social dumping" duties that fail to recognize these complexities could make female workers worse off.

That being said, it is clear that the source of the difficulty is the joint existence of monopsony and discrimination. In otherwise competitive markets, the first-best approach is to remove both distortions. I do not take seriously the claim that countries can or should use discrimination to offset other market distortions, nor that discrimination should be allowed because it may have that effect endogenously. Accordingly, I do not consider it further here.

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3.c. Freedom of Association and Collective Bargaining

Consider next the issue of providing rights for freedom of association and collective bargaining. There are cases in which the existence of market distortions, such as monopsony employers, informational asymmetries, and political failure can support the introduction of FA rights.

FA Rights in Undistorted Economies

The main problem in analyzing the efficiency impacts of FA rights is that it is not clear how those rights will be utilized. Workers form an association of labor for purposes of collectively advancing their interests. The literature is not clear on what labor unions attempt to do and how they attempt to do it. There is a large literature on the preferences of labor unions (Farber, 1986), analyzing (always in a closed-economy context and nearly always in partial equilibrium) several possible choices unions could make. These choices include setting an aggregate or sectoral minimum wage, setting minimum employment guarantees, negotiating employment security rights for designated workers based on seniority or other characteristics, setting pension standards, working hours, grievance procedures, and so on. It is not feasible to analyze many of these choices.

I focus on wage setting. Consider first a national labor union setting an economy-wide minimum wage, which might capture the phenomenon of national wage bargaining tied to public-sector wages in developing economies. This policy of a generalized minimum wage has been analyzed by Brecher (1974a, 1974b). The details are complicated, so I provide a summary.

The primary impact of the general minimum wage (set in terms of some numeraire commodity or price index) is to create aggregate unemployment by raising the cost of labor, which reduces the economy's production possibilities. Although it is not assured, one expected effect is a reallocation of employed labor and capital to the labor-intensive sector. Indeed, over a range of relative prices the model predicts complete specialization in that good, although complete specialization does not necessarily imply a higher output of X than in the original equilibrium because of the limited production frontier subject to the wage constraint. The impact on trade volumes is ambiguous, though trade is likely to fall as the minimum wage is raised above the market wage. Accordingly, if exports are the labor-intensive good the economy could experience reduced exports and a gain on its terms of trade akin to those listed in Table 3.

To summarize, the introduction of FA rights that sets an aggregate minimum real wage has the effects of raising unemployment, reducing economic efficiency and probably lowering exports. Note, therefore, that a ROW tariff that induces the introduction or strengthening of FA rights would also work in these directions. The direct effect of a tariff imposed on an economy without FA rights (minimum wage) would simply be to reduce efficiency and income of the exporter.

A more likely outcome of FA rights is to set an above-market minimum in a particular sector. This framework is called the Harris-Todaro (1970) model, which has been extensively analyzed in the trade literature, with the most commonly cited papers being Corden and Findlay (1975) and Calvo (1978). Imagine that a sector-specific minimum wage is set in the import good Y. This higher wage is sustained by limited entry into the labor union from workers in sector X. The wage in X is, in equilibrium, equal to the expected wage in sector Y. The labor endowment is split into employment in Y, in X, and unemployment, which arises from workers leaving the X sector but being unable to find jobs in the Y sector. The unemployment again reduces the economy's production possibilities. Output effects are ambiguous; both could fall or one could rise and the other could fall. It is likely that output in the Y sector diminishes because of the artificially high labor cost there, but this depends on the elasticity of substitution between capital and labor (Corden and Findlay, 1975). The economic inefficiency would be removed optimally by limiting union rights. Alternative policies, such as wage subsidies to the unionized sector, may be relatively ineffective because the union is an actor in the process and could alter its behavior if it is acting as a monopoly labor supplier. The ambiguity in output responses makes trade-volume effects also ambiguous, although the inefficiency again points toward the likelihood of lower trade offers. Note that if the export sector is not unionized a ROW tariff would reduce demand for labor in that sector, causing greater unemployment.

FA Rights in Distorted Economies

It is no surprise that union rights lower economic efficiency in otherwise efficient markets. Such has been the thrust of trade theorists' analysis of labor unions in the open economy. Labor economists have devoted more attention to the question of whether unions can increase efficiency and under what conditions. Second-best theory indicates that introducing labor unions into otherwise distorted markets may raise or lower income, depending on the circumstances. I focus on the case in which employers have monopsony power in hiring workers.[21]

Consider first the simple, partial-equilibrium analysis of monopsony, in which a single firm, or a small set of collusive firms, has market power in the labor market. That is, its decisions on hiring levels affect wages. Monopsony could be natural in a small market in which there are a limited number of firms in equilibrium, or it could be supported by governmental barriers to entry of other employers in the labor markets. Thus, it should exist more commonly in small nations, or in regional labor markets within larger nations, or in countries with significant protection from domestic competition for workers. Monopsony could also arise if the national or local government decides to limit entry and exit of workers from a particular regional labor market and also requires natural or legislated limitations on international labor migration.

In Figure 3 I depict a closed-economy, partial-equilibrium monopsony diagram. The monopsonist's labor demand curve is D_L and it faces a labor-supply curve S_L. If employers were

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[21] Maskus, Rutherford, and Selby (1996) analyze the case in which employers fail to divulge information to workers about risk characteristics of employment.

competitive in this labor market, employment would be at A with wage rate w_0. However, because the firm is a single employer it gains an inframarginal reduction in wage for all workers whenever it cuts hiring, generating a marginal-cost curve for labor that lies above S_L. The firm maximizes profits by setting labor marginal costs equal to its labor-demand curve at point B. This reduction in hiring results in employment level L_1, wage rate w_1 and labor marginal cost of MC_1. The markup of marginal cost over wage obeys this relationship:

$$MC/w = 1 + 1/\eta_L$$

where η_L is the labor-supply elasticity. The more inelastic is labor supply the greater the markup. Thus, for a fixed output price and capital stock, the monopsonist reduces employment below the economically efficient point. The effect is that workers are paid less than their marginal revenue products, which violates a fundamental efficiency condition. The standard measure of this inefficiency cost is the triangle ABC. The optimal policy response is either to increase competition in the demand for labor or to subsidize employment in this sector.

An alternative approach is to allow workers to organize a union and bargain with the firm(s). The outcome of such bargaining depends on the union's objective with respect to the given labor-demand curve.[22] In principle, the union could bargain for the solution at point A, thereby replicating the competitive equilibrium. In this case the union would clearly be efficiency-enhancing, indeed it would restore Pareto efficiency. More likely, however, the union will restrict employment levels in an effort to raise the wage. If the union chose simply to maintain employment at level L_1 but to bargain over a higher wage, the wage could be set anywhere between w_1 and MC_1, depending on relative bargaining strength of the firm and the union. This outcome would decide the split of the rents in the labor market but would not improve efficiency. If the union sets a higher employment level, and therefore a lower maximum wage, economic inefficiency will be reduced.

However, if the union sets a lower employment level, as it could do by establishing a closed shop limited to those with a particular level of seniority, it would raise the wage and increase inefficiency. This would be the rent-maximizing strategy in Figure 3 if the union had complete bargaining leverage. In Figure 3 the union becomes a monopoly labor supplier relative to the labor-demand curve. Its rent-maximizing choice is to set the marginal revenue from cutting employment (MR_L) equal to its own labor-supply curve at D, limiting employment to L_2.[23] This ambiguity in this situation is called *bilateral monopoly* in the labor-economics literature and evidently does not have any generalized solution.

[22]It also depends on the firm's response in a game-theoretic setting, since both the firm and the union are now active players. This is a massive literature that I do not further review here.

[23]It is misleading to think of a labor-supply curve existing in this case, except as a construct helping to determine optimal supply restrictions.

A brief note is in order on the rents available to the monopsony firm and the labor union. These rents could also be shared with government actors to the extent that hiring limitations are supported by government regulations and there is rent seeking. Rent seeking should be considered an efficiency loss, however it is impossible to know (except by case-by-case analysis) whether the problem is likely to be worse under monopsony or some combination of monopsony and union bargaining.

To summarize the analysis in a closed economy, under monopsony the wage paid is lower than the free-market wage, but this does not result in higher employment levels. Rather, the level of employment in the industry is below what it would be in a competitive market. In the product market, the output and output share of the industry must be lower than in the absence of

Figure 3. Monopsony Labor Market and Union Response
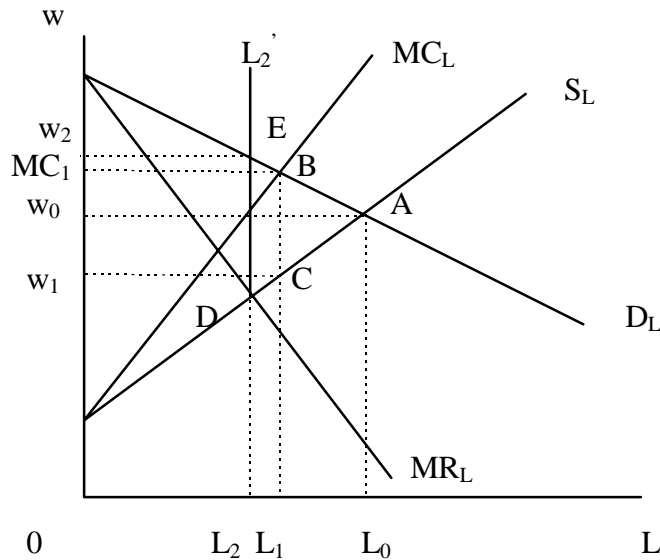
monopsony. Moving from the partial-equilibrium model to the economy as a whole, the workers displaced by monopsony hiring practices must move into unemployment (informal sector) or into other sectors, driving down wage rates there. It is in these sectors, rather than in the industry where wages are directly depressed, that output will increase and the industry becomes more competitive.

Concerns are often expressed about the absence of FA rights in export sectors leading to greater export competitiveness. Thus, I turn to the case of monopsony in an open economy. I limit the presentation here to an economy in which the monopsony exists in the export sector, which is labor- intensive, but there are many possibilities. Consider first that a small open

economy that exports labor services through trade implicitly faces a perfectly elastic external demand for its labor.[24] This is because product arbitrage generates home factor prices equal to foreign factor prices (net of any tariffs and transport costs), which are fixed in international markets. A monopsonist drives a wedge between foreign and domestic wage through limiting employment in a localized labor market, even at the fixed product price. Note that this outcome relies on an imperfectly elastic labor supply curve. If international trade has the effect of raising this elasticity the monopsonist's market power would be diminished.

In Figure 4, the points A, B, and C refer to the case of monopsony in free trade. With no monopsony the effective labor supply curve would be perfectly elastic, generating a wage equal to the international wage w^{*}. But in a market with limited labor mobility, the employer chooses to offer a lower wage, w_0, and less employment, L_0. For now suppose that this industry produces the export good, say X.   Assuming identical foreign and domestic technologies, the global wage must exist in the (competitive) importable sector Y in free trade. Note that the monopsony in a small economy can have no impact on the international wage. The impact of FA rights operates as described above. For a given product price, a labor union could raise efficiency by bargaining for a higher employment level, thereby expanding exports. It could also reduce efficiency.

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[24] Leamer (1996) makes this point cogently.

Figure 4. Monopsony in an Open Economy
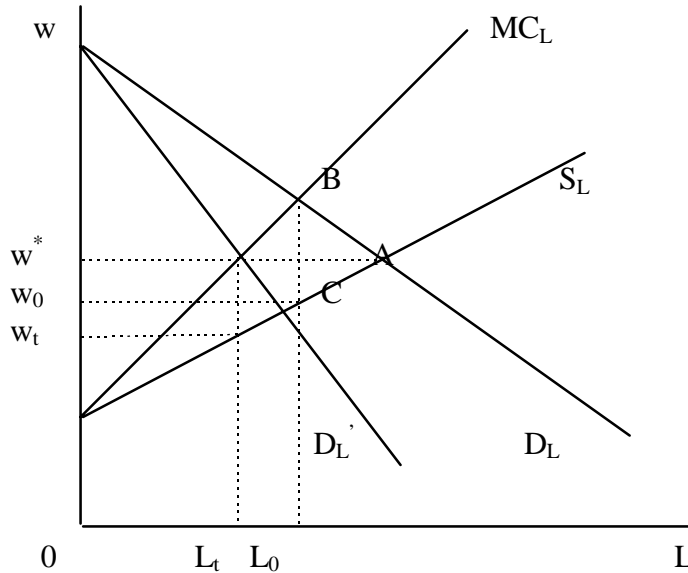
The labor-demand curve is given by labor's marginal value product, or $P_X MPL_X$, where price is fixed along a given curve. Suppose that the rest of the world decides to impose a tariff on exports of this product to protest the absence of union bargaining rights. The effect would be to reduce the country's export price, thereby shifting the labor-demand curve in X down to D_L'. In turn, the monopsonist would choose yet a lower employment level, L_t, and offer a lower wage, w_t. The lower wage would spill over into the importable sector via a reduced wage, which is no longer equal to the foreign wage because of the tariff. Thus, the tariff would reduce wages and introduce additional inefficiency into the economy. An import-equivalent quota imposed by ROW would have the same effect in the initial equilibrium. Over time, however, the quota is liable to grant the monopsonist additional wage-depressing power. For example, a subsequent technological improvement in home production of good X would raise the wage under a tariff restriction by virtue of the higher marginal product of labor. Under the quota, however, export quantity is limited, so that home price of X would fall after the technical change, limiting or offsetting the wage increase.

