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International Trade
and Core Labour Standards:
A Survey of the Recent
Literature

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LABOUR MARKET AND SOCIAL POLICY - OCCASIONAL PAPERS NO. 43

**INTERNATIONAL TRADE AND CORE LABOUR STANDARDS
A SURVEY OF THE RECENT LITERATURE**

Drusilla K. Brown

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SUMMARY

The purpose of this paper is to provide a critical review of the current debate and recent literature on several aspects of international core labor standards. We attempt to address two basic issues. One strand of the literature examines the role that international trade plays in mediating international differences in wages, levels of development, labor law and cultural practices. In this context, we examine the theory and evidence concerning the impact of differing labor standards for international trade and whether such trade has implications for the income distribution in OECD countries. We also consider the impact of heterogeneous cross-country labor standards and practices for legal institutions relating to labor standards and industrial relations. In particular, we are interested in whether cross-country differences in labor standards must inevitably give rise to a race to the bottom in labor protections and what any consequent decline in standards might imply for broader economic performance.

Next, we turn to the question as to whether countries with poor labor practices are altering their comparative advantage as a consequence and the implications for foreign direct investment. In addition, we consider whether competition in legal protections and labor contracts may occur as well, precipitating a race to the bottom in labor protections.

We then turn to consider policies that might be used to remedy poor labor practices relative to core labor standards. In particular, several policies that have been suggested to reduce child labor are analyzed. Finding an arena in which core labor standards are ultimately established and enforced may prove to be the greatest challenge.

RESUME

L'objet de cet ouvrage est de soumettre à une analyse critique les arguments avancés dans le débat en cours sur plusieurs aspects de la question des normes internationales fondamentales du travail, ainsi que les études qui leur ont récemment été consacrées. Deux thèmes essentiels y sont traités. Une partie de ces études s'intéresse à l'influence qu'exercent les échanges internationaux sur les différences existant entre pays quant aux salaires, au niveau de développement, à la législation du travail et aux pratiques culturelles. Dans cette optique, nous examinons les théories et les faits observés concernant les effets de la diversité des normes du travail sur les échanges internationaux, en tentant de déterminer si ces derniers ont une incidence sur la répartition du revenu dans les pays de l'OCDE. Nous étudions également l'impact que peuvent avoir des normes du travail et des pratiques en matière d'emploi variables d'un pays à l'autre s'agissant des institutions juridiques relatives aux normes et aux relations du travail. En particulier, nous nous demandons si les différences de normes du travail entre pays entraînent nécessairement un nivellement par le bas de la protection des travailleurs, et quelles conséquences une baisse des normes qui s'ensuit peut avoir pour les résultats économiques en général.

Nous nous penchons ensuite sur la question de savoir si le fait pour certains pays d'avoir des pratiques insuffisantes en matière d'emploi modifie leur avantage comparatif, ainsi que sur les effets produits par l'existence de ces pratiques sur l'investissement étranger direct. En outre, nous examinons si une concurrence peut également s'exercer dans le domaine de la législation du travail et des contrats de travail, provoquant un phénomène accéléré de nivellement par le bas de la protection de la main-d'œuvre.

Puis nous étudions les mesures qui pourraient être prises pour remédier aux pratiques insuffisantes en matière d'emploi dans l'optique des normes fondamentales du travail. En particulier, nous analysons plusieurs des mesures qui ont été proposées pour lutter contre le travail des enfants. Il se peut que le défi le plus difficile à relever soit de trouver une enceinte dans laquelle les normes fondamentales du travail puissent à terme être élaborées et appliquées.

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INTERNATIONAL TRADE AND CORE LABOR STANDARDS: A SURVEY OF RECENT LITERATURE

1. Introduction¹

1. The ongoing debate over universal labor standards covers a wide range of issues, few of which have been settled to the satisfaction of scholars, policy makers and even the general public. The intense focus on labor standards that has developed over the past decade has several different motivations and dimensions. Part of the debate turns on whether the pursuit of international standards is driven by hidden protectionism, a sense of fair play, humanitarian concerns, inefficiency of decentralized policy-making, or the domestic political economy of trade policy. Other aspects of the discussion have focused on the desirability of international coordination of labor standards, the forum in which international discussions should occur and the tools of enforcement. The purpose of this paper is to provide a critical review of the current debate and recent literature on several aspects of international labor standards.

2. We will focus in particular on those labor standards that are typically referred to as core labor standards. Though there are several different taxonomies used to categorize labor standards, core standards usually concern those labor standards that relate to basic human rights and can be established without regard to level of economic development. According to the 1998 ILO Declaration on fundamental principles and rights at work:

...all Members, even if they have not ratified the Conventions in question, have an obligation arising from the very fact of membership in the Organization, to respect, to promote and to realize, in good faith and in accordance with the Constitution, the principles concerning the fundamental rights which are the subject of those Conventions, namely:

1. freedom of association and the effective recognition of the right to collective bargaining;
2. the elimination of all forms of forced or compulsory labor;
3. the effective abolition of child labor; and
4. the elimination of discrimination in respect of employment and occupation.

3. The establishment of universal core labor standards is typically justified on both humanitarian grounds and notions of fair competition in international trade. Proponents focus on the harsh working conditions particularly of children, as well as adults, and the weak protection of worker rights. Additionally, poor labor practices in some markets may have implications for working conditions cross-nationally.

4. We turn first to consider the collateral implications of labor practices, evaluating both theory and evidence. Bear in mind, though, that this ranges beyond the narrow set of core labor standards to embrace wages and other elements of labor costs. Over the last decade and a half, scholars and policy makers have debated whether high unemployment and growing wage inequality in some OECD countries is driven by trade among countries with differing wages and levels of economic development. To the extent that the rise

1. This paper is the product of a consultancy to the OECD Education, Employment, Labour and Social Affairs Directorate and Trade Directorate. It served as background material for the study, OECD (2000), *International Trade and Core Labour Standards*, Paris.

in unemployment or fall in the return to unskilled labor is the result of trade with unskilled-labor abundant countries, the interest in labor practices in developing countries is intensified. If a large volume of trade with developing countries is the result of poor labor practices in these countries, any consequent decline in the wages of unskilled labor in OECD countries may be regarded as unfair. In Section II we take up a discussion of the empirical evidence concerning the relationship between trade, wages and unemployment in order to determine the extent to which growing wage inequality and unemployment in OECD countries might be the result of international trade with less developed countries. Section III then reviews the empirical connection between cross-country variations in core labor standards, comparative advantage and trade competitiveness.

5. Cross-country variations in core labor standards may also lead to competition in legal institutions and certain aspects of labor contracts. In Section IV, we present and evaluate arguments that a *race to the bottom* in labor protections will occur in the absence of internationally-coordinated core labor standards. Section V then turns to the implications that eroded legal institutions and labor protections might have for economic performance.

6. Some empirical evidence concerning the motivations for universal core labor standards is presented in Section VI. We will address, in particular, whether the pursuit of core labor standards is motivated by humanitarian concerns or whether proponents merely seek to protect scarce factors of production from legitimate international competition.

7. We then turn to a discussion of the mechanisms that might be employed to improve the observance of core labor standards. Various policy tools are analyzed in Section VII. Each policy is evaluated in terms of the intended objective of improving adherence to core labor standards. Not surprisingly, the results are as varied as the models used for analysis. The discussion attempts to give a flavor of the wide range of conclusions that one might draw. We will then consider the humanitarian implications of intervention. That is, are the intended beneficiaries made better off as a consequence of the policy?

8. Section VIII addresses the question of enforcement. Should an internationally recognized set of core labor standards be enforced with trade disciplines in the World Trade Organization (WTO) or should enforcement be the exclusive domain of the International Labor Organization (ILO)? Or, alternatively, might endogenous mechanisms lead to core labor standards convergence? The role of economic growth and international trade in spawning core labor standards convergence is addressed in Section IX. The final section presents a summary and conclusions.