It is worth making a few points about the situation in which the Home economy is large in exporting the labor-intensive good, since it is often alleged that such a situation places downward pressure on wages in foreign economies, such as the United States. In fact, the analysis points out that if the monopsony lies in the export commodity, its effect would be to limit production and exports even as it depresses wages. This would tend to raise the world price of the labor-intensive good, thereby raising wages abroad. Introducing union rights in this case could actually cause foreign wages to decline, depending on the union bargaining objective. If monopsony were in the importable commodity, however, the spillover into higher production

and lower wages in the export good could have some depressing effect on foreign wages. The extent of this spillover depends on ROW labor-demand elasticity, which is a function of the initial quantity of labor services exported.

Bringing all of these effects together generates the results in Table 4. Before leaving the subject of monopsony, I note that some aspects of monopsony in general equilibrium for a small open economy have been worked out (Feenstra, 1980), although I have found no such treatment that combines monopsony with union rights.

3.d. A Note on Compliance

A further complication arises with the imposition or strengthening of labor standards (Harrison and Leamer, 1997). Suppose that the informal sector produces an input that is used intensively in the labor-intensive export sector. The informal sector does not comply with labor standards, but firms in the formal sector do. Under these circumstances, stronger formal-sector labor standards, such as union rights, job security laws, and health and safety requirements, may be expected to raise labor costs, resulting in lower formal-sector employment. Displaced workers move into informal employment, raising the possibility under certain circumstances that effective compliance with labor standards is reduced. In this sense, stronger labor rights can backfire in the general economy. That average compliance could fall also holds in the event of a ROW trade restriction on labor-intensive exports.

To see this, suppose in Figure 4 that the imposition of union rights induces a wage bargain along D_L above point B. Employment in sector X would fall, raising labor supply in the informal economy. A lower wage there would reduce costs and raise output, with the subsequent reduction in output price feeding into lower costs in good X. Depending on the elasticity of substitution between the informal intermediate and unionized labor, output could rise even as net employment remains below its old level. Thus, it is possible both for aggregate compliance to fall and labor-intensive exports to rise with stronger labor standards. This outcome depends on particular market parameters and is not guaranteed. It does point out the need to consider compliance issues carefully in assessing the likely outcomes of labor standards and trade restrictions.

Table 4. The Impacts of Monopsony and Union Rights
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Closed Economy:
    Monopsony causes inefficiency and reduces wages
    Union rights raise efficiency if employment expands
    Union rights reduce efficiency if employment contracts

Small Open Economy, Monopsony in Export Sector:
    Monopsony reduces exports with no impact on foreign wage
    Union rights could expand or contract exports
    ROW tariff lowers Home wages in all sectors
    ROW quota imparts greater monopsony power over time

Small Open Economy, Monopsony in Import Sector:
    Monopsony raises exports with no impact on foreign wage
    Union rights could expand or contract exports
    ROW tariff lowers Home wages in all sectors
    ROW quota imparts greater monopsony power over time

Large Open Economy, Monopsony in Export Sector:
    Monopsony reduces exports and raises foreign wage
    Union rights could expand or contract exports
    ROW tariff lowers Home wages in all sectors
    ROW quota imparts greater monopsony power over time

Large Open Economy, Monopsony in Import Sector:
    Monopsony raises exports and reduces foreign wage
    Union rights could expand or contract exports
    ROW tariff lowers Home wages in all sectors
    ROW quota imparts greater monopsony power over time
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3.e. Other Claims about Gains in Labor Productivity

Additional claims are made by "neo-institutionalist" advocates of labor standards on behalf of potential productivity gains (Sengenberger, 1991).[25]   The arguments refer both to protection of FA rights and to additional labor-protection regulations, such as minimum wages, job-security laws, mandated severance packages, and fringe benefits. Because only the former relates to core labor standards, I limit the analysis largely to union rights.

The primary claim is that the formation of trade unions and collective bargaining improves labor productivity, sustaining higher wages and employment. First, workers have insufficient incentives to acquire firm-specific human capital in the absence of job security, which could be a goal of collective bargaining. Second, representation through trade unions (especially enterprise unions) makes workers feel more invested in the success of the firm and they are more likely to reveal productivity-enhancing process innovations to their employers.[26] These "voice options" for workers are thought by many to be important sources of productivity gains. Third, workers with very low wages may be expected to engage in shirking and stealing (Tutu, 1993). Fourth, the need to work with unions induces firms to be less concerned with wage-cutting and more concerned with training, innovation, and productivity enhancements. In brief, this view expects substantial productivity gains from cooperative labor-management relations, in which workers consider themselves to be more than a factor of production. Such relations are pro-competitive in the labor markets, generating static and dynamic gains. For example, Boyer (1993) credits the imposition of strong labor-market institutions, such as minimum wages and job regulations, with fostering post-war European growth and encouraging adoption of technological and organizational innovations. Similarly, Piore (1994) studied the 19th-century U.S. textile industry, in which labor standards were absent and employers made no efforts to train workers or improve labor-management relations. Labor standards (safety and health regulations) mandated by the government forced employers to adopt technological changes and to reorganize management, with a consequent rise in productivity.

Analytically, these claims rest on perceived imperfections in labor markets that are overcome through collective arrangements. To the extent that unions bargain for job security, contracts serve as insurance against adverse market outcomes for workers.   Collective bargaining can solve moral hazard problems or selectivity problems that encourage employers to offer contracts and benefits that are inadequate relative to socially desirable levels (Summers, 1989). Prisoners' dilemma games can be constructed in which individual firms underinvest in training or pay wages that are too low to encourage the adoption of productivity-enhancing labor agreements. There may also be informational problems in labor markets. For example, firms may not divulge risk characteristics in particular job classifications (Brown, Deardorff, and

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[25] Freeman (1993) discusses differences between the "distortionist" view of labor standards and the neo-institutionalist view.

[26]This possibility is often lauded as a source of excellent labor-management relations in Japan.

Stern, 1996; Maskus, Rutherford, and Selby, 1995). Bargaining solutions could overcome such problems.

The attainment of social objectives, such as redistribution to low-income workers, could be promoted with collective bargaining rights. Cooperative arrangements among government, business, and labor interests ("tripartite approaches") are claimed to assist in promoting transitions from authoritarian to democratic governments by ensuring adherence to collective norms and rules (Tokman, 1993). Cooperative bargaining is also justified as a means of reducing uncertainty, thereby encouraging investment and employment.

Analytical treatment of such claims is beyond the scope of this report, for it would require thorough consideration of an extensive literature in labor economics without adding much to the fundamental issues of labor standards and trade. Some observations are worth making, however. First, while these claims do not all follow from rigorous theory (Freeman, 1993), most could hold under some market circumstances. Their validity is an empirical matter and evidence suggests that labor protection mechanisms have only weak and ambiguous effects on growth, structural adjustment, and income distribution in developing nations (Freeman, 1993; Marshall, 1994; ILO, 1992; Rama, 1994, 1995; MacIsaac and Rama, 1997; Bell, 1997). While there are important microeconomic nuances to consider (Marshall, 1994), the empirical "scorecard" favors neither the view that labor regulations distort efficient economies nor the view that regulations enhance efficiency and growth (Freeman, 1993). The most careful study is by Rama (1995), who investigated the econometric linkages between economic performance in Latin American and Caribbean nations over the period 1980-1992 and measures of labor-market interventions, such as ratification of ILO conventions (see Section 4), annual paid leave, social security contributions, the minimum wage, and an aggregate index of labor-market rigidity. Also included were unionization rates, the size of government employment, and macroeconomic determinants of growth and labor costs. The essential message was that much ambiguity exists. More rigid labor markets performed worse in terms of growth, but this was not due to labor-market interventions. Rather, inefficient government employment and high unionization rates were the most likely explanations for poor performance, with unions having a particularly negative effect in countries with strong barriers to product-market competition. Rama is appropriately cautious in drawing policy implications, though he suggests that reform of government employment and market liberalization provide the most effective routes to improving labor-market performance.[27] Again, however, the evidence with respect to labor-market regulations provides modest support for both the distortionist and neo-institutionalist views.

Second, to a considerable extent any potential productivity gains from providing greater job security through union rights would accrue to firms in higher profits or output. The question

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[27]Rama and Tabellini (1997) present a model in which product-market distortions and labor-market distortions are jointly determined. In their model, labor-market distortions, such as a minimum wage, are optimal responses to barriers to product competition, such as trade restrictions. In turn, policy should be focused on removing product-market restrictions, causing labor-market policies to adjust endogenously and move also in a liberalizing direction. See also Rama (1997).

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arises as to why firms do not themselves provide FA rights. As indicated above, there may be market-structure complications making it difficult to appropriate these gains. In such cases, labor-market interventions need to be focused on the market failure or externality. Providing a subsidy to training is one example and mandating union rights is another. This observation points to the need for case-by-case analysis, focusing on market structure within sectors. Moreover, the potential efficiency gains or losses from CLS would depend on the underlying policy framework.

Third, rights to collective bargaining may not be the most appropriate forms of intervention (OECD, 1996; Farber, 1986). It is possible that labor unions would insist on working-conditions standards that go beyond the efficient levels, or that the working conditions negotiated are aimed at creating rents or redistributing income or setting exclusionary practices. There is considerable evidence of distortionary union wage premia in developed countries (Freeman and Medoff, 1984). To the extent that union objectives are inconsistent with aggregate preferences, the economy would suffer a loss in efficiency. I found no systematic evidence on the efficiency effects of union rights (as opposed to union activities) across countries, though it is evident that efficient forms of union and firm organization vary across countries.

Moving beyond FA rights to CLS generally, it is sometimes claimed that CLS may be used to induce greater entry into the formal sector from the informal sector. To the (questionable) extent that employment in the formal sector provides additional productivity gains through learning-by-doing, there are dynamic gains for the economy. Again, one must wonder about the nature of the market failure that prevents appropriation of these returns. Regarding the main claim about shifting workers out of the informal sector, there appear to be a number of potentially conflicting models. One possibility is that CLS could be extended as far as possible into the informal sector (e.g., limits on child labor employment in carpets or home service, FA rights in apparel and agriculture; note that this implicitly suggests that the informal sector itself can be brought into the regulated economy, which is a notion almost surely doomed to fail). To the extent that this raises relative costs in the informal sector, there could be some labor migration to the formal sector -- a "cost-push" model. A second possibility is that stronger enforcement of CLS in the formal sector would expand employment, as in the monopsony stories explained earlier -- a "demand-pull" model. The latter case is also consistent with relatively rapid dynamic growth in labor demand in the formal sector. These outcomes are by no means necessary, however. Higher costs in the formal sector could push additional activity and workers into the informal sector, reducing aggregate compliance with CLS (Harrison and Leamer, 1997). Further, exclusionary activities by trade unions could reduce labor demand in the covered sectors.

An unstudied issue in this literature relates to the potential relationship between CLS and efficiency wages in developing countries. The operations of trade unions can interfere with the operation of efficiency wages to induce optimal levels of effort. It can be argued, for example, that one reason export sectors (even those with limited FA rights -- see OECD (1996)) tend to pay higher wages than the rest of the economy is the need to ensure output of global quality through efficiency premia in wages. The injection of CLS into these sectors could

reduce wages and export competitiveness simultaneously, though this is not the necessary outcome.

None of this additional analysis strengthens the case for using trade sanctions against nations with limited CLS or for international harmonization of standards.

3.f. Trade-Related International Labor Standards

In this section I analyze three complaints about limited CLS and their alleged impacts on foreign economies.[28] These complaints include the operation of export processing zones, international wage spillovers, and the "race to the bottom" in labor standards. I also discuss the potential role of consumer preferences in rich countries in improving CLS in poor countries.

Export-Processing Zones

Core labor standards may be introduced across most of the economy but exempted (or weakened) in the export sector. This latter case is important for understanding the effects of export processing zones (EPZs) on wages, efficiency, and exports and to assess the basis for claiming that export-specific exemptions from CLS constitute an actionable export subsidy (Rodrik, 1995).

Cost-benefit analyses of particular EPZs suggest that they are unlikely to have provided much net gain for their host countries (UNCTAD, 1993 and Warr, 1987). Employment growth in EPZs has been dynamic in a number of countries (China, Malaysia, Mauritius, and elsewhere) but less impressive in others. It is possible that the additional employment would have emerged without the EPZs, due to globalization of production locations and labor-cost advantages and rising female participation rates in poor countries, though there is no serious assessment of this counterfactual. The evidence on whether exports are higher than they might have been otherwise is mixed, while impacts of EPZs on the balance of payments are often negative because of the implied increase in demand for intermediate imports. Backward linkages to input suppliers and sub-contractors are often limited by the need of exporting firms to have access to certain and high-quality inputs. However, in some countries this linkage has strengthened and provided an incentive for quality upgrading and training among sub-contractors. This effect is stronger in EPZs that are dominated by joint ventures, as opposed to wholly-owned subsidiaries of foreign firms. While forward linkages are strictly limited by restrictions on domestic sales of EPZ outputs, there may be some gains from greater consumer variety and product-side competition.

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[28]See also Hoe (1995).

Formal trade-theoretic analyses of the welfare impacts of EPZs are pessimistic about their potential gains.[29] EPZs are themselves economic distortions because they provide differential tax and tariff treatment. Their introduction into undistorted economies reduces efficiency, while in distorted economies they are second-best tools that could raise or lower economic well-being.

That literature pays no attention to the labor-standards aspects of EPZs. One important question is whether EPZs might be expected to raise or lower pressures for adopting stronger union rights. The introduction of EPZs into a distorted economy could raise or lower economic efficiency (and growth). If growth performance is improved, one would anticipate endogenously rising union rights. It seems possible that, even if one component of the inducements package were limited union rights within the EPZs, this indirect impact could eventually raise overall labor standards. On the other hand, if EPZs worsen efficiency and growth performance, one would expect to see falling labor standards.

Consider next the effect of EPZs on host-country wages. I discussed earlier in the report that available evidence indicates that firms in EPZs tend to pay higher wages than firms outside EPZs., along with several possible explanations. Rather than appealing to disparate factors, however, it is possible to understand the role of EPZs in a modeling framework. For example, suppose that the host government introduces an EPZ in an economy with substantial employment in the informal sector at low wages, with some formal-sector manufacturing in a capital-intensive intermediate import and a labor-intensive export. The formal sector has higher wages either because the workers are more skilled or due to a minimum wage, generating Harris-Todaro unemployment. The EPZ requires that labor-intensive assembly be undertaken to qualify for benefits.

The direct effects of the EPZ may be classified as follows. First, the elimination of the tariff on intermediate imports into production in the EPZ (but not for production outside the EPZ) reduces unit costs, expanding output within the EPZ. This can be expected to raise the demand for low-skilled labor if manufacturing within the EPZ is labor-intensive, while it lowers the return to capital. Second, the favorable tax treatment and subsidy to fixed costs within EPZs is likely to attract foreign capital. This effect would also expand labor demand. Note that both of these impacts would attract domestic labor into the EPZ, raising wages outside the area as well. Third, it is conceivable that firms within the EPZ might insist on the ability to choose workers it wishes to train and retain, suggesting that some limitation on inward labor mobility could emerge as an endogenous policy response. If so, wages would rise by more in the EPZ than outside it. Whether the EPZ would raise or lower HT-type unemployment would depend on its impact on the probability of modern-sector employment. On the one hand, output and labor demand rise in the EPZ, but, on the other hand, output and labor demand fall in the other modern sector. The higher wage would attract more workers to the queue, while the net rise in labor demand should expand employment, leaving an ambiguous outcome.

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[29]See Hamada (1974), Hamilton and Svensson (1982), Miyagiwa (1986, 1993), Young (1987), and Young and Miyagiwa (1987).

However, there will be indirect impacts as well, relating to union rights. If firms in the EPZ insist on limited labor rights, the monopsony stories discussed earlier have some relevance. It is conceivable that such firms could choose to limit employment in order to reduce wages compared to the non-EPZ outcome, though the full result would be some average of the employment-expanding effects and the employment-reducing effects. The wage rate could fall in relation to the non-EPZ case, though this is by no means a certain outcome. If, on the other hand, firms in the EPZ provide union rights, the situation of bilateral monopoly emerges. Accordingly, employment could be larger (due to demand increases) or lower (due to union preferences to restrict labor supply), though it would seem likely in this case that the wage would end up higher. Note one interesting implication of introducing strong union rights into EPZs is that unionized workers would enjoy a union wage premium over workers outside the EPZs. Therefore, one way of interpreting U.S. and EU policy favoring bargaining rights in EPZs is as an expression of preference for lower wages for less favored workers outside those areas.

In summary, there is no theoretical presumption that EPZs raise export competitiveness and expand trade. Their impacts on host-country wages are also ambiguous, depending on circumstances, though there is evidence that firms in EPZs pay higher wages than comparable local firms. As discussed earlier, there is considerable variation across countries in the extent of union rights in EPZs, though some countries limit such rights. How the introduction of such rights would affect wages and exports depends on structural characteristics of the labor markets within which EPZs operate.

Static analyses of this kind have been severely criticized for ignoring the potential dynamic gains from learning-by-doing, training, and altering social attitudes toward work and entrepreneurship (Johansson, 1994). It is sometimes argued, for example, that by providing significant amounts of formal-sector employment to female workers, EPZs can have a liberating effect on female work efforts and access to modern capital markets.[30] These impacts on human-resource development may be thought to have important endogenous growth effects via stronger incentives for human-capital accumulation and risk-taking. It has also been argued that having more export-oriented, foreign-owned firms in EPZs provides a catalyst to domestic firms who might not otherwise break into export markets (Romer, 1993). To my knowledge, no systematic studies of these processes have been undertaken, although some observers claim Mauritius' recent success in export markets is intimately related to technology diffusion and demonstration effects emanating from its EPZ.

Comparative Advantage and International Wage Spillovers

Organized labor interests in high-wage countries are concerned about the effects of limited CLS in low-wage countries on their own labor markets. Different levels of labor

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[30]This observation is reminiscent of Anne Krueger's comment (World Bank Conference on the Uruguay Round, January, 1995) that one great advantage of "female sweatshops" is that they provide better-valued alternatives for women than traditional modes of work.

standards can affect trade flows, as several models presented here indicate. Less obvious are claims that the effects on trade flows or prices are significant or easily predictable. Moreover, implications for employment, wages, and wage inequality in high-wage countries are unclear but likely trivial. For example, it is estimated that less than five percent of children working in developing countries are engaged in export sectors, while their contribution to output is small.[31] However, there are particular sectors, such as carpets, footwear, and apparel, in which child labor is more prevalent, calling for careful industry-level studies.

To place the wage issue in perspective, note first that there are numerous reasons why wages are not equalized internationally. First, countries may employ different production technologies and workers may exhibit different productivities and skills, as in the standard Ricardian model. Alternatively, they may use particular technologies with vastly different levels of efficiency (Trefler, 1995 and Maskus, 1991). Second, countries may effectively specialize in different goods, preventing wage equalization even in the neoclassical trade model. Third, trade in goods may not be fully integrated internationally, with transport costs and trade barriers tending to depress wages in labor-abundant nations. Fourth, labor and capital are not fully mobile across nations. Finally, distortions in factor markets, such as factor taxes and monopsony power, can sustain differences in wages.

As is well-known, there is considerable debate about the importance of trade competition for wages (Richardson, 1995). In both the United States and the EU, wage and income inequality have increased since the 1980s. The employment mix has shifted towards skilled workers and structural unemployment has risen, at least in the EU. The data reveal that the rising inequality is coincident with the opening of markets to international trade. This correlation does not necessarily imply causation. Changes in technology, demographics, regulation, and unionization rates could also be responsible for these labor market trends (Richardson, 1995).

There is much controversy over the role of trade (more properly, international competition through prices) in determining the employment and wage trends of the industrialized economies. Some authors claim that trade has deleterious effects on the distribution of income. For example, Wood (1994) argues that trade with the NICs is one of the primary causes of income inequality and structural employment in the industrialized world. Leamer (1996) also finds a substantial effect of falling textile prices on U.S. wage growth within the context of the Stolper-Samuelson model, though the effects were concentrated in the 1970s. On the other hand, some authors contend that trade plays little, if any, role. Baldwin and Cain (1995) find that international trade explains, at most, nine percent of the growing U.S. wage inequality that occurred between 1977 and 1987. Krugman and Lawrence (1993) and Lawrence and Slaughter (1993) also maintain that trade has had little influence on the distribution of income in the developed economies.

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[31] U.S. Department of Labor (1994).

The point of this brief review is to point out that it is misleading to ascribe differences in wages (or changes in these differences) to differential labor standards, although labor standards are part of the equation. Rather, one must carefully sort out what is going on in the broader national and international economies to be confident that labor standards are a decisive factor. Nor would policy changes that weaken labor standards necessarily correlate with lower wages in poor countries, higher exports and lower export prices from those countries, and ultimately downward wage pressure in the importing countries. For example, stronger labor standards could shift effective labor-market power from monopsony firms to unions, with the result that wages rise but employment and exports possibly fall. Strong statements are impossible in this general milieu.

A standard claim about limited CLS is that they artificially (that is, in some way that is inconsistent with social preferences) lower wages and thereby reduce wages in the rich countries as a matter of competition. This is a powerful argument in the political debate over labor standards, so it is important to analyze how this effect would work. I consider here the strongest possible version that would support this case and indicate which parameters would have to be known in order to understand the maximum extent of the spillover wage effects. Keep in mind, however, that most of the analysis presented earlier points to deficient CLS limiting economic efficiency and exports, rather than expanding exports.

A model depicting the extreme case is presented in Annex Two. In that model a labor union sets a minimum wage in the export sector of a large developing country. The minimum wage generates unemployment and a smaller export volume. Thus, in the absence of union rights, exports would be larger, putting downward pressure on world price of that good. The increase in equilibrium exports depends on the ratio of the union wage to the non-union wage, industry factor intensities and factor substitution possibilities, and import demand elasticity abroad, among other variables.   Using the Stolper-Samuelson theorem, the impact on wage changes in the importing country depends on factor intensities there.   If both goods have similar intensities the wage impact could be substantial in theory. However, if factor intensities are quite different (as would be the case for highly labor-intensive importables such as apparel, footwear, and electronics in comparison with other sectors) the wage effect is muted.

In short, in order to calculate the effects of limited CLS in poor countries on wage competition in rich countries, a long list of parameters must be estimated. In this context, two final observations are worth making. First, going through such an exercise should be persuasive that the impacts are likely to be quite small. The main issues relate to how extensive the wage change in the poor country is from limited CLS, which is likely to be small in the context of an elastic labor pool, and how important the resulting export change is in global trade.

Second, this analysis should give pause to those who think it will be straightforward to calculate a meaningful "social dumping margin" for purposes of offsetting foreign wage repression. Doing so requires understanding a significant set of economic interrelationships and the relevant parameters governing those interrelationships. Inevitably, however, if such margins were to become a focus of trade policy, they would be calculated on the basis of rules of thumb.

It is likely that those rules of thumb (e.g., social dumping consists to the extent that a country's wages are below some international norm) would overstate any real effects on wages in the poor countries. It is likely that imposing countervailing tariffs on this basis would overcorrect any spillover problem into rich-country wages.

Competitive Impacts on Standards

A common complaint about variable international standards in the face of rising international trade, technology, and capital flows is that competition will reduce standards in the higher-standard countries. Thus, there will be a "race to the bottom" in labor standards, as is often claimed for environmental standards as well. There appear to be two variants of this claim made with respect to labor standards. First, some fear a global decline in standards to low levels. Second, the competition in standards may be concentrated among low-wage nations, thereby preventing countries that would otherwise move toward higher standards from doing so.

The simple argument that competition can push standards toward their lowest levels is wrong on its face, for it presumes that the lowest standards would prevail as market outcomes, when the extent of competition itself influences endogenous standards. It is unlikely that, accounting for global income levels and technologies, African or South Asian labor standards would emerge in international competition. Moreover, it is questionable that integrated markets must see convergent labor standards. There remain considerably different standards across the states in the United States, despite completely free trade in goods and capital and essentially free labor mobility.

Economists point out that an open economy can sustain its high standards through some combination of higher taxes, lower wages, and exchange-rate devaluation (Ehrenberg, 1995, and Rodrik, 1995). The extent to which workers thereby "invest" in higher standards through reduced purchasing power depends on elasticities of labor supply and preferences.