2. Trade, Wages and Unemployment

9. The case for internationally established core labor standards in part rests on the view that trade with low-wage countries has increased unemployment and slowed the growth in, or even lowered, the wages of unskilled workers in OECD countries over the past three decades. To the extent that low wages in developing countries are the result of poorly protected core labor rights, trade based on low wages is seen, in the minds of some, to be unfair. In the context of this aspect of the debate on labor standards, it is useful to evaluate the evidence concerning the impact of international trade on the wage profile in OECD countries. Two useful reviews with competing points of view can be found in Cline (1997) and Slaughter and Swagel (1997).

10. The review and discussion that follow will focus on the recent empirical evidence on the role that international trade has played in determining the relative wages of skilled and unskilled workers. While most of the evidence presented reflects on the U.S. distribution of income, some recent studies have

evaluated the impact of international trade on wages and unemployment in other OECD countries and Latin America.

Early Evidence on Wage Determination: The Role of Technological Change

11. The debate over the impact of trade with developing countries on the determination of employment and wages is over 20 years old. One of the first such studies was undertaken by Frank (1977). Frank points out that the rate of growth in employment can be decomposed into an accounting identity where employment growth depends positively on a share-weighted average of the rates of growth in domestic demand for domestically produced goods and exports and negatively on imports and labor productivity.

12. This identity is applied to 20 tradable 2-digit U.S. SIC industries for the period 1963-71. Annual employment grew more slowly than domestic demand by 3.3%. Labor productivity, which grew at an average rate of 2.9% over the period, accounted for the lion's share of the sluggish employment growth.

13. Based on these calculations, Frank found that international trade played only a very small role in employment determination. Net imports resulted in a decline of 600 000 jobs over the sample period, 1963-71, which was 0.2% of the manufacturing labor force at the time. Other studies adopting the Frank methodology found similar results.²

14. Labor economists returned to the issue of wage and employment determination in an attempt to understand the growing wage inequality that emerged in the 1980s, especially in the United States. Bound and Johnson (1992) regress the log of wages on various skill and human capital variables in order to determine the remuneration that each of these labor characteristics is earning. Skill and human capital are measured by educational attainment, years of experience and gender.³ The wage variable is CPS weekly earnings for 17 industries (deflated by the CPI) for the period 1979-88.

15. About one-half of the male groups suffered a decline in real wages over the period. These groups included those who had not graduated from college and young males. Female workers were less adversely affected. They also found that the average wage of college graduates relative to high-school graduates rose by 20% during the decade.

16. Bound and Johnson then turn to determine the source of the wage decline. They decompose the wage change for each skill category into several factors reflecting technological efficiency, industry demand, factor supply and the allocation of employment across industries.⁴

17. First, they find that the supply of college-educated workers was rising over the period. But demand must have been growing more quickly because the relative wage of college-educated workers was also rising. Second, Bound and Johnson conclude that the growth in the wage for male college graduates relative to high-school graduates was overwhelmingly determined by technical efficiency parameters that favor females and highly educated workers. *Clearly the demand for skill rose throughout the 1980s.*

2. See Cline (1997) for a survey.

3. The four education categories are high-school dropouts, high-school graduates, college dropouts and college graduates. The experience categories are 0-9 years, 10-19, 20-29 and 30 and over years.

4. See Martin and Evans (1981) for a review and critique of this accounting method.

18. The literature then turns to determine whether the wage shifts attributed to technological change might not in fact be due to the influence of international factors after all. Berman, Bound and Griliches (1994) consider the employment of nonproduction workers⁵ share in total employment. They argue that skill-biased technological change would drive up the demand for skill *within* each sector. However, if the demand for skill is driven by international trade or defense spending, they argue that we should observe a shift in demand for skill *between* sectors of the economy as a consequence of specialization and trade.

19. Analyzing 450 U.S. manufacturing industries, Berman, *et al.* find that between 1973 and 1979, nonproduction workers' share of total employment rose by 0.3% per year. Of this, 0.1 percentage points is attributed to a shift between sectors and 0.2 percentage points occurred because of a shift within sectors. This trend in employment share accelerated between 1979 and 1987 to 0.55% per year. Of this, only 0.16 percentage points is attributable to between-sector employment changes while 0.39 percentage points is attributable to within-sector employment changes. That is, of these estimates, 70% of the overall shift in labor demand was due to a change in skill demand *within* industries.

20. Thus, the evidence appeared to support the view that technological change rather than international trade is the driving force behind the increased demand for nonproduction workers in the U.S. economy over the past two decades. In fact, the role of trade appeared to be close to zero since Berman, *et al.* argue that most of the between-sector shifts in employment were due to defense spending.

21. Similar results are found for industrialized countries other than the United States. Berman, Machin and Bound (1996) find that pervasive skill-biased technological change has led to a shift in labor demand toward skilled workers in twelve advanced economies, including Germany and the United Kingdom. Goux and Maurin (1997) find that in France the decline in demand for unskilled labor results primarily from changes in domestic demand that favored skill-intensive products, rather than technology. However, Freeman and Katz (1996) show that changes in demand resulted in a rise in the unemployment rate of unskilled workers rather than a change in relative wages. Robbins (1996) and Feliciano (1995) present evidence that income inequality has also risen in certain Latin American countries, *e.g.* Chile, Columbia, Costa Rica, Mexico and Uruguay.

Emerging Evidence on Trade and the Wage Profile

22. However, several studies have shown a greater role for trade. Katz and Murphy (1992) perform analysis similar to Bound and Johnson (1992). In particular, they are interested in determining the degree to which the demand for skilled labor has changed. They consider the inner product of a vector of the change in wages and change in employment. If this relationship is negative, that is a rise in employment is correlated with a fall in wages, then we are moving up the labor demand curve. Hence, a shift in supply must be driving wage changes.

23. Indeed, a negative correlation emerges for the period 1965-80. However, during the 1980s, *positive* wage changes are correlated with *positive* employment changes. Therefore, they conclude that there must have been a shift in labor demand moving the equilibrium up along the labor supply schedule.

24. Furthermore, during the 1980s, *within*-industry labor demand was stable. Rather, demand was shifting labor out of basic manufacturing into professional and business services. The demand for high school dropouts fell by 6% and the demand for male college graduates rose by 2.9%. Hence, there appears

5. Nonproduction workers include supervisors, those engaged in installation and servicing, sales, delivery, professional, technological administration, etc.

to be some support for the notion that factors were moving *intersectorally*, a result compatible with the hypothesis that international trade is altering the relative demand for skilled workers.

25. Katz and Murphy then attempt to determine the extent to which trade altered labor demand. They calculate the net factor flows implicit in U.S. trade. Between 1979 and 1985, international trade resulted in a decrease in the demand for male high-school dropouts by between 0.6% and 1.5% and a fall in the demand for female high-school dropouts by 2.2% to 4.0%.

26. Borjas, Freeman and Katz (1992) also calculate the factor supplies implied by U.S. international trade and immigration. They find that for 1985-86, trade and immigration implicitly increased the supply of workers with a skill level equivalent to a high-school dropout in the United States by 27%. The comparable number for college graduates was 9%.

27. What did this implicit importation of unskilled labor do to wages? Borjas, *et al.* find that international trade implicitly raised the supply of high-school graduates relative to college graduates by 4.4% which resulted in a 2% increase in the college graduate wage premium. Since the total change in the premium was 11%, trade and immigration are estimated to account for 20% of the total increase.

28. This conclusion by Borjas, *et al.* has been criticized on the grounds that it is very dependent on the fact that the U.S. trade deficit peaked as a fraction of GNP in 1985. In response, Borjas, Freeman, and Katz (1997) repeat the analysis for the period 1980-95. They find that college graduate wages relative to high-school graduate wages rose by 21% over the period. Immigration and trade are found to account for only 10% of the change. However, high-school graduate wages relative to high-school drop-out wages rise by 11.5%. Immigration and trade are found to account for 40-50% of the latter change in wage differentials.