Thus, a more reasonable claim is that higher-standards countries might have to moderate their labor protection somewhat as a competitive measure. This question bears more study and careful attention to modeling. However, some observations are worth making. First, countries that believe they feel pressure to reduce labor standards might instead be feeling pressure associated with maintaining other, more inefficient, labor-market distortions. Second, although it is clear that multinational enterprises in labor-intensive sectors invest on the basis of low wages, there is little systematic evidence that these incentives are markedly enhanced by poor labor standards, as reviewed below.[32] Third, to the extent that labor standards are inefficient, international competition will lead to pressure to modify them in ways that expand productivity.

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[32]A parallel is the finding by Levinsohn (1996) that there is little evidence of firms investing abroad on the basis of weak environmental standards. See also Klevorick (1996).

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International Spillovers in Utility

The provision of CLS, especially with respect to protecting children from exploitative work, could enter positively into utility functions abroad, presumably with a strongly positive income elasticity.[33] To analyze this case, suppose that a developed country produces a set of "high-standards" goods and a developing country produces a set of "low-standards" goods (Freeman, 1984). The goods are imperfect substitutes in consumption and consumers in both countries obtain utility from consuming both goods. Let labor standards be a private consumption good desired by consumers in the developed economy. That is, consumers in the rich country get greater satisfaction from consuming poor-country goods if they are produced under better working conditions . Suppose that the higher the income of the individual consumer in the rich country, the greater the willingness to pay for standards, thereby generating a demand curve for labor standards.

If a willingness to pay for standards exists, there should be economic returns available to producers from improving their employment conditions, suggesting little need for public provision of CLS. That this solution has not emerged in many countries indicates that the returns may be insufficient to cover the costs of adopting higher standards because the available premium is small (this would depend, *inter alia*, on the substitution elasticity between high-standard and low-standard goods). More likely, there are informational difficulties leading to a missing market -- that is, consumers are willing to pay for (certified) standards but there is no market for standards that emerges endogenously. Thus, there is a market failure. The best policy is to create a market for standards with product labeling. The labeling, if accurate, would generate price premia on high-standards goods and extract surplus from high-income consumers, thereby paying for the costs of labeling and process upgrading. This would improve efficiency, generating a static gain (and perhaps also dynamic gains if standards rise over time and if children are pushed into education).

However, one cannot expect the goods market to produce accurate labeling of standards on its own, though to some extent this is already happening. The explanation for this failure is that firms providing certification have an incentive to cheat (and their signals are not credible).[34] Some external agency would be required to guarantee accuracy of labeling, presumably paid for by a tax on consumers in the developed economy. This solution would generate a compensatory transfer from consumers in the developed economies to producers in the developing economies in the name of higher labor standards, without interfering with trade. In contrast, a tariff on the developing-country goods would induce substitution toward the developed-economy goods without any necessary impact on CLS.

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[33]It might be feasible to emulate the Grossman-Krueger (1993) calculations on the income profile of demand for environmental protection with a cross-country regression.

[34]Rodrik (1996) argues that the reason for limited development of product-labeling schemes is that utility functions demonstrate positive external effects that cannot be priced.

3.g. Review of Empirical Evidence on Labor Standards and Trade

There is some empirical evidence about the effects of differential levels of CLS on exports and export prices.[35] The OECD (1996) related measures of export performance, both in the aggregate and (correctly) for labor-intensive goods, to indications of limited labor standards. No relationship exists in their data. Neither could they detect any correlations between measures of revealed comparative advantage and attempts to suppress union rights. The OECD also could not detect any effects of CLS on U.S. import prices in textiles and apparel across trading partners. Nor was there any indication that export prices for hand-made carpets are lower in countries with extensive use of child labor. Regarding carpets manufactured with artificial textiles, Turkey (with limited CLS) had higher average export prices than Belgium and the Netherlands. They conclude that differences in CLS have little evident effect on patterns of specialization, competitiveness, or exports.[36]

Rodrik (1996) econometrically related basic measures of labor standards across countries, such as ratification of ILO conventions covering core labor standards and an indicator of enforcement problems in child labor standards, to international trade flows. He was unable to determine any relationship in the data. Neither could Rodrik find any suggestion of a positive statistical relationship between low labor standards and inward flows of foreign direct investment from the United States across countries. Indeed, there was some evidence that FDI is lower than expected in countries with limited CLS. Thus, there seems little reason to conclude that the effects of limited child labor standards or union rights or of EPZs on trade performance or FDI are noteworthy in a statistical sense.

Aggarwal (1995) noted that it is common in developing countries for labor standards to be lower in less export-oriented sectors and in non-traded goods than in export-oriented industries, including even textiles and carpeting. Within all manufacturing, workers in firms with high export-output ratios tend to receive greater wages and benefits than those in less export-oriented firms. She also discovered no association between U.S. FDI and poor labor standards in developing countries. In fact, she noted that U.S. FDI is not concentrated in countries or sectors with low labor standards. Moreover, countries with weaker labor standards do not have higher import-penetration rates in the United States than countries with stronger labor standards. In summary, she found no indication that export success in developing countries is due to cost advantages based on inadequate CLS.

This evidence will not satisfy those who are concerned about the impacts of labor standards (and EPZs) on competitiveness. The studies can be criticized for their inabilities to measure CLS effectively, given the inherent difficulties with data in this area. Further criticisms are that the studies did not adequately control for other significant impacts on trade and FDI, and also because they are static (cross-section) in nature. Many observers, for example, point to the rapid increases in manufactured exports from EPZs in China (where CLS are not fully respected,

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[35]Stern (1996) provides a more thorough review.
[36]See also ILO (1995c), which finds that cost savings from the use of child labor are small.

though it is unknown if this fact explains export growth) and suspect that their effects will rise markedly in the future.

Note that if deficient CLS do not notably stimulate export strength in unskilled-labor intensive goods, they can hardly have much effect on sectoral labor demands and wages abroad. Even if they were thought to reduce global prices of textiles, apparel, footwear, and electronics, these price effects would have to filter through into labor markets in rich nations in the ways I have indicated.

It should also be reiterated that labor-market distress in OECD nations is not the only source of concern over labor standards. Krueger (1996) presents an econometric analysis of sponsorship in the U.S. Congress of the Child Labor Deterrence Act of 1995 (S. 706 and H.R. 2065). Representatives from districts with high concentrations of low-skilled workers were less likely to sponsor the act than were those from districts with low concentrations of low-skilled workers. He interprets this to mean that interest in the bill is primarily associated with altruistic preferences for reducing child labor use abroad. While this result is suggestive, the approach is subject to considerable criticism, as noted in Srinivasan (1996). A primary problem is that a decision not to co-sponsor a bill does not demonstrate lack of support for it.

3.h. Summary

A summary of the main findings is useful. First, gains in efficiency from CLS are possible, depending on the circumstances. There are many cases where improving workers' rights in an industry, or for the economy as a whole, can improve productivity for the industry or the economy. Such efficiency gains are required if the entire economy is to gain from stronger rights through higher incomes, although it is possible that income gains would not be shared across all individuals.

Second, sectoral gains may simply shift resources. As many cases analyzed earlier demonstrated, stronger workers' rights could benefit one sector in terms of its competitive advantage, but this means that output and relative advantage decline in other sectors. For example, introducing union rights into the exportable sector could raise wages there but reduce wages in other sectors or generate unemployment. That is to say, stronger CLS could worsen economic conditions in other sectors unless the primary effect of CLS is to raise aggregate efficiency in the economy.

Third, the impacts of limited CLS on trade advantage depend on several complex characteristics. For example, while discrimination and monopsony create inefficiencies in the economy, it is often not the case that they increase export competitiveness. The monopsony models provide perhaps the most striking conclusions. It is unclear even in principle whether strengthening union rights in monopsonized sectors would reduce exports of labor-intensive goods

Fourth, the likelihood that inadequate CLS in developing countries place downward pressure on wages in developed countries is small. Theory points to a number of complex linkages that would limit such effects, particularly in light of the small trade shares involved. Empirical evidence demonstrates no relationship between labor standards and export performance or FDI.

Fifth, the impacts of trade restrictions taken by foreign countries depend on the circumstances and could backfire if their goal is to improve the situation of workers with limited rights. Much depends on issues such as whether the sector with weak rights is labor-intensive, whether it is the exportable sector, and what linkages there are to the informal or residual-employment sectors.

Before leaving the analytical section, the pragmatic position of some labor economists (Freeman, 1994 and Krueger, 1996) should be acknowledged. Their view, consonant with that of many advocates of stronger CLS, is that trade sanctions may be useful in inducing adoption of stronger labor standards, which makes their use defensible even in light of their efficiency costs and welfare losses. They further argue that future multilateral and regional trade agreements may be used to encourage stronger standards in return for providing additional market access. The analysis here casts doubt on the former claim. The latter argument may be more sensible, given its emphasis on mutual international gains, but poses difficult problems of implementation as discussed in the following section.

4. Institutional Issues

Space constraints dictate a reasonably concise overview here. Many good discussions exist in the literature, including historical overviews of attempts to link trade and labor standards.[37] Here, I discuss activities undertaken by the International Labor Organization, the World Trade Organization, and the United States.

4.a. International Labor Organization

The International Labor Organization (ILO) is the primary international body devoted to the implementation and monitoring of labor standards. The ILO was founded in 1919 as an outgrowth of the Treaty of Versailles and in an atmosphere of concern about both inadequate labor protection
and the potentially mercantilist manipulation of labor standards to gain a competitive advantage in exporting. The ILO has a tripartite organizational structure, involving an annual "legislative" conference of labor, business, and governmental representatives of member nations, a 56-person governing body consisting of 28 governmental representatives and 14 representatives each of

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[37]See OECD (1996), Sengenberger and Campbell (1995), ILO (1994), Woolcock (1995), van Liemt (1989), and Charnovitz (1987).

worker and business organizations, and a Secretariat in Geneva. The ILO Constitution requires the labor and business delegates to be selected from each country without interference from each other or from public agencies and to be representative of national labor and business interests. By all accounts, this requirement is met credibly in the overwhelming majority of nations; indeed, the ILO reserves and exercises the right not to seat representatives whose legitimacy is in doubt in this sense.

ILO Conventions

The ILO has two main functions. The first is to promote higher international labor standards through the preparation of international conventions; currently there are 174 of these covering all manner of potential labor standards. There is a substantial discrepancy between ILO membership (virtually all countries are members) and ratification of these conventions. Ratification is sporadic across countries for a variety of reasons. Ratification is taken to imply that the convention in question will be written into national law. Often the convention is not strictly consistent with laws for technical reasons and a country will not ratify it, despite providing labor protection that may be substantially equivalent in practice. For example, much U.S. labor law is the prerogative of states (e.g., right-to-work laws), making adoption of many conventions problematic. In other cases countries may find the convention to be written in an inflexible way that does not permit exceptions desired by local legislatures. A standard complaint against the ILO conventions is that they are rigid and often do not accommodate legitimate national variations in labor practices, even if minor. Finally, countries may disagree with the thrust of particular conventions and simply choose not to ratify them.

It is instructive to consider ratification problems of the seven ILO conventions that the ILO considers "fundamental" in that they are aimed at promoting the core labor standards (which are "basic social rights" in that body's view) listed above.[38] As of November, 1995, 149 countries in the ILO had chosen not to ratify at least one of these conventions, suggesting that difficulties with their structure are fairly endemic. In Table 5 I list ratification decisions by selected major countries. Organized along the lines of Portes' classification, the conventions are as follows.

Basic Rights

Convention number 29, the Forced Labor Convention (1930), and convention number 105, the Abolition of Forced Labor Convention (1957) focus on the issue of compulsory labor. Forced labor is defined as work required under threat of penalty and extracted without a voluntary offer by the worker. They condemn slavery and bonded labor and also (number 105) exhort that compulsory labor is not to be used for purposes of political coercion or education, forced economic development, or as disciplinary devices against strikes. The conventions contain broad prohibitions against prison labor. Certain exceptions allowing compulsory labor

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[38]See ILO (1995a, 1995b), OECD (1996), and Woolcock (1995)

are provided for (number 29). Work may be mandated by the government if it is in the public interest and in response to "imminent necessity" (e.g., impending war), or for normal civic obligations, or for compulsory military service. Work may be required also of convicted prisoners in the public interest. Prison work is disallowed if it is contracted privately, unless the work is performed under public supervision or is voluntary on the part of the prisoners.

As of November, 1995, 138 countries had ratified Convention number 29 and 116 countries had ratified Convention number 105. The United States has ratified only number 105; among the OECD nations Canada and Turkey also have chosen not to ratify number 29 (Japan has ratified number 29 but not number 105). China has not ratified any of the fundamental conventions, but is "meticulously studying" them for potential ratification to the extent they can inform future reforms in the labor market (ILO, 1995b). The United States continues to reject ratification of number 29 because its state laws conflict with the provisions on prison labor. In particular, the growing trend toward private sub-contracting of the operation of prison facilities could well be found to conflict with the prohibition of private supervision of prison labor. The Philippines objects to several of the categories of exemptions from forced labor and refuses to ratify number 29, however it argues that its ratification of number 105 requires it to abolish compulsory labor more broadly. Mozambique takes an interesting position: because it has already done what it can to eliminate forced labor "...within the institutional capacities of the country" (ILO, 1995b, p.4), there is no need to ratify number 29 (presumably because of political opposition to doing so). Mozambique recognizes that forced labor may be a problem in rural areas that go unmonitored, but it relies on reports from trade unions and human rights organizations to identify these. Malaysia has formally denounced Convention number 105 as an interference with its political and development processes and has no plans to revisit the decision.

Freedom from discrimination is also considered a basic right by the ILO and is promoted by two fundamental conventions, number 100, Equal Remuneration (1950) and number 111, Discrimination in Employment and Occupation (1958). Number 100 calls for equal pay for work of equal value, without regard to gender. This provision may be given effect by a combination of laws and regulations, wage determination devices, and collective bargaining. "Objective appraisal" of jobs is suggested as a means of determining the meaning of "work of equal value." Number 111 mandates the elimination of discrimination in employment, training, and access to particular occupations on the basis of race, color, sex, religion, political opinion, social origin or national extraction. Discrimination could arise from any "distinction, exclusion, or preference" made on the basis of any of these personal characteristics.

As of November, 1995, Convention number 100 had been ratified by 124 nations and number 111 by 119 nations. The United States has ratified neither convention, again because of concerns about their technical consistency with American laws. For example, it is claimed that the ILO conception of "equal remuneration for work of equal value" does not match the American legal standard of "equal pay for substantially equal work." Nevertheless, U.S. laws are substantially in compliance with the spirit of the convention. Convention 111 is more problematic from the U.S. viewpoint, evidently because the proscription against gender- or race-

based preferences conflicts with affirmative action notions at the state and federal levels. There is no attempt underway to ratify either convention in the United States.

The final basic right is freedom from the exploitation of child labor. The ILO has approached this issue indirectly, by establishing Convention number 138, Minimum Age (1973). It calls for setting a minimum age for entry into employment of age 15 or the end of compulsory education, whichever is later. If the work is dangerous or immoral, the minimum age should be 18 (reflecting some notion of what constitutes the age of majority), though definitions of what is dangerous or immoral are left to national choice. Exceptions from these rules are provided. A minimum age of 13 or 14 is acceptable for light work if it is "not prejudicial" to educational attainment. Poor countries can set a minimum age of 14 (12 for light work) in general and of 16 for dangerous work. Child labor is acceptable if it is an "integral part" of a course of education or training approved by worker and employer groups and by competent authorities. Finally, exemptions exist for children working on family farms.

This convention does not enjoy widespread support. Only 46 countries had ratified number 138 as of November, 1995, though several countries have expressed an intention to do so. Numerous rich countries (Canada, New Zealand, Australia, the United Kingdom, the United States, and Switzerland are examples) object to various provisions of the convention and simply refuse to ratify it. For example, Canadian law (federal and provincial) does not provide for the prohibition of work for persons under the school-leaving age, nor does it prohibit night work for children under age 13. New Zealand has numerous restrictions on child employment, but in ways that are somewhat inconsistent with the provisions of the convention. Switzerland has wide sectoral exemptions from its minimum-age laws and has no legislation covering work outside a formal employment relationship. The United States notes several inconsistencies of the convention with its federal and state laws. Mexico objects to the provisions on minimum ages for dangerous work, citing their inconsistencies with its law, while Mozambique admits that it lacks the educational infrastructure that could support ratification (ILO, 1995b). In general, it is clear that a specifying a minimum working age of 15 (or 18 for hazardous jobs) remains unrealistic in many developing countries, given the low frequencies with which many young people finish primary schooling.

On a more conceptual level, several nations object to the Minimum Age Convention for its indirect approach to the issue of child labor exploitation. A minimum age for work is not a core labor standard *per se*. On the one hand, some work of young people is not detrimental to their development nor is it coerced. On the other hand, prohibiting employment of young persons may force them into worse abuses in uncovered sectors or in areas where the proscriptions are not enforced. In short, the minimum-age approach does not distinguish work from exploitation. The convention is also criticized for not setting out safeguards against exploitation of child labor.

Civic Rights

The civic rights identified by Portes refer essentially to rights of workers to associate freely and to engage in unimpeded collective bargaining with employers. The ILO also considers these rights to be fundamental and includes Convention number 87, Freedom of Association and Protection of the Right to Organize (1948) and Convention number 98, Right to Organize and Collective Bargaining (1949) in its core conventions. Number 87 guarantees freedom of association. It calls for free rights to establish and join trade unions, with no formalities such as prior authorization requirements, minimum membership requirements, or limits on the number of unions by enterprise or sector. Trade unions are supposed to be free to hold elections and administer their interests without governmental interference. Rights to strike are inherent in the convention, except for the military and police, whose rights in this regard are subject to national laws. Convention number 98 extends the scope of protection for labor organization, calling for no discrimination in employment decisions against union members, protection of organizations from interference by employers, and an exhortation to governments to promote collective bargaining.

These conventions are among the most widely ratified. Number 87 had been ratified by 114 countries and number 98 by 126 countries by November, 1995. Nonetheless, their provisions are routinely unobserved by developing nations, even those which have ratified them.[39] For example, Mexico has adopted number 87 but retains governmental rights to declare strikes null and limits the number of unions per state enterprise. Indonesia and Malaysia have both ratified number 98 (not number 87) but place significant restrictions on rights to organize (e.g., unions are disallowed in the Malaysian electronic sector) and onerous registration and size requirements on trade unions. At the same time, despite having strong national labor laws, Canada, New Zealand, Switzerland, and the United States have refused to ratify one or both of the conventions (both in the case of the United States). Again, the issue is incompatibility of laws with the conventions. Canadian and American laws allow wider exclusions of collective bargaining rights or the right to strike, while numerous states in the United States allow the hiring of replacement workers, which practice could be construed as a restriction on the rights to strike without interference. Switzerland claims that language in the conventions precluding anti-union discrimination is inconsistent with provisions of its labor law.

Indeed, rights to strike are typically limited to some degree even in developed nations. These limitations, such as right-to-work laws and the ability to lock out and fire workers and to replace them at will, are the subject of significant debate. Such rights vary by country and even by sub-regional authority within countries, without much attention paid to the proscriptions of the ILO conventions. At the other extreme, rights to strike can be very heavily protected through closed-shop rules, in which labor unions have nearly unlimited rights, perhaps coming at the expense of employee rights. That strong unions do not necessarily act in the interests of the

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[39]See OECD (1996).

majority of workers or in the interests of economic efficiency is recognized in the labor-economics literature (Farber, 1986).

These stories on ratification problems point to difficulties with the ILO conventions. Ratification of an ILO convention by a country is a commitment to make its laws consistent with the convention (although it is more accurate to state that most countries who ratify conventions do so after their labor laws are already consistent). However, this does not mean that actual labor practices will meet stipulations in the conventions. A primary explanation is that the conventions have no binding powers of enforcement (see below). Indeed, the ILO has resisted the notion of international enforcement of its conventions on grounds that doing so could severely limit ratification and push many countries out of the organization altogether. On the other hand, non-ratification is not a meaningful indicator of weak labor protection. For one thing, those countries that consider their laws to be in conformity with conventions may choose not to undergo the cost of ratification (Malaysia tends to make this claim frequently). For another, numerous countries with strong labor laws, such as Canada, Switzerland, and the United States, find their laws incompatible with convention requirements, both for minor technical reasons and for substantive reasons. This situation makes questionable the notion that existing ILO conventions can serve as a meaningful basis for an enforceable international social clause on minimum labor protection.

Table 2. Ratification of Fundamental ILO Conventions by Selected Major Countries (November, 1995)

Country	No. 29	No. 105	No. 100	No. 111	No. 138	No. 87	No. 98
TOTAL RATIFICATIONS	138	116	124	126	119	46	114
United States	N	Y	N	N	N	N	N
Canada	N	Y	Y	Y	N	Y	N
Japan	Y	N	Y	N	N	Y	Y
Australia	Y	Y	Y	Y	N	Y	Y
New Zealand	Y	Y	Y	Y	N	N	N
Belgium	Y	Y	Y	Y	Y	Y	Y
France	Y	Y	Y	Y	Y	Y	Y
Germany	Y	Y	Y	Y	Y	Y	Y
Italy	Y	Y	Y	Y	Y	Y	Y
Netherlands	Y	Y	Y	Y	Y	Y	Y
Sweden	Y	Y	Y	Y	Y	Y	Y
United Kingdom	Y	Y	Y	N	N	Y	Y
Switzerland	Y	Y	Y	Y	N	Y	N
Argentina	Y	Y	Y	Y	N	Y	Y
Brazil	Y	Y	Y	Y	N	N	Y
Chile	Y	N	Y	Y	N	N	N
China	N	N	Y	N	N	N	N
Egypt	Y	Y	Y	Y	N	Y	Y
Honduras	Y	Y	Y	Y	Y	Y	Y
India	Y	N	Y	Y	N	N	N
Indonesia	Y	N	Y	N	N	N	Y
Kenya	Y	Y	N	N	Y	N	Y
Rep. of Korea	N	N	N	N	N	N	N
Malaysia	Y	N	N	N	N	N	Y
Mexico	Y	Y	Y	Y	N	Y	N
Mozambique	N	Y	Y	Y	N	N	N
Pakistan	Y	Y	N	Y	N	Y	Y
Philippines	N	Y	Y	Y	N	Y	Y
Singapore	Y	Y	N	N	N	N	Y
South Africa	N	N	N	N	N	N	N
Thailand	Y	Y	N	N	N	N	N
Turkey	N	Y	Y	Y	N	Y	Y

Note: No. 29 is Forced Labor, 1930; No. 105 is Abolition of Forced Labor, 1957; No. 100 is Equal Remuneration, 1959; No. 111 is Discrimination (Employment and Occupation), 1958; No. 138 is Minimum Age, 1973; No. 87 is Freedom of Association and Protection of the Right to Organize, 1973; No. 98 is Right to Organize and Collective Bargaining, 1949.

Sources: Organization for Economic Cooperation and Development (1996) and International Labor Organization (1995a, 1995b).

The second primary function the ILO serves is to act as a clearinghouse and publicity mechanism for complaints about both governmental and private actions that contravene national obligations in labor standards. Each of the tripartite representatives (of labor, business, and government) in each country has standing to complain about practices in its own country and, less frequently, in other countries. An interesting distinction arises here between the ILO's treatment of civil rights and basic rights. The latter rights are the subject of complaints only in nations that have ratified the relevant conventions. The former rights -- freedom of association and collective bargaining -- are enshrined in the Preamble of the ILO Constitution and are, accordingly, taken to be incumbent on any country that joins the ILO, whether or not it ratifies either or both of Conventions 87 and 98. Consequently, complaints about limitations on trade union rights and operations may be made about any country. Further, the tripartite structure of the organization leads to complaints that focus primarily on repression of association and bargaining rights, as these are the issues of more immediate concern to labor and employer interests. As a result, the bulk of complaints are about these issues.

The process by which the ILO operates is based on persuasion and peer pressure. A Committee of Experts issues interpretations on operation of various conventions, thereby evolving judicial "meanings" for them. Subject to these findings, the ILO compiles documents on each country's compliance with conventions it has ratified. National actions are monitored and governments are required to report on labor conditions and to justify their actions with respect to working conditions. Both worker and employer organizations are active in assessing compliance and issuing complaints about practices. Complaints are typically lodged against practices in developing nations. The ILO studies these complaints and its findings are publicized, so that the offending, say, governmental restriction on bargaining rights or rights to strike becomes widely known. No other sanctions beyond public opinion exist.

It is claimed that this approach has been reasonably effective in moderating repressive behavior in a number of countries by shedding light on onerous practices. The ILO's tripartite structure is also lauded as an efficient forum for discussion and consensus-building among major groups interested in labor standards.[40] Others argue that the ILO structure and the absence of any binding mechanisms for forcing change, such as trade sanctions, leaves the approach fundamentally weak and insufficiently focused on basic rights.[41] Further, there is the difficulty that if labor leaders are dependent for their position on government indulgence, they are considerably less likely to complain about labor repression than they would be in the idealized ILO vision of full independence among groups. Indeed, a surprisingly high portion of complaints are lodged against employer and government practices in democratic nations with

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[40]Interview with Francis Maupain of the ILO, Geneva, February 20, 1996 and interview with Edward Potter, Attorney, Washington, February 5, 1996.

[41]Interview with Mark Anderson, AFL-CIO, Washington, February 5, 1996.

free institutions and strong labor protection. This phenomenon presumably reflects the greater ability of labor interests in those countries to take action without reprisals.