29. Other studies have produced larger trade effects on wages, *e.g.* Borjas and Ramey (1995). One of the most comprehensive studies of the impact of North-South trade on wage inequality was undertaken by Wood (1994). Wood, adopting the factor-content approach, calculates the factor content for skilled workers, unskilled workers and capital per unit of exports to LDCs and per unit of imports from LDCs. Net factor content is then applied to total trade to calculate the impact on the implicit net demand for each factor of production in the industrialized countries.

30. When calculating the implicit supply of factors to the industrialized countries embodied in LDC exports, Wood assumes that LDC exports are not competing with industrialized country production. Therefore, rather than use the actual labor-input coefficients in industrialized countries to calculate the implicit factor flows, Wood uses the labor input coefficients in developing countries. In other words, Wood is calculating the actual labor embodied in the trade flow from developing countries rather than the labor that would have been embodied in the goods had they been produced by the importer. Wood's assumption has important implications for his results since developing countries tend to use a more unskilled-labor intensive technique of production.

31. Not surprisingly, the results obtained by Wood imply a larger role for trade than those obtained by others using the factor-content approach. In fact, he finds that all of the growing wage dispersion in the North is attributable to North-South trade.

The Stolper-Samuelson Critique and the Ensuing Debate

32. Studies relating the factor content of trade to changes in the wage profile came under fierce attack by several trade economists including Bhagwati (1991), Lawrence and Slaughter (1993) and Krugman and Lawrence (1994). Trade economists initially argued that researchers who work within the confines of

perfect competition must ultimately draw on the mechanics of the Stoper-Samuleson Theorem in order to understand the relationship between international trade and the distribution of income.

33. That is, when trade is opened with an unskilled labor-abundant country, the price of unskilled labor-intensive goods will decline domestically. In response, factors of production leave the unskilled labor-intensive sector and are re-employed in the skilled labor-intensive sector. As production of skilled labor-intensive goods rise, an excess demand for skilled labor emerges. The labor market resolves the imbalance by raising the relative wage paid to skilled workers as compared to unskilled workers.

34. Firms economy-wide respond to the change in relative factor prices by adopting a more *unskilled* labor-intensive technique of production. Therefore, the telltale sign that trade with unskilled labor-abundant countries is lowering domestic wages is that the ratio of skilled to unskilled workers should fall across all industries of the economy.

35. Lawrence and Slaughter (1993) found that just the opposite occurred in the U.S. economy throughout the 1980s. U.S. manufacturing firms consistently substituted *toward* skilled labor in spite of its rising cost. Such a pattern of behavior by firms is only cost-minimizing if there has been a technological change rendering skilled labor relatively more productive. Lawrence (1996) reports similar results for Japan and Germany. Firms exhibit no systematic relationship between goods prices and the skill-intensity of production.

36. Perhaps more importantly, there does not appear to be any decline in the relative price of unskilled labor-intensive production. Therefore, both links which are key to the connection between trade and factor prices are missing.

37. Evidence concerning growing wage inequality in some developing countries is also instructive. As noted above, a recent study finds increased wage dispersion in Latin American countries such as Chile, Columbia, Costa Rica, Mexico and Uruguay. If Stolper-Samuelson mechanics were at work, we should have observed the opposite. Developing countries that export unskilled labor-intensive goods should experience a *convergence* in the relative wage of skilled and unskilled workers rather than growing inequality. The fact that relative wages in some developing countries followed trends in industrialized countries lends evidence to the alternative hypothesis that skill-biased technical change is the main driving force behind changes in relative wages rather than international trade.

38. However, some authors disagree with the interpretation of the evidence. Cline (1997), among others, has criticized the results obtained by Lawrence, Slaughter and Krugman. First, it is argued that reliance on Stolper-Samulson mechanics seems unreasonable given the restrictive assumptions necessary to prove this theorem. However, the fact of the matter is that the fundamental nature of the argument concerning the connection between trade and wages is a Stolper-Samuelson story. It is difficult to see how trade in goods would lower the wages of unskilled workers if there is no evidence that the prices of unskilled labor-intensive goods have fallen.

39. It is incumbent upon critics to specify the transmission mechanism through which trade affects factor prices if it does not go through goods prices. Cooper (1994) offers the possible explanation that U.S. firms compete with an import surge by attempting to upgrade product quality. Hence, the domestic price may not change or may even rise as the domestic industry abandons the production of low-quality goods. The implicit fall in the price of low-quality goods is thus not observed.

40. Critics also contend that the ratio of skilled to unskilled workers need not fall to satisfy the Stolper-Samuelson Theorem if there is an increase in the total supply of skilled workers that occurs at the same time as an increase in imports. For example, suppose that there is a skill-biased technological change

that is raising the demand for skill. The subsequent rise in wages increases the number of students who choose to obtain a college education. The combination of the increase in the supply of skill and the demand for skill will raise the ratio of skilled to unskilled workers economy-wide. Wages will also increase as long as the demand for skill rises by more than the supply of skill.

41. Now introduce cheap unskilled labor-intensive imports. The Stolper-Samuelson Theorem tells us to expect that there will be downward pressure on the ratio of skilled to unskilled labor. However, there is nothing in the logic of the story that requires that the downward pressure on the skill-intensity of production from international trade dominates the upward pressure on the skill-intensity of production due to the skill-biased technological change. Therefore, *as long as some skill-biased technological change is present, international trade may be depressing the relative wage of unskilled workers, even as firms are adopting a more skill-intensive technique of production.*

42. However, it remains the case that there must be a fall in the price of unskilled labor-intensive goods if international trade is to lower the wages of unskilled workers. Some have disputed the evidence from the price data reported by Lawrence and Slaughter. Lawrence and Slaughter claim that analysis of two- and three-digit SIC industries indicates that traded goods prices show no systematic relationship to skill-intensity. Leamer (1992), using a different method of aggregation, claims to have found that the traded goods prices of unskilled labor-intensive sectors have fallen. However, given the arbitrariness of Leamer's construct, it is difficult to evaluate his evidence.

43. Further work by Leamer (1996) suggests that the relative price of labor-intensive goods fell during the 1970s, but confirms the results of Lawrence and Slaughter that the price of labor-intensive goods did not fall during the 1980s. The decline in labor-intensive imports in the 1970s seems to have been mainly caused by a surge in imports of clothing and textiles. However, new import restrictions imposed in the 1980s stemmed the decline in import prices.

44. Leamer (1996) then considers the possibility that product prices of skill-intensive goods may have fallen as a consequence of technological improvements, thus masking the fall in import-competing goods prices. Therefore, he allows technological change to affect product prices. However, even abstracting from technological change, relative import prices are found to have fallen only during the 1970s.

Reconciling the Factor-Content and Stolper-Samuelson Results

45. How then do we reconcile the contradictory results from the models based on the Stolper-Samuelson Theorem and those based on the factor-content approach? First, Krugman, Lawrence and Slaughter's observation concerning the growing skilled labor intensity of production turns out not to be the smoking gun that it first seemed. The fact that industries consistently substituted toward greater skill over the period when the wages of skilled labor were increasing, contrary to the requirements of the Stolper-Samuelson Theorem, can easily be accounted for if there was skill-biased technological change, accompanied by changes in factor supplies, occurring over the same period. As discussed above, skill-biased technical change will raise the demand for skill, thereby bidding up its price. There appears to have been a lagged supply response to the change in relative wages. Hence, more skilled labor and less unskilled labor became available for employment, thereby raising the skill-intensity of production across industries.