The ILO's Position in the Trade and Labor Standards Debate

It is fair to say that the ILO has grave concerns about the wisdom of writing a clause protecting minimum labor standards into the procedures of the World Trade Organization (see below). However, it is actively considering its potential role in such an event, ranging from the institution that defines and monitors minimum standards to one that recommends or mandates trade sanctions. In this context, there has been considerable debate within the ILO (for example, workers' groups from OECD countries have argued for strongly interventionist standards but have been opposed by workers' groups from several developing countries). This discussion has led the ILO to the view that the provision of fundamental human rights (absence of forced labor, rights to freely associate and collectively bargain, elimination of exploitative child labor, and absence of discrimination) is a necessary pre-condition for ensuring that workers share equitably in the gains from trade liberalization and global integration (ILO, 1994).[42] If a system of universal core labor standards were agreed upon and the ILO could verify that violations of these CLS had happened, and that workers were being denied free choice, it would conclude that the country in question was attempting not to share the gains from trade liberalization. The ILO would be prepared to consider a range of actions, ranging from standard publicity efforts through establishing a "Social Policy Review Mechanism," to recommending trade sanctions to the WTO. At this point, all of these possibilities are speculative only and again, the ILO remains wary of establishing a strong linkage with trade policy.

4.b. The World Trade Organization

The issue of establishing formal linkages between observance of minimum labor standards and trade restrictions has a long history (Charnovitz, 1987 and Woolcock, 1995). Indeed, numerous participants to the conferences establishing the ILO advocated building such linkages into its Constitution but the attempt failed. The Havana Charter, the document preparatory to the establishment, which failed, of the International Trade Organization after World War II, noted that nations had a shared interest in fair labor standards and that the maintenance of unfair conditions in production for export activities resulted in "difficulties in international trade." Article Seven of the charter exhorted members to take appropriate and feasible actions to eradicate these unfair conditions. When the ITO failed, all that remained of relevance to labor standards was the set of allowable exemptions from basic obligations as set out in Article XX of the GATT. In particular, Article XX(e) allows countries to ban imports

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[42]This statement is evidently not based on any analytical work at the institution, though the Secretariat may be asked to perform such work in the near term. It is not clear just what actions would constitute "trade liberalization," though presumably membership in the WTO qualifies.

made by prison labor. Note that this provision does not outlaw the use of prison labor itself, it simply presents importing countries with the opportunity to refuse to import such goods.

Several times during the evolution of the GATT, American trade authorities attempted to have language on fair labor standards introduced into the agreement, each time without success. For example, in 1953 the United States proposed a GATT provision stating that unfair labor standards, especially in export production, "..create difficulties in international trade which nullify or impair benefits under this Agreement". Labor practices were to be deemed unfair if labor standards were maintained at levels "...below those which the productivity of the industry and the economy at large would justify" (Charnovitz, 1987). The proposal was rejected by the GATT, although the United States indicated its position that trade difficulties associated with limited standards were actionable under Article XXIII. This Article has not been invoked to date in justification of trade restrictions.

At the Marrakesh Ministerial meeting adopting the Final Act of the Uruguay Round and establishing the World Trade Organization, negotiators for the United States and France succeeded in procuring a commitment for further deliberation on the issue. Little of substance has happened to date on this score, largely because of the strong opposition of many key developing countries, who see a strong possibility that such an obligation would lead to arbitrary and protectionist limits on their exports.

A brief review of proposed means for introducing labor standards into the WTO is instructive.[43] Because recognition of such minimum standards in a global trading pact would require acceptance of a new set of regulatory obligations on the part of many countries, a legal framework for stating and enforcing the obligations would need to be negotiated. The most evident route for establishing this framework would be an expansion of the general exemptions under Article XX. In this context, a failure to provide and enforce minimum labor standards would constitute an action on the basis of which trading partners could suspend trade obligations (in particular, requirements for non-discrimination would be relaxed because trade sanctions would be aimed at a particular country). A prior requirement would be that some definition be made of labor practices that are sufficiently offensive on a multilaterally agreed basis to support a suspension of trade benefits. Presumably, such a definition would be based on the core labor standards as advanced by the ILO but, as is evident from earlier discussion, there would be considerable difficulty in generating consensus on what many of these standards actually would entail. Other issues include whether ratification of existing (or revised) ILO conventions would be required, what would constitute an actionable derogation from the standards, and how rigorously to place restraints on countries proposing to suspend trade. By tradition, GATT Panels have placed a highly rigorous standard on invocation of Article XX, limiting its usefulness to countries proposing to restrict trade (Mattoo and Mavroidis, 1995). In large part, this is due to the fact that Article XX implicitly condones suspending trade benefits on the basis of foreign production processes, while GATT rules mainly have been limited in interpretation to trade in products, irrespective of their manner of production. This tradition, if carried over to

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[43]This review should not be taken to imply advocacy of any or all of the proposals on the part of The World Bank.

labor standards, would leave little room for trade measures. However, the health and morals exceptions in Article XX have been argued to apply both to products and processes and advocates of a labor-standards clause could extend this interpretation.

Article XX is also a difficult route to protection because it rigorously requires that countries demonstrate the necessity of departing from GATT principles in order to correct the problem. In most instances, it is straightforward to demonstrate the technical possibility (if not the political feasibility) of more-direct, less trade-restricting measures, such as subsidies to foreign governments to eliminate prison labor. Indeed, no WTO member has successfully invoked Article XX to justify exceptions to the basic GATT/WTO principles of nondiscrimination, leading some observers to consider it rigid and outdated. If extended under its present interpretation, the extension would be cold comfort to advocates of trade sanctions against limited labor standards. On the other hand, if Article XX were made more flexible in the permissibility of trade sanctions, it would invite unilateral action against labor standards on a heretofore-unseen scale. This danger might be moderated by involving the WTO directly in determination of circumstances under which sanctions could be imposed multilaterally against egregious violators.[44] In any event, it would be no trivial matter simply to incorporate a further general exception for labor standards into Article XX. Negotiations would be required on the definition of minimum labor standards, conditions under which violations would be recognized, and the form and severity of allowable trade sanctions. Further, to the extent that concern over labor standards, such as inadequate protection of freedom of association rights, is aimed at political repression of those rights, the WTO would be put in a new position of making political judgments rather than focusing on trade rules -- a potentially quite significant change in procedure and philosophy.

A second approach to establishing a legal framework would be the negotiation of a multilateral accord (not unlike the TRIPs agreement) that would make WTO membership imply the necessity of observing minimum labor standards, again as set out by existing or revised fundamental ILO conventions (or even standards negotiated *de novo* within a multilateral WTO setting, which approach would basically declare the ILO incompetent in this area).[45] Such an agreement would also require negotiation of criteria for detecting violations of labor standards and provision of domestic enforcement mechanisms. If such an accord were agreed, it would be straightforward for contracting parties to invoke Article XXIII in claiming that violations of this agreement in the form of inadequate labor protection interfere with the attainment of its objectives and call for suspension of trade benefits to remedy the problem (de Wet, 1995).

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[44]In effect, this final approach would be little different from relying on the United Nations to approve sanctions against nations violating fundamental human rights, including labor rights. It should be noted also that GATT Article XXI permits countries to impose UN embargoes on peace and security grounds. Such embargoes require majority votes in the General Assembly and to survive potential vetoes in the Security Council, removing from the WTO any role in monitoring or implementing them.

[45]This approach could also be subsidiary to use of Article XX.

Presumably such actions would be invoked multilaterally and only at the end of a recognized dispute-settlement process.

Assuming a legal framework is established in which minimum international labor standards are defined and agreed, countries must agree also on allowable processes for enforcement. As suggested above, under an Article XX approach, nations would be allowed to suspend trade benefits with a violator country, say through quantitative restrictions or higher tariffs targeted on exports of particular products. Similar sanctions would apply under a separate multilateral agreement on labor standards. In both cases, presumably full access would be made of dispute-settlement procedures.

It may be that sanctions would be multilateral in nature, since it is difficult to imagine inadequate labor standards in one country attracting interest on the part of importers in only one other country. This would be the case, for example, if Article XX exceptions were construed to be protests against the (multilaterally perceived) immorality of deficient labor standards. Arguably, this multilateral character of trade sanctions would limit unilateral enthusiasm for applying the exceptions and would act as a strong signal of international disapproval to countries found in violation. In this view, the inherent motivation for allowing trade measures would be based on some mutually agreed visions of morality. However, it seems likely that any new Article XX exceptions would be invoked frequently on a unilateral basis, especially if the perception becomes widespread that the multilateral process is excessively constrained.

A third approach to process might be to validate the concept of "social dumping" within the WTO by recognizing that limited application or suspension of labor laws on behalf of employers in export sectors or EPZscould constitute an actionable subsidy in the same sense as industry-specific or firm-specific tax advantages or capital subsidies. Such a provision would allow for a considerable extension of unilateral CVD authority to counteract trade advantages presumed to result from social policies (as opposed to commercial policies) and clearly would lead to numerous difficulties of interpretation and operation. Note that this motivation for trade measures is different; it is rooted in alleged damages to domestic industry and laborers from "subsidized" foreign exports. I return to this notion in Section 5.

A variant of this approach has recently been advanced by Rodrik (1996), who advocates allowing nations to impose "social safeguards" tariffs against countries that follow labor practices that can be shown, through a series of filters, to be morally reprehensible to a majority of citizens in the importers. His argument is that high-standard countries, such as the United States, have expressed in their legislation social preferences against certain domestic production technologies, such as child labor use and "sweat shops". However, allowing free imports with low-standard countries is, in his view, simply an additional technology that is equivalent to importing foreign workers and allowing them to work under these unacceptable conditions. Accordingly, importing nations should be allowed to prevent access to this technology as well via trade restrictions.

As Srinivasan (1996) discusses, acceptance of this proposal would pose considerable difficulties for the trading system. Apart from technical difficulties in calculating appropriate social tariffs, its logic would open the WTO to trade sanctions imposed by countries for any purpose related to cost-raising domestic regulations. Countries constrain or prohibit numerous types of processes for environmental, health, aesthetic, and other reasons. Under Rodrik's approach, any such differences in domestic and foreign production regulations potentially could invite tariffs to offset resulting cost variations. Further, more efficient instruments than trade restrictions are available to accommodate humanitarian concerns about international labor standards. Finally, as Anderson (1996) notes, experience with antidumping and countervailing rules in the United States suggests that there would be a strong likelihood that Rodrik's procedures would be subject to capture by domestic producers.

Regardless of modalities chosen for introducing labor standards into the WTO, if any, it is inevitable that sanctions would be applied on a discriminatory basis, with the level of sanctions chosen somehow being a function of the perceived severity of the standards violations and/or the implicit trade damages claimed by the sanctioning country or countries. This prospect of extensive discrimination would present considerable difficulties for the trading system. The WTO (and the GATT before it) is built on the fundamental principle of non-discrimination in trade treatment. The primary advantages of non-discrimination include promoting international trade on an equal footing, thereby rewarding true comparative advantage, and providing smaller nations with trade leverage to offset the power of larger countries. To the extent that a WTO clause on minimum labor standards would open the door to selective trade sanctions, a considerable constraint on the ability to discriminate would be removed from larger and wealthier nations. One also has to question the notion that differences in labor standards present a legitimate basis for trade sanctions in a rules-based system.

Strengthening International Surveillance

This reasoning suggests that the WTO is not the appropriate international international organization to deal with problems of trade-related labor standards. An important question becomes how the ILO could be strengthened in order to improve monitoring and reporting of alleged violations of CLS and to discourage such practices. Charnovitz (1995) discusses proposals for this purpose, including establishing standing ILO Committees on Forced Labor and Child Labor, promoting social labeling programs, facilitating codes of conduct, and encouraging linkages between development aid and labor standards. Note that labeling programs could require some attention by the WTO's Committee on Technical Barriers to Trade to ensure that they do not become unfair trade barriers. There could be further scope for cooperation between the ILO and the WTO as well.

4.c. United States Activities on International Labor Standards

The United States has been the most active nation in working to link observance of "internationally recognized workers' rights" to trade agreements. First, the United States conditions eligibility for trade preferences within the Caribbean Basin Initiative (CBI), the Andean Trade Preference Trade Act (ATPA), and the Generalized System of Preferences (GSP) for each country on an examination of "whether or not such country has taken or is taking steps to afford to workers ... internationally recognized worker rights." The GSP statute allows all interested parties to petition USTR to initiate a public review of whether a GSP country complies with the statute's worker rights requirements and mandates an annual report on the status of such rights in each beneficiary country. Such information is provided in the State Department country reports on human rights.

No country has been denied benefits on the basis of worker rights in the CBI or ATPA, though the threat of sanctions evidently induced improvements in labor standards in Haiti, the Dominican Republic, and elsewhere. Ten countries have been suspended from GSP beneficiary status as a result of worker rights violations, though most have been reinstated upon indication of progress.[46] It remains unclear whether these improvements in the laws have been more cosmetic or real in terms of impacts on local labor markets and employment. For example, no one has studied the impact of these changes on child employment in the formal and informal sectors of these nations, nor on the conditions of work.

The American application of the GSP provision has been roundly criticized by labor groups as politically motivated, in that suspension of benefits seems to have been concentrated in "adversary" nations (e.g., Nicaragua, Liberia, and Syria) and to have been avoided in "friendly" nations with questionable records on labor rights (e.g., Egypt, Indonesia, and El Salvador). At the same time, U.S. trade authorities maintain that the program has proved instrumental in persuading some countries to adhere to stricter standards, while business groups advocate extending the use of GSP to promote labor standards on a multilateral basis.[47] In this context, it is important to note that the European Union intends to extend the use of its GSP program for the purpose of promoting international labor standards. Beginning in 1998, the EU will tie additional tariff preferences to acceptable behavior on worker rights. It is interesting to note that this position implicitly provides an income transfer from European treasuries to exporters in developing countries who meet the prescribed criteria. In this view, the EU is evidently arguing for conditioning foreign aid programs to private recipients on minimum labor standards.

Second, Section 301 of U.S. trade legislation authorizes the President to impose trade sanctions in response to "unreasonable" acts that burden or restrict U.S. commerce. Explicitly mentioned as unreasonable acts are patterns of behavior that deny association and collective

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[46] It is interesting to note that most of these petitions for suspension were filed by the AFL-CIO.

[47] United States Council of Business (1995) and interview with Edward Potter, Attorney, Washington, February 5, 1996.

bargaining rights, that permit forced labor, that fail to provide for minimum ages of child labor, and that do not provide for minimum wages, maximum hours of work, and occupational health and safety. Thus, American trade law goes beyond the level usually envisioned in the core labor standards. To date, no actions under Section 301 have been pursued, in part because such denial of worker rights is most likely to engender action under GSP first.

Third, since 1994 U.S. Executive Directors of international financial institutions, such as the IMF, the World Bank, and the Multilateral Investment Guarantee Agency, are directed to use the influence of the United States to promote worker rights as "an integral part of the institution's policy dialogue with each borrowing country." The Treasury Department prepares reports on the extent to which borrowing countries comply with internationally recognized worker rights.

Fourth, the Overseas Private Investment Corporation (OPIC) cannot guarantee projects in countries that are not providing workers' rights or taking steps to provide them. Moreover, U.S. investors accepting guarantees from OPIC must pledge not to interfere with their overseas employees exercising labor rights and to observe local labor laws. Negative determinations under the GSP provisions above also preclude such countries from participating in OPIC, while OPIC has also suspended countries on its own terms (Korea in 1991, Ethiopia in 1987) and issued discouragement to investors in Saudi Arabia, Qatar, and the United Arab Emirates. Recent law also prohibits the Agency for International Development from using funds to assist any activity that contributes to the violation of worker rights. No reviews are available as to how effective these guidelines have been in altering foreign behavior.

Fifth, the United States retains the right to withdraw MFN status from nonmembers of GATT/WTO for reasons of denial of human rights, including labor rights. In 1982, for example, Poland was removed from the MFN list because of its attempts to suppress the nascent labor union movement. This sanction is frequently discussed with respect to China, but has not been imposed.

While each of the above programs is based on U.S. unilateral action, there is a significant trilateral agreement in the form of the labor side agreement with Mexico and Canada in the North American Free Trade Agreement. The agreement commits each side to fulfillment of its national laws regarding eleven labor conditions, some of which go well beyond core labor standards, such as minimum wages and the treatment of migrant workers. It is, therefore, fundamentally based on the principle of mutual recognition, though it does call for limited enforcement mechanisms to be invoked in certain circumstances.

Interestingly, sanctions cannot be invoked to induce enforcement of laws regarding freedom of association, collective bargaining, and the right to strike, though complaints about lack of enforcement can be raised to the level of Ministerial consultations after initial review by national administrative offices. For example, the U.S. Department of Labor reviewed complaints about the Mexican operations of Honeywell and General Electric in 1994, in which the allegations dealt with violations of union rights. The Labor Department rejected both complaints because Mexican laws and judicial procedures, however weak, were not violated by

the firms (Aggarwal, 1995). Monetary sanctions can be applied as a last resort, after an extensive series of consultation and deliberation, in cases of child labor, minimum employment conditions (e.g., minimum wages) and occupational safety and health.

It is too early to assess the effectiveness of the NAFTA labor agreement. It is a distinctive approach from the notion of common minimum international standards; rather, it relies on examining enforcement and improvement of existing laws. It has limited enforcement procedures (and is, therefore, dismissed by advocates of strong labor standards), but the information generated by case reviews could have the effect of pushing up labor standards through moral suasion. Accordingly, the NAFTA agreement opens up another potential approach to international labor standards.

Finally, the Uruguay Round Implementation Act requires the President to seek establishment in the WTO of a working party to consider the relationship of worker rights to GATT and WTO instruments. Objectives of the working party would include exploring the linkage between international trade and worker rights, the effects of denial of such rights on international trade, means of addressing such effects, and enforcement coordination possibilities between the WTO and the ILO.

5. Conclusions

Attempts to link international labor standards and trade policy have a long history, mostly unsuccessful to date. This report has provided a comprehensive overview and analysis of the main issues and arguments in the current debate. It is evident that considerably more analysis could be sustained with respect to particular aspects of the theory. However, some broad conclusions are warranted.

First, labor standards vary naturally across countries and tend to rise with per-capita income levels. Stronger global competition has increased the perception that differences in standards create competitive advantage and affect international wages. Consumers in wealthy countries also have become increasingly concerned about unpleasant working conditions abroad. These factors will only raise pressure on the global trading system to devise some solution.

Second, a meaningful distinction may be made between core labor standards and other labor standards. The former are more properly the focus of international concern. Core labor standards can, in principle, undergird the efficient operation of labor markets. However, CLS can be set at excessively strong levels in terms of economic efficiency as well.

Third, the implications of weak CLS for competitiveness, trade, and wages are complex and depend on characteristics of labor markets and production technologies. For example, low standards could support monopsony hiring practices, which reduces economic efficiency and exports. Introducing stronger union rights could offset this distortion and expand both wages

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and exports, though the outcome would depend on union preferences. Further, whether monopsony labor practices can be sustained depends in part on global labor conditions. A small country exporting its labor services implicitly through labor-intensive exports will find its ability to set local wages constrained. However, many reasons exist to explain the effective segmentation of labor markets across countries. These must be understood in order to analyze the international impacts of differences in labor standards.

Fourth, the notion that weak CLS generate a significant spillover into lower wages of unskilled workers in developed countries is doubtful, both in theoretical and empirical terms. It is also unlikely that the existence of limited CLS in developing countries will place significant downward pressure on standards in developed countries.

Fifth, to the extent that limited CLS in poor countries is a source of distress to consumers in rich countries, the latter should be willing to contribute to the moderation of the problem, and any such solution would be less distortionary than trade sanctions. A number of mechanisms might be developed for this purpose, though all involve problems of international coordination.

Sixth, the limited empirical evidence available suggests that international variations in core labor standards have little influence on trade performance, international prices, or foreign direct investment.

Seventh, the ILO is a reasonably effective organization for publicizing certain problems with labor standards in member countries. Its ability to induce changes is indirect and based on persuasion, however, and has, therefore, a spotty record. The sporadic record of ratification of core ILO Conventions raises questions about this approach to procuring global agreement on CLS.

Eighth, advocates of strong international labor standards favor introducing a social clause into the WTO in some form. A number of ways in which this might happen were discussed. However, it must be emphasized that extending the possibility of trade sanctions to labor standards would markedly raise the likelihood of trade discrimination and place real strains on the global trading system.

Finally, the overriding conclusion of this report is that using trade sanctions to penalize nations for inadequate provision and enforcement of CLS is inadvisable. The analysis indicates that, in most relevant cases, tariffs are counterproductive in that they harm those individuals they are supposed to help. Indeed, to the extent that limited CLS are a problem in informal or nontraded sectors, sanctions against exports can worsen their severity. Tariffs can also backfire by pushing the most vulnerable workers (children, women) into less-desirable alternative activities and could reduce compliance with available labor standards by shifting resources into the infromal sector. Further, they are indirect instruments that may not achieve the goal for which they are imposed. They might also be ineffective in that there could be ample opportunities to circumvent the penalties if they are not imposed and monitored multilaterally. Tariffs are also blunt instruments in that it would be difficult to use trade sanctions to penalize

some offenders without also taxing firms with stronger labor practices. Calculating meaningful "social dumping tariffs" would be virtually impossible and heavily subject to political capture. In any event, such tariffs are misguided because they would be aimed at policies that generally diminish competitiveness and exports, rather than raise exports.

Policy Recommendations

These conclusions are negative in tone, rather than pointing the way toward beneficial policies to adopt. It is important to finish the report with a series of policy recommendations that are supported by the analysis.

1. There are clearly cases in which limited labor standards serve to reduce a country's economic efficiency and act as a drag on its growth. Policy analysts or consultants could be instructed to advise labor officials in developing countries about such problems and the gains from removing them.

2. Efforts should be made to improve the quality of, and access to, primary education for poor children. Programs to subsidize the purchase of school supplies, provide transportation to school, and to reduce school fees make sense. An effective truancy monitoring system would also be helpful for enforcing minimum leaving-age regulations.

3. On an international scale, there is additional scope for developing private and public mechanisms to reveal the extent of child labor in production processes through greater information and more use of labeling schemes. Coordination problems are endemic in this area, however, suggesting that this approach cannot offer a full solution.

4. Overall, there is virtually no economic case favoring the use of bilateral or multilateral trade penalties against labor standards, though the United States and the European Union may be expected to continue conditioning their GSP systems in this context. On the other hand, the economic case against such penalties is strong.

5. If the WTO is not the appropriate international organization to address trade-related problems in labor standards, an important question is how the ILO could be strengthened in its monitoring and reporting of violations of CLS.

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ANNEX ONE: ANALYTICAL MODELS FROM SECTION THREE

Model A.1. A Simple Model of Schooling Choice

Consider a representative household with a two-period utility function displaying Cobb-Douglas preferences over food (F) and other goods (Y), where food is subject to a minimum consumption requirement:

$$\max U = (F_1 - F^*)^\alpha Y_1^{1-\alpha} + \beta(F_2 - F^*)^\alpha Y_2^{1-\alpha}$$

subject to
$$p_F F_1 + p_y Y_1 + p_E E = w_a L_{a1} + w_{c1} L_{c1}$$
$$p_F F_2 + p_y Y_2 = w_a La_2 + w_{E2} E$$
$$L_{a2} = L_{c1} \; ; E = C_1^* - L_{c1}; \; w_{E2} = \gamma w_a .$$

Here, the household maximizes utility with a discount rate of β. First-period children (C_1^*) either work (L_{c1}) or attend school (E).   These children become adults in the second-period and earn a wage premium (γ) if they were educated. There is a cost of attending school. The choice variables in this problem are F_1, Y_1, F_2, Y_2, and E. Analytical solutions are complicated. It is more instructive to consider the demand for education that emerges from the comparative static analysis:

$$D = D_E(p_E; \; w_a, \beta, \gamma, F^*, C_1^*, p_F, p_y)$$

Demand for education falls with a rise in its price and an increase in the minimum consumption requirement. It rises with the productivity of education. In equilibrium this demand to attend school would be set against the demand for child labor in the workplace. That process would generate an equality at the margin between the child-labor wage and the net return to education less cost of education (an Euler equation).

This simple model does not capture much of the complexity in schooling choice, including a fully dynamic treatment of human capital accumulation. The model also does not account for the possibility that children's interests are inadequately represented in household utility functions. The model does point out, however, that the most direct means of raising incentives for attending school include reducing the cost of attendance and increasing the returns to education.

Model A.2. Economy-Wide Wage Discrimination

Let there be two CRS sectors, X and Y, employing two factors, female labor and male labor:

1. $X = f(L_{FX}, L_{MX})$
2. $Y = g(L_{FY}, L_{MY})$

The aggregate female-labor-supply curve is upward-sloping, while aggregate male labor supply is fixed (relaxing this latter constraint would reinforce the results below). For now I assume that X is the exportable sector and that X is relatively female-labor-intensive, suggesting that our small open economy is female-labor abundant. This assumption is made to capture the evident belief in some quarters that discrimination has the effect of lowering wages and creating competitive advantage in export sectors. Both factors are mobile between sectors, so that w_F and w_M are common in X and Y. Without discrimination, the economy produces at Q^* in Figure A1, consumes at C^*, and the differences between these points indicate import and export volumes. Real national income measured in terms of good X is at I^*.