46. The effect of international trade for a skill-abundant country is to raise the demand for skilled labor. If the change in supply of skilled labor had not been occurring, the skill-intensity of production would have fallen, as required by Stolper-Samuelson mechanics. However, the supply of skilled labor did increase. So firms economy-wide were able to intensify the use of skilled labor.

47. The absence of a change in relative prices is somewhat more difficult to account for. However, Sachs and Shatz (1995) offer a possible explanation. The connection between goods prices and factor prices in standard trade models is characterized by a “magnification” effect, *i.e.* the percent change in goods prices is a share-weighted average of the percent change in input prices. Consequently, the dispersion of factor-price changes is always larger than the dispersion of goods-price changes, hence the term “magnification” effect.

48. One could argue, as Krugman (1995) has, that as a consequence of the magnification effect, unobservable changes in goods prices may translate into readily observable changes in factor prices. Therefore, we may not be able to detect the change in goods prices that is generating the change in the distribution of wages. Krugman (1995) adopts a standard trade theory equation that relates the change in wages to the change in relative factor endowments and finds results that are broadly consistent with the view that trade may have accounted for about 15% of the growing wage disparity between high-school and college graduates between 1980 and 1988. A similar figure is reported by Baldwin and Cain (1996).

49. Second, Jones and Engerman (1996) point out that immigration and capital flows can alter relative factor prices even if goods prices do not change if some factors are sector-specific. Consider, for example, a world in which the import-competing sector employs unskilled labor, the export sector employs capital and skilled labor is mobile between both sectors. Immigration of unskilled labor and capital imports, as experienced by the United States over the last two decades, will raise the return to skilled labor since skilled labor has more capital and unskilled labor to work with. This is the case even if there is no change in traded goods prices.⁶

50. Third, it is important to note that the early criticisms of the intellectual foundation of the factor-content approach appear to have been at least partly exaggerated. Krugman and others had argued that the factor-content approach is evidence without theory.

51. However, Deardorff and Staiger (1988) provide a basis under which the two approaches might be potentially reconcilable. They find that each trading equilibrium has as its dual a nontrading equilibrium in which the factor endowments have been suitably adjusted. In particular, if a country’s factor endowments are augmented by the factor inputs implicitly embodied in goods trade, then goods trade will cease. Furthermore, identical factor prices, goods prices and consumption will emerge in the two equilibria.

52. Deardorff and Staiger then derive an equation that allows us to calculate how much each factor’s cost share would have changed if the factor content embodied in international goods trade had been eliminated. That is, once we know the factor content of goods trade *in a given year*, we can calculate how much factor prices changed as a consequence of goods trade. Implicit in the question originally asked by

6. Jones and Engerman (1996) also make some interesting observations comparing U.S. wage experience over the past three decades to British experience during the industrial revolution. Though wages of unskilled labor have fallen in the United States over the last two decades, wages of skilled workers tended to decline in Britain toward the end of the 19th century. Jones and Engerman identify two possible reasons for the difference. First, as noted in the text, the United States has experienced a capital inflow and immigration of unskilled labor over the last two decades. By contrast, during the end of the 19th century, Britain engaged in considerable foreign direct investment and emigration of unskilled labor. Thus, Britain was losing capital and unskilled labor, whereas the United States acquired capital and unskilled labor during a comparable period. Second, the United States has in the recent period experienced a surge in imports from unskilled labor abundant countries. In contrast, Britain, in the last century, began to experience intensified competition in its export market due to technological innovation in newly industrializing countries such as the United States. These two different patterns of competition would have opposite effects on product prices, with the price of unskilled labor intensive production falling in the United States and the price of skilled labor intensive production falling in Britain.

Deardorff and Staiger is that tastes and technology would remain constant throughout the exercise. As a consequence, one can reason from the implicit change in factor endowments embodied in trade to factor prices just as readily as one can reason from goods prices to factor prices as long as there has been no change in tastes or technology. It appeared, therefore, that one could estimate the change in relative wages from *year to year* as a response to changes in the factor content of trade over time.

53. Baldwin and Cain (1994) adopt the Deardorff-Staiger approach to analyze U.S. manufacturing trade over the period 1977-87. They find that trade accounts for 2.3 percentage points of the 17 percentage point increase in the gap between wages earned by U.S. workers with more than 12 years of education relative to workers with 12 years or less of education.

54. Similarly qualified results have been found for Europe. Neven and Wyplosz (1996) find that for Germany, wages and employment appear to be adversely affected by import competition. However, for Italy and the United Kingdom, imports from advanced economies play a more important role in determining labor market outcomes.

55. Nevertheless, the debate over the factor-content approach and the relationship between trade and the distribution of income continues unabated and unresolved. In Krugman's (2000, p. 51) view,

“...a factor content approach to infer the effects of trade on factor prices turns out to be an entirely justified procedure when carefully applied.”

56. Leamer (2000, p. 46) draws the opposite conclusion stating,

“If you are interested in determining the effect trade with low-wage countries is having on wages, look first and look carefully at changes in product prices. Factor contents at best are only proxies for these price movements. Once you understand fully the product price movements, factor contents become entirely irrelevant.”

57. Whereas Deardorff (2000, p. 89) takes a cautiously optimistic view,

“Is the factor content of trade of any use? Yes. It must be used with careful attention to both the questions that it answers, and to the assumptions needed for these answers to be informative. These assumptions are not trivial. But they are not quite as special as may be alleged, and one can understand and deal with the biases that departures from these assumptions entail.”

58. Perhaps the most thoughtful and encompassing critique of the factor-content approach is provided by Panagariya (2000). Panagariya makes several clarifying points concerning the application of the Deardorff-Staiger equation to the empirical question as to the impact of trade on the income distribution. First, Panagariya (2000) is able to demonstrate that the Deardorff-Staiger equation *is applicable* to the empirical *question even if tastes and technology are changing over the sample period*, provided that the other restrictions on consumer preferences and technology are satisfied. Panagariya thus establishes the analytical foundation of the factor-content approach. The weakness, if it exists, must lie in the restrictive assumptions placed on the base-period tastes and technology.

59. Second, Panagariya is able to establish that three changes to the underlying model do not pose a problem for the Deardorff-Staiger equation.⁷ The result proves to be robust to the addition of nontraded

7. It should be noted that some of the results to follow were independently established by Deardorff (2000) and Leamer (2000).

goods, intermediate inputs and unbalanced trade. It is also possible to relax the restrictions on the utility function to include the case in which the utility and production functions are CES and share the same elasticity of substitution.

60. Rather, Panagariya's criticisms of the factor-content approach are two-fold. He finds the restrictions on the utility and productions functions to be too far removed from reality. Panagariya cites an abundance of evidence that elasticities of substitution vary across sectors and that preferences are unlikely to be homothetic. Nonhomotheticity proves to be a serious drawback as demonstrated by Bhagwati and Dehejia (1994). In fact, *when preferences are not homothetic, the factor-content approach not only can produce estimates of the wrong magnitude but also of the wrong sign.*

61. Furthermore, the factor-content approach breaks down if there are increasing returns to scale or if an economy is incompletely diversified. As was discovered by some empirical researchers, it is hard to know how to calculate the factor content of trade for goods that are not produced domestically. See, in particular, Wood (1994).

62. Finally, Panagariya turns to Krugman's complete vindication of the factor-content approach. He points out that Krugman assumes homothetic tastes, complete diversification in production and constant returns to scale and carries out his analysis using infinitesimally small changes in factor content. However, as Panagariya has demonstrated, the factor-content approach does not fare well when these assumptions are relaxed.

63. In light of the above discussion, Panagariya has grave doubts about the value of the factor-content approach to provide credible evidence on the relationship between trade and factor prices. However, he acknowledges that some researchers may disagree.

Final Observations on the Wage-Trade Debate

64. A couple of observations concerning the role of trade in wage determination are in order at this point. First, much of the discussion concerning trade and wages has focused on the role of trade relative to technological change. For the purposes of understanding wage determination, establishing the relative importance of these two factors is critical. However, for the purposes of understanding the relationship between trade and wages, the absolute response of wages to trade openness is of interest. We are concerned with the presence of technological change only to the extent that it dampens or obscures the effects of trade on wages.

65. Cline (1997) concludes, based on a review of the literature, that the preponderance of evidence indicates that international trade accounts for an increase in the return to some college education of about 2.5 percentage points over the decade of the 1980s. That is, trade accounted for 15-20% of the widening U.S. wage differential. In some sense, this number seems small. Krugman's (1995) explanation is that trade with developing countries accounts for only 2% of OECD GNP, hence the small change in factor prices despite the wide differential between low-wage and high-wage countries.⁸

66. However, as low-wage countries turn toward an export-promotion development strategy, the implication for trade prices and, therefore, wages of unskilled workers could be much larger. Nevertheless, the impact will be transitory. As developing countries industrialize, they will have an incentive to increase

8. Krugman's sense that the small volume of trade between the developed and developing world gives rise to a small impact on relative wages is consistently supported by applied general equilibrium models of trade. See for example, Jean and Bontout (2000).

human and physical capital formation. Over time, the stock of unskilled labor relative to skilled labor worldwide should approach that currently observed in the industrialized countries. Therefore, in the early stages of an export promotion strategy, the negative impact of trade will fall primarily on unskilled labor in industrialized countries. But as the stock of human and physical capital increases in the developing world, the impact will ripple up the wage hierarchy of industrialized countries.

Trade and Wage Stability

67. The foregoing analysis has focused attention on the role of international trade in reducing the demand for unskilled workers in industrialized countries. However, Rodrik (1997*b*) draws attention to the impact of trade on the *elasticity* of the demand for labor and the consequences for real wages. International trade provides consumers with the opportunity to substitute toward imports and away from the domestic good in the event that some factor price increase raises goods prices. The result is to increase the elasticity of demand for the scarce factor. Richardson and Khripounova (1996) report that the cross-sectional labor demand elasticity has doubled between 1979 and 1991 for production workers.

68. There are several implications that flow from an increased labor demand elasticity. First, workers will experience more volatility in wages and hours worked. Gottschalk and Moffitt (1994) claim that one-third to one-half of the widening wage distribution in the 1970s and 1980s can be attributed to the increase in the short-term variance in earnings. Farber (1996) also documents a decrease in job security in the 1990s compared with the 1980s. Job-loss rates are as high or higher now than they were during the depths of the recession of the early 1980s. The highest rates are experienced by craftspeople, operatives and laborers, *i.e.* occupations intensive in low-skilled labor.

69. An increase in the elasticity of the demand for labor also alters the bargaining environment between labor and management in imperfectly competitive firms. Workers could, in principle, have greater difficulty obtaining a share of economic rents, a point made by Borjas and Ramey (1995). Indeed, Freeman (1996) argues that about one-fifth of the rise in U.S. wage inequality over the past two decades is due to the decline in unionization density. Other studies attribute a sizeable effect to the declining real value of the Federal minimum wage over much of the period.

3. Core Labor Standards, Trade and Comparative Advantage

70. The evidence presented in the preceding section suggests that the recent experience of trade with developing countries and the impact on wages and unemployment in industrialized countries is difficult to gauge. Nevertheless, we know that in principle, goods trade between two countries can have important implications for the distribution of income when trade flows are sufficiently large. We now turn to the question as to whether variation in labor standards across countries might be playing a contributing role in determining the volume of trade, competitiveness and comparative advantage.

71. The relationship between the observance of certain core labor standards and international trade performance has been explored empirically by several authors. Some of these studies are summarized in Table 1. It is relatively straightforward to perform a simple correlation between measures of core labor standards, their observance and various measures of trade performance. However, this type of analysis tells us little as to the role that core labor standards are playing in determining trade performance. In order to gauge the marginal contribution of core labor standards, one must compare each country's trade performance against a baseline expectation as to what such a country should be trading given its factor endowments and other determinants of trade.

72. Many country characteristics play a role in constructing the expected baseline trade performance. Factor endowments along with other factors including (perhaps) core labor standards, are central to the determination of both the pattern of trade and the volume of trade. Establishing the baseline for each country is a challenge but crucial to obtaining quality evidence. As we will see in the following discussion, some authors are more successful than others in controlling for other sources of comparative advantage.

Correlation of Export Performance and Core Labor Standards Observance

73. Mah (1997) analyzes the trade performance of 45 developing countries that are not members of the OECD. In this study, export value as a fraction of GDP is regressed on measures of freedom-of-association rights, the right to organize, the right to collective bargaining, prohibitions against forced labor and discrimination in employment and the real interest rate. The labor rights variables are merely a binary index of whether or not a country has ratified the relevant ILO conventions.

74. Mah finds that each country's export share of GDP is negatively correlated with freedom-of-association rights and strongly negatively correlated with rights to nondiscrimination. Exports are also negatively correlated with the right to organize and collective bargaining, but the relationship is much weaker.

75. While the regression results obtained by Mah are clear-cut, it is hard to know what to conclude from them. In any model in which trade is driven by comparative advantage alone,⁹ the volume of trade (as opposed to its composition) is determined by how different a country is from the rest of the world in terms of the characteristics that drive international trade. Trade volume will be low if countries are similar and large if they are different. Therefore, the strongest conclusion that we can draw here is that *developing countries who ratify ILO conventions with regard to certain core worker rights are more similar to their trade partners in terms of the characteristics that determine trade than are developing countries that do not ratify ILO conventions*. However, since the estimated equations do not have any control variables other than the real interest rate, it is not possible to determine which characteristics are determining trade-related country differences. It may be worker rights, but it is equally the case that other country characteristics could be central to determining the volume of trade.

Controlling for the Determinants of Trade

76. As discussed above, core labor standards are only one of several determinants of trade performance. Entering labor standards observance as an explanatory variable in a trade equation without properly controlling for other key variables will lead to biased estimates. Rodrik (1996) provides an excellent example of how such analysis ought to be undertaken. As a result, one is likely to have more confidence in his findings than in the Mah study reviewed above.

77. Rodrik uses several different measures of core labor standards. These are:

1. Total number of ILO conventions ratified.
2. Number of ILO conventions pertaining to core labor standards ratified. These are Convention 29 (Forced Labor), 87 (Freedom of Association and Protection of the Right to Organize), 98

9. In models in which countries engage primarily in intra-industry trade, trade as a fraction of GDP is positively correlated with GDP.

(Right to Organize and Collective Bargaining), 105 (Abolition of Force Labor), 111 (Discrimination), and 138 (Minimum Age of Employment).

3. Freedom House indicators of civil liberties and political rights. (These variables focus on actual practice rather than on formal obligations).
4. An indicator of the incidence of child labor. This index captures inadequacies in legislation or enforcement relating to child labor restrictions.
5. Statutory hours of work in a normal week in manufacturing and construction.
6. Days of paid annual leave in manufacturing.
7. Percentage of the labor force that is unionized.

78. Rodrik first considers the impact of core labor standards on labor costs per worker in manufacturing. Labor costs are primarily determined by productivity which is proxied by per capita income. In order to determine whether core labor standards have an influence on labor cost above and beyond productivity growth, labor cost is regressed on per capita income and the various measures of labor standards for the period 1985-88 for all countries reporting labor cost data.

79. Per capita income, of course, dominates the equation. However, Rodrik also finds that coefficients on ILO conventions ratified, Freedom House indicators of democracy, and the index of child labor are large and statistically significant. For example, introducing child labor legislation or intensifying enforcement of existing law raises labor cost per worker by USD 4 849 - USD 8 710. Rodrik does not believe that child labor law by itself has produced such a large change in cost but rather that the child labor variable is a proxy for all labor standards.