In this model, *economy-wide* wage discrimination consists of setting a maximum wage for females, $\bar{w}_F$, which lies below what the wage would be without discrimination, while not doing so for males:

3. $w_F \leq \bar{w}_F$

Here, the wage constraint is assumed to be binding, otherwise no effective discrimination would exist in equilibrium. The lower female wage reduces aggregate female employment, shifting the production frontier in to F^*, which is defined for the lower employment level and which I hold fixed by assuming the constraint binds (the real female wage is fixed by the SOE assumption).[48] According to the Rybczynski theorem, output would move to a point like Q'. Firms in both sectors minimize costs subject to their production functions and this constraint. It is easy to show that this optimization generates:

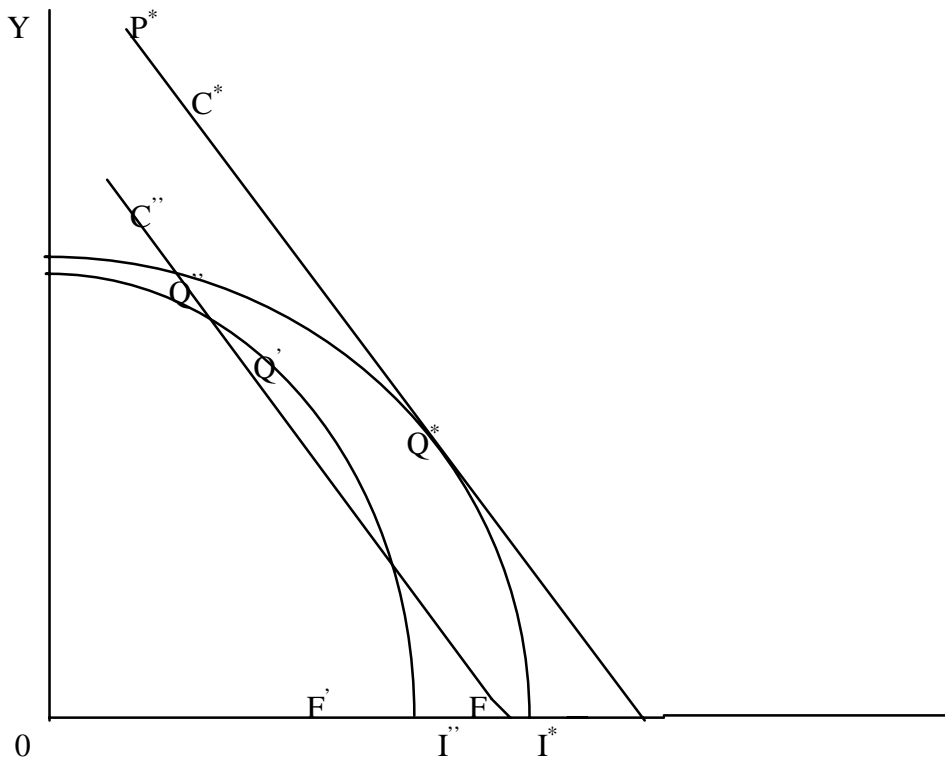4. $f_{LF}/f_{LM} = g_{LF}/g_{LM} = \bar{w}_F/w_M \leq w_F^*/w_M^*$

where the last ratio is the relative female wage without discrimination at point Q^*. Since the marginal rates of technical substitution are equal in X and Y, the economy operates on the lower production frontier. The change in relative wages requires a shift in output toward sector Y, the male-labor-intensive good, implicitly maintaining the constraint on female wages. The constrained equilibrium production point is at Q''. The non-tangency between prices and the production frontier reflects the wage constraint. For example, if sector X were to expand output beyond this point, hiring more female labor would put upward pressure on the female wage, which is fixed by the discrimination. Accordingly, there is no inframarginal impact on female

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[48]See Martin (1976) for analysis of endogenous labor-supply responses.

wages and average cost exceeds marginal cost in sector X. Thus, the effects of economy-wide wage discrimination against females are:

- female wages are lower, and male wages higher, in the distorted equilibrium than they would be without discrimination;
- output contracts in the exportable sector (because it is intensive in female labor);
- as a result, trade volumes decline, assuming preferences for goods are reasonably homothetic;
- the economy's real income declines to $I^{''}$, which decline can be considered its "investment" in preferences to discriminate.

Figure A1. Economy-Wide Wage Discrimination

Model A.3. Sectoral Employment Discrimination

Suppose there is employment discrimination in the export sector X. It is easy to show that in equilibrium:

5. $f_{LF}/f_{LM} = (w_F + \lambda)/w_M > g_{LF}/g_{LM} = w_F/w_M$

where λ is the Lagrange multiplier on the X-sector female employment constraint: $L_{FX} \leq L$. Because the technical rates of substitution are different in the two sectors, the economy operates on the "shrunken-in" production frontier DF shown in Figure A2. [49] In comparison to the initial equilibrium at Q^*, the displaced female workers must move to sector Y, reducing female wages in both sectors and raising the male wage. The zero-profit condition in sector X also guarantees that male workers move to sector Y. Thus, output rises in Y and falls in X to a point like $Q^{'}$. Thus, employment discrimination in the exportable sector reduces output to the other industry and reduces export volume. The economy again pays an efficiency cost in reduced real income. To summarize the results:

- sectoral employment discrimination reduces the female wage and raises the male wage;
- export volume falls if the discrimination is in the exportable sector but rises if it is in the importable sector;
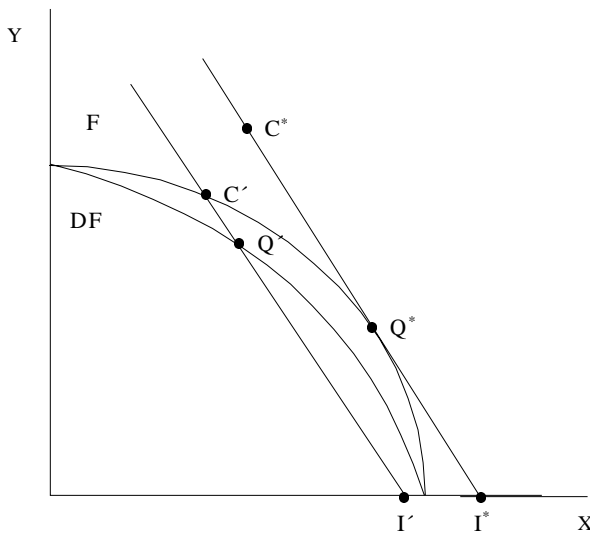- the economy suffers a loss in efficiency and real income.

Figure A2: Employment Discrimination

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[49]In fact, this PPF could have a convex range.

ANNEX TWO. DETERMINANTS OF INTERNATIONAL WAGE SPILLOVERS

Consider the model in Figure A3. There, I depict the undistorted PPF, F_0, as being consistent with the absence (or, more accurately, the market-determined level) of core labor standards, such as union rights. Firms in both sectors are competitive. The introduction of strong union rights, which I model here as an institution setting a minimum wage in the export sector X, has the effect of setting a binding maximum output of X at level X_1. This is the standard outcome in the basic Harris-Todaro model (Bhagwati and Srinivasan, 1983). (Alternatively, we could imagine a stronger minimum age for child labor, which would shift the PPF in throughout its length, with the larger reduction on the X axis). The minimum wage generates unemployment, causing output to lie along the vertical line at the constrained X level. The horizontal distance O_1Q_1 therefore represents the export offer in the presence of union rights.
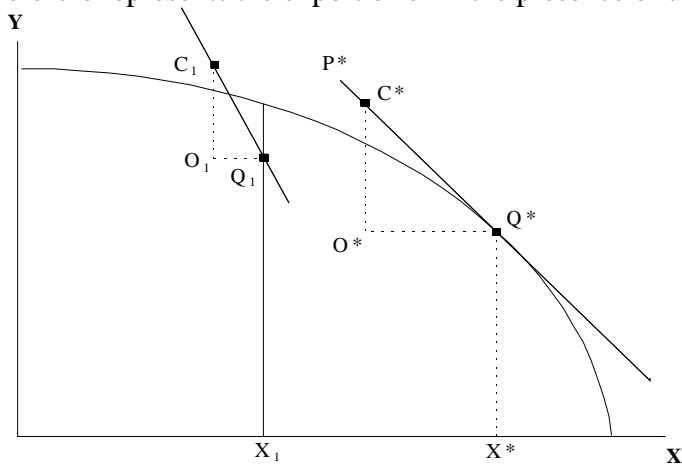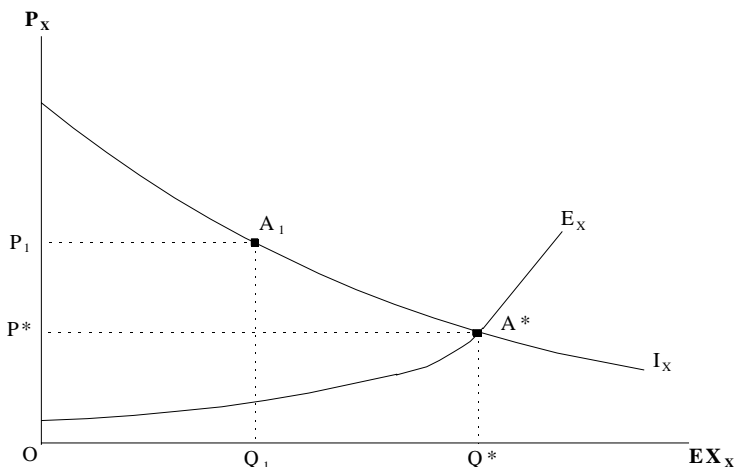
Figure A3: Trade Effects of Union Rights

Figure A4: Price Effects of Union Rights

Now suppose that the union rights are suppressed, so that labor markets are competitive.[50] Output shifts to Q^*, consumption to C^*, and the export offer is higher at O^*Q^*.[51] Note that the effect is to raise output of X and (probably) to reduce output of Y. Unless there is a substantial outward shift in the PPF, the economy cannot "create" additional comparative advantage in X without destroying some output in the rest of the economy.

In Figure A.4 I indicate how the change in world price of X is established. I hold the price of Y constant, so shifts in relative prices are equivalent to changes in the price of X. The curve I_x is the import-demand schedule in the rich countries, say the United States. In the initial equilibrium at point A_1 the export volume is OQ_1.[52] The new equilibrium at point A^* involves a higher import volume and a lower price for good X. Notice that if the import-demand curve were perfectly elastic, meaning that the exporter were a small country, the impact on price in the importing country would be nil. Thus, for any wage spillovers to occur there must be some less-than-infinite elasticity in import demand. This elasticity itself is a function of preferences in the importer and the initial volume of trade in this good. In particular, note that if limited union rights are provided only in isolated and small export sectors (e.g., those with a small share of global trade), there will be little impact on foreign prices.

Thus, the reduction in import price is a function of the following parameters:

$$(dP/P) = f([w/w^*],\theta_{Kx},\theta_{Ky},\sigma_x,\sigma_y,\zeta;\varepsilon^R)$$

Here, w/w^* is the ratio of the unionized wage to the non-unionized wage, taken as an index of the extent of the union distortion. The θ's and σ's are capital shares (measures of factor intensities) and substitution elasticities in each sector. These parameters essentially determine the movements along the PPF. Parameter ζ is a composite demand elasticity for good X in the exporting country, incorporating both relative-price and real-income impacts on demand. Finally, ε^R is the import-demand elasticity in the importing nation. It is a general-equilibrium concept, depending on a composite demand elasticity and the extent of a shift along the importer's PPF.

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[50]Some advocates of strong labor standards no doubt imagine that the effect of repressed labor standards is to generate monopsony labor practices rather than competitive labor markets. This may be true, but the implication would be a smaller increase in trade (or even a decline in trade), yielding a smaller spillover impact into international wages.

[51]Whether the economy actually is better off in this situation depends on its underlying preferences for core labor standards.

[52]I do not draw an export-supply curve through point A_1, since it would not be well-defined in the presence of a union (and/or a monopsony) without more information on its preferences.

Knowledge of the international price change is not enough, for there must be a mapping into wage changes in the importing country. While these effects are complicated in a many-good model, with two goods and two factors I can appeal directly to the Stolper-Samuelson equation:

$$(dw/w) = (dP/P)\theta_{Ky}/(\theta_{Ky} - \theta_{Kx})$$

Notice that the wage change depends on how similar factor intensities are. If both X and Y have similar capital intensities the wage impact is substantial. However, if factor intensities are quite different (as would be the case for textiles, apparel, and electronics as importables) the wage effect is muted.

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