80. Rodrik next turns to the determinants of comparative advantage in labor-intensive goods. Comparative advantage in labor-intensive goods is measured by the fraction of textiles and clothing exports in total exports (excluding fuels). Comparative advantage is primarily determined by factor endowments. Therefore, the comparative advantage variable is regressed on the population-to-land ratio which is a measure of the labor endowment, average years of schooling in the population over 25 which is a measure of the stock of human capital and the labor standards variables. The population and human capital variables have the expected signs and are statistically significant. However, generally the labor standards variables, while having the expected sign, are not statistically significant. The lone exception is statutory hours worked. *The longer the work-week, the stronger is the comparative advantage in textiles and clothing.*

81. The sample is then divided into high and low-income countries where the dividing line is set at USD 6 000 per capita GDP in 1985. The division of the sample greatly improves the overall fit of the equation. Furthermore, the child labor variable becomes statistically significant in some specifications.

82. Finally, Rodrik turns to FDI. The value of investment by majority-owned U.S. affiliates abroad as a fraction of the stock of such investment is regressed on the black-market premium for foreign currency, population, income growth in the host country and the labor standards variables. The black market premium is a proxy for government policy distortions for the period 1982-89. The Freedom House measures of democracy and the child labor variable are statistically significant but with positive and negative coefficients, respectively. These results imply that countries with weak democratic institutions

and child labor practices attract *less* U.S. capital than democracies that protect child workers. *They, therefore, provide little evidence that low-standard countries provide a haven for foreign firms.*¹⁰

Endogenous Labor Standards

83. The literature on the relationship between trade performance and core labor standards suffers from additional problems to that of failing to control for other factors determining trade and growth. It is customary in the literature to treat core labor standards as exogenous, but it is quite clear that industrial relations are generally determined endogenously. Three aspects of endogeneity pose problems for interpreting the results in the literature. First, labor standards are set in response to goods market imperfections. Second, labor standards are set as part of a broader industrial policy. Third, labor standards are set with regard to the nature of the production process.

84. Rama and Tabellini (1997) provide an excellent analysis of the relationship between goods market imperfections and labor market standards. In their analysis, product market distortions and labor market distortions are jointly determined. For example, labor market distortions such as a minimum wage are determined as an optimal response to barriers to product competition. In the authors' view, removing distortions in the goods markets will give rise to an endogenous liberalizing adjustment to labor standards in the factors markets.

85. Perhaps more important than the simultaneous determination of product and factor markets distortions is the simultaneous determination of industrial policy and labor relations policy. Many developing country governments pursuing a stage-one export promotion strategy believe that stable and predictable labor relations are central to the policy's success. Therefore, results showing a positive correlation between export performance or rapid economic growth and the suppression of labor rights may, in fact, be capturing the relative success of various development strategies rather than the impact of labor standards themselves. Kuruvilla (1996) carefully documents the connection between industrial policy and labor relations policy in Singapore, Malaysia, the Philippines and India. In each case, labor rights are negatively correlated with a successful stage-one export promotion strategy. Results are summarized in Appendix I.

86. Kuruvilla does not provide any evidence as to whether these governments needed to follow restrictive labor market practices during the early stages of export promotion. However, the governments in question *thought* that foreign investors required predictable labor market conditions. As a consequence, restrictive labor market practices came to be correlated with first-stage export promotion, a period in which the rate of economic growth and imports of foreign capital are extremely high. Therefore, any study that calculates a simple correlation between economic performance and core labor standards may simply be picking up a correlation between economic performance and industrial policy.

87. Finally, it is important to note that the studies undertaken thus far consider the economic impact of endogenously determined labor standards. These are standards set within the political and economic context of each country. Therefore, they may or may not provide evidence of the economic consequences of imposing labor standards exogenously, as would be the case if core standards were imposed as a matter of international law. In order to gather evidence concerning exogenously-imposed core labor standards, one would have to construct a model that predicts labor standards as a function of various economic and social variables. The prediction error of such an equation would be a measure of labor standards that have

10. Rodrik takes pains to point out, however, that the theory underlying the determination of FDI is far less well developed than for trade. Thus, there may be omitted variables from his equation specification that bias the labor standards coefficients.

been set exogenously. If one then regressed various measures of economic performance on the prediction error of the labor standards equation, that would provide information on the impact of exogenously-imposed core labor standards. Such an exercise has not been performed to date.

4. Core Labor Standards and Competition in Legal Institutions and Labor Contracts

88. The international transmission of heterogeneous core labor standards may manifest itself as competition in legal institutions and labor contracts, as well as through trade in goods and international capital flows. Below, we discuss concerns with standards competition.

Race to the Bottom

89. Proponents of international coordination of core labor standards virtually always articulate a fear that, in the absence of coordination, a prisoner's dilemma will emerge over labor standards. Countries will each lower their own standards in order to gain a competitive advantage over foreign exporters. The prisoner's dilemma in labor standards may also emerge as a by-product of the competition over the international allocation of capital. Some of the hard-fought rights that workers in industrialized countries have earned, may be lost during the competition for scarce internationally mobile capital.

90. The possibility of a prisoner's dilemma outcome raises the question as to how much coordination of core labor standards is desirable. Must core labor standards be harmonized according to a universal guideline or will some more limited coordination be more effective in establishing an efficient resource allocation?

The Small-Country Case

91. First, it is worth pointing out that, if all countries are small, their individual standards do not affect one another. So there certainly will not be a race to the bottom. In a well-functioning small democracy, each country will set standards for which the social benefit is equal to or greater than the social cost. The cost and benefit of these standards is independent of the conduct of other countries as long as countries are too small to affect one another. The case for harmonization or coordination does not emerge unless countries are large relative to one another or can form trading blocs such that strategic interaction occurs between blocs. Of course, as the range of regional trade agreements widens, the strategic interaction between trade groups will intensify.

92. In fact, Krugman (1997) points out that, from the point of view of the gains from trade, the interest in coordinating core labor standards is a bit of a mystery. The gains from trade are larger the more countries differ. The source of the differences is immaterial to the size of the gains from trade. For example, even trade between countries with different moral values might generate welfare gains. Neither do the gains from trade depend on an efficient allocation of resources in the partner country. Further, Krueger (1996) notes that, if differences among countries are diminished through harmonization of labor standards, the gains from trade will be smaller as well.

93. Coordination of core labor standards may nevertheless be useful even if all countries are *small* in the economic sense. Brown, Deardorff and Stern (1996) analyze the case in which costly but socially desirable standards are imposed by legislation. Underlying the legislation is the presence of some externality in a sector that is not efficiently mediated by the market. In a small open economy, firms subject to the legislation bear a new cost but are not able to change price. Therefore, all of the cost of the legislation is borne by the producer.

94. However, if all countries in the trading system are subject to similar legislation, the worldwide supply of the good will fall and, thus, the international price will rise. A rise in the world price allows domestic producers to pass some or all of the cost of the regulation on to consumers. A similar result would have occurred if the economy had been closed.

95. The conclusion, of course, is that developing a political consensus for the efficiency-enhancing standard in the presence of an open trading system will be easier if all governments in the trading system agree to harmonize on the same standard. *That is, harmonization that reduces the distributional effects of desirable economic policy supports both free trade and efficient resource allocation.*

96. Palley (1999) makes a similar argument. He points out that countries acting in isolation may have a reduced incentive to adopt core labor standards. However, in a coordinated environment, the social cost of labor standards may be mitigated and, thus, more politically palatable.

97. Rodrik's (1996) view concerning the race to the bottom provides a variant on the theme. He argues that opening to trade makes standards themselves more costly and so, therefore, harder to maintain. In a closed economy, firms can pass some of the cost of labor standards on to the consumer through higher prices. But in a free trading world in which prices are set on international markets, all of the cost of meeting core labor standards must be absorbed by the firm or by workers. Given the increase in the cost of labor standards to the firm in a trading situation, some downward pressure on labor standards might emerge.

Strategic Interaction between Large Countries

98. Second, it is straightforward to demonstrate that a race *all the way* to the bottom is unlikely to occur in fairly competitive markets, even if countries are large enough to affect one another. Wilson (1996), Lawrence (1996), Srinivasan (1996) and Krueger (1996), among others, lay out the simple analytics underlying this conclusion.

99. Standards that currently exist are partly established through labor-management negotiations and partly through domestic legislation. Consider first the aspects of standards that are the by-product of the market place. Firms in a competitive market are driven to set the cost of the total compensation package equal to the worker's marginal value product. The total value of the worker to the firm is fundamentally driven by the worker's productivity and the price that the firm can charge for its output. The allocation of the package between benefits, money wages and working conditions depends first and foremost on worker preferences.

100. Any firm that attempts to gain a competitive advantage by cutting benefits without paying increased money wages is essentially trying to cut wages below the worker's marginal value product. Competitive pressure from other employers who are seeking to hire labor will ultimately force the firm to return the total compensation package to the original level if the firm expects to be able to hire and retain workers.

101. Any attempt to substitute money wages for benefits will meet the same end. A cost-minimizing firm will seek to find the lowest cost benefits-money wage mix that will yield its employees the market-determined level of utility for work. Any firm that attempts to shift away from the cost-minimizing mix will increase the cost of total compensation without making workers better off. Once again, competitive pressures will drive the deviant firm back to the market-determined compensation package.

102. The only ways in which international competition can affect the composition of the compensation package is if (1) the price of traded goods falls, putting downward pressure on the value of the worker's

marginal product, or if (2) a capital outflow lowers the amount of capital each worker has to work with, thus lowering productivity. Both of these could happen, but researchers disagree as to whether it is likely.

103. An important *caveat* must be noted in this when there are costs of search, as argued by Stiglitz (2000). In the event that there are search costs, a bilateral bargaining situation exists between the worker and the firm. Firms may have considerable leverage over workers, giving rise to a deviation from the competitive wage.

The Race to the Bottom in Government Regulations

104. The argument concerning government regulation is somewhat different. Regulations that improve relations between workers and firms are not likely to be a target in a race to the bottom in a well-functioning democracy. Any deregulation that results in a deterioration in labor relations is unlikely to improve the performance of firms. So governments in a well-functioning democracy will be disinclined to deregulate if the objective is to meet competition from foreign firms.

105. Regulation also serves to internalize external effects of the production process. For example, a production process that, unknown to workers, is harming their health is using scarce resources without paying compensation to the affected workers. From an efficiency point of view, the dangerous technology is being overused. To the extent that unions or government regulations draw attention to the dangers, the externality will be internalized and the market will return to an efficient allocation.

106. Deregulation in this context or constraints on union activity will return the economy to an inefficient allocation. If production is for export, a firm that exports a good using an inefficient amount of the dangerous technology is under-pricing the good relative to its true resource cost. However, the nation's overall interest is served when foreign consumers pay the full resource cost of producing a good. Therefore, deregulation may expand exports of a particular good but those additional exports will be sold below the true cost of production. In a relatively competitive market, such an outcome will be welfare-reducing. So, in this case, a well-functioning democracy would not be lured into a prisoner's dilemma with another country that does not regulate.

107. In order for a prisoner's dilemma in labor standards to emerge, deregulation has to be a dominant strategy for both countries. Clearly, in the above case, some regulation serves the national interest better than no regulation. So deregulation cannot dominate.

Race to the Bottom and Political Failure

108. Much of the above discussion presumes that the countries involved are well-functioning democracies. However, even in the best of circumstances, governments are not likely to choose socially optimal policies so that international coordination has a constructive role to play. First, trade agreements might be used to pressure an undemocratic government to improve its human rights practices, particularly with regard to labor.

109. Second, even in a democracy, a model of interest-group politics could create an argument for international labor standards. Palley (1999), among others, has argued that the expanded opportunities for firms in an open economy create an incentive for management to lobby for reduced labor protection. The threat, of course, is to move capital to the location where regulations are least likely to intrude on firm decision-making. Downward pressure on standards is, thus, possible in an open trading environment.

110. However, where this downward pressure on labor standards places a country relative to the social optimum depends on which interest group is prevailing before the opening to trade. Elmslie and Milberg (1996) point out that weakening the influence of some special interests that occurs as a consequence of free trade may be welfare-improving. If, before the opening to trade, the political influence of organized labor has been excessive, then opening up to trade could improve the balance of influence in the political process by enhancing the bargaining power of managers. However, if the excessive political power lies in the hands of firms, then opening to trade exacerbates the imbalance.

Strategic Interaction in Competitive Trade Models

111. This leads us to the question as to what kind of strategic interaction we might expect. As demonstrated by Brown, Deardorff and Stern (1996), the interaction depends on the type of model assumed. For example, suppose each country produces a differentiated product. A resource-using labor standard will shift the production possibility curve in. Consequently, the supply of exports and the demand for imports will decline, leading to an improvement in the terms of trade.

112. In this model, the imposition of a standard not only benefits the country by correcting a market failure but also triggers a beneficial improvement in the terms of trade. Such a country could be tempted to *over-regulate* its labor market in order to reap these gains. In other words, a *race to the top* will occur. Coordination will be required to induce both countries to return to the lower efficient level of labor standards.

113. Alternatively, in a Heckscher-Ohlin world, a labor standard that uses labor will raise the price of the labor-intensive good on the world market. This is beneficial for the labor-abundant country while harming the labor-scarce country. As a consequence, the labor-abundant country will tend to over-regulate its market while the capital-abundant country will tend to under-regulate the labor market. Once again, no race to the bottom has occurred. However, coordination will help both countries achieve an optimal level of regulation.

Some Empirical Evidence on a Race to the Bottom

114. The empirical evidence of a potential race to the bottom is inconclusive. In the context of environment regulation, Levinsohn (1996) finds very little evidence that environmental regulation affects firm location. Rather, many firms employ the same technique of production in their foreign plants as they do at home. A similar argument applies to the foreign labor practices of multinational firms. Labor practices in foreign plants are broadly similar to their domestic labor standards. In some cases, employers actually prefer to have standards imposed because they constrain the behavior of some of their less scrupulous competitors.¹¹ In other cases, firms use domestic standards in their foreign operations to avoid the critique that they are shopping for low standards locations.¹²

115. By contrast, Elmslie and Milberg (1996) claim to find considerable historical evidence of a race to the bottom. For example, since 1989 when the Canada-U.S. Free Trade Area took effect, Canada has experienced a decrease in foreign capital flows and a shrinkage of its corporate tax base. Furthermore, the

11. As noted by Charnowitz (1996).

12. As argued by Bhagwati (1995).

level of unemployment insurance benefits as a percentage of the average weekly wage fell from 37% to 27% between 1989 and 1994.¹³

116. In addition, Elmslie and Milberg (1996) claim that up until the U.S. Congress passed the Fair Labor Standards Act of 1938, there was considerable competition between state legislatures in setting child labor laws. Competitive forces harmonized standards down.

A Race to the Bottom or Developing Country Comparative Advantage?

117. The flip side of the above discussion is the concern on the part of developing countries that the imposition of core labor standards will erode their comparative advantage. It is commonly argued that developing countries' comparative advantage lies in low wages. Any foreign demand that raises labor costs will deny developing countries their right to exercise their comparative advantage in international trade.

118. However, developing countries have low wages primarily as the result of low productivity. Rather, the comparative advantage derives from a relative abundance of low-skilled labor. Several studies have established that productivity-adjusted wages are very similar across countries. [See, for example, Rodrik (1997).] Imposing labor standards on developing countries will not necessarily raise the cost of labor. It will simply require labor in developing countries to divert some of their money wages to benefits, which may make workers worse-off.

Harmonization vs. Coordination

119. The conclusion reached above that there may not be a race to the bottom does not preclude some competitive change in regulations. Consequently, coordination in the setting of standards may be desirable. However, the above discussion does not lead us to the conclusion that all countries should harmonize on a common standard. To the extent that differences in standards reflect differences in income level and tastes, efficiency certainly dictates a variety of standards across countries. It is important to point out, nonetheless, that a variation in socially optimal standards across countries is less likely in the case of core labor standards than for other labor standards that are more sensitive to level of development.

5. Core Labor Standards, Political Institutions and Economic Performance

120. The above discussion on the race to the bottom in labor standards ultimately leads us to some empirical questions. First, are core labor standards efficiency enhancing? That is, do core labor standards improve market functioning and raise the rate of economic growth? If so, both governments and firms have an interest in maintaining domestic standards even in the presence of low standards elsewhere. Thus, on the one hand, the international coordination of standards is not needed to protect labor in high-standards countries from erosion of the hard-earned rights. Whereas, on the other hand, coordination of core labor standards will not slow economic growth.

121. Second, firms who seek to weaken labor protections will typically threaten to relocate production elsewhere. Therefore, we would expect to see countries with weak labor protections more successful in attracting foreign capital than countries with high labor standards. In this section, we survey the empirical evidence on these two questions. Results are summarized in Tables 2 and 3.

13. For evidence on threats of plant closings and the NAFTA, see Bronfenbrenner (1996).

122. Palley (1999) considers the impact of improved freedom of association on growth. He regresses the GDP growth rate on a binary variable that is zero before reform and one after reform. Controls include the average GDP growth rate in the region and the average growth rate in industrialized countries. Data on growth rates are taken from the IMF's *International Financial Statistics Yearbook* for 1997. Countries included in the study are Argentina, Brazil, the Dominican Republic, Ecuador, Fiji, Guatemala, Honduras, South Korea, Panama, Peru, the Philippines, Suriname, Thailand, Uruguay and Venezuela. The reform dummy is significant at the 10% level. The impact effect of economic reform is to increase growth by between 1.2 and 1.4 percentage points. The permanent impact is to raise country growth rates by 1.9 percentage points.

123. Rama (1995) focuses attention on the determinants of economic growth in Latin America and the Caribbean for the period 1980-92. Explanatory variables include measures of labor market interventions such as ratification of ILO conventions, annual paid leave, social security contributions, the minimum wage, and an aggregate index of labor-market rigidity. Other explanatory variables include unionization rates, the size of government employment, and macroeconomic determinants of growth and labor costs. The author concludes that rigid labor markets are correlated with slower growth. However, poor performance was not due to labor-market interventions. Rather, inefficient government employment and high unionization rates were the main sources of slow growth.

124. Barro (1996) explores the empirical relationship between democratic institutions and economic growth for the period 1972 to 1994. The measure of democracy is taken from Gastil who has constructed an index of political rights in which countries are categorized subjectively into one of seven groups. Countries with a low indicator have the highest degree of political rights and those with an indicator of seven have the least political rights. The work by Gastil was picked up by Freedom House, which publishes annual ratings for almost all countries in the world.

125. Barro regresses per capita growth in GDP on the level of GDP, measures of schooling for males, life expectancy, fertility, government consumption, a measure of the rule of law, the terms of trade, the inflation rate and a transformation of Gastil's index of political rights. The index on political rights has a positive and statistically significant coefficient but its squared value has a negative coefficient. That is, for low levels of democratic rights, an increase in rights will raise the growth rate. However, once a moderate level of democracy is achieved, further democratization reduces the rate of economic growth according to Barro's results.

126. At the same time, Barro points out that, while the results are statistically significant, the impact of democratic institutions on economic growth is small. In fact, it is generally the case that this literature produces ambiguous results concerning the relationship between democratic institutions and growth. For some examples, see Bhalla, Przeworski and Limongi (1993) and Helliwell (1994).

127. By contrast, Rodrik (1999a) considers the relationship between political freedoms and wages and obtains quite striking results. Wages are regressed on measures of democracy, average labor productivity in manufacturing, per-capita GDP, the average price level of consumption and geographical dummies.¹⁴ Data are analyzed for the period 1960-94.

128. Not surprisingly, labor productivity is the major determinant of wages. Manufacturing value added per worker explains 80-90% of the cross-national variation in manufacturing wages. However, the

14. Wage data are taken from the World Bank Labor Market Data Base and the U.S. Bureau of Labor Statistics International Comparison of Hourly Compensation Costs for Production Workers in Manufacturing. Measures of democracy come from the Freedom House and the Polity III data set of Jagers and Gurr (1995).

democracy variables are statistically significant with a strongly positive effect on wages. Tests of causality suggest that democratic institutions are generating a wage premium relative to productivity growth, rather than the other way around.

129. Results remained robust when applied to individual countries. The time-series evidence is primarily driven by Spain, Portugal, Greece, Korea, Taiwan and Sri Lanka. The first five of these countries have become more democratic over the past two to three decades. Furthermore, wages grew faster than labor productivity at the time of the political transition. Sri Lanka, which has become less democratic, experienced the opposite. Again, the role of democracy is large and statistically significant.

130. Rodrik then investigates the question as to why democracy is an important determinant of wages. Among the competing hypotheses is that democracy matters because it enhances the bargaining power of labor by supporting rights to freedom of association and collective bargaining. Labor rights are measured by the unionization rate and the number of ILO conventions ratified concerning basic worker rights. His econometric results are mixed. Using the U.S. Bureau of Labor Statistics wage data, the number of ILO conventions ratified is highly significant and the unionization rate is almost significant at the 95% level. However, the presence of core labor rights variables does not reduce the explanatory power of the democracy variables.

131. Rodrik applies a second test in order to determine which rights supported by democracy play the most important role in setting wages. The Freedom House index can be divided between *civil liberties*, which include labor rights, and *political rights*. When both are introduced into the wage equation, the political rights variable is statistically significant but the index of civil liberties is not. Similarly, when the Polity III measure of democracy is decomposed, Rodrik finds that *competitiveness of political participation* has the largest coefficient and is significant in nearly all equations. Thus, Rodrik is inclined to the view that political rights are playing a dominant role, rather than the rule of law, political stability, civil liberties or specific labor rights.

132. It remains an interesting question as to how higher wages in democracies affect overall economic performance. One possibility is that democracies remove the impediments to efficient labor contracts that are not allowed to emerge in authoritarian regimes. Alternatively, democracies may raise wages while making labor markets less efficient.

133. Rodrik (1997a) has explored the issue empirically as to whether democracies grow faster or more slowly than countries governed by autocratic regimes. First, he regresses growth in per capita GDP on initial income, education, quality of government institutions and an index of democracy. The democracy variable is insignificantly different from zero. Therefore, it does not appear to be the case that the democratic institutions that enhance the bargaining power of labor simultaneously foster inefficient market outcomes.

134. Rodrik then examines the question as to whether democracies have more stable economic performance. The coefficient of variation of growth in per capita income is then calculated for democracies and countries governed by autocratic regimes. The coefficient of variation was significantly smaller for democratically governed countries, suggesting that GDP per capita is less volatile in democracies.

135. However, Rodrik allows for the possibility that democracies are more stable because they have higher incomes. So he estimates an equation that can be used to forecast the degree of democratic institutions a country would be expected to have given its per capita GDP and a measure of human capital. Countries were grouped as to whether their democratic institutions were stronger or weaker than predicted. The coefficient of variation for the per capita GDP equation was again calculated. As before, it was smaller in countries that had greater political freedoms than one would expect given country characteristics.

136. Perhaps more importantly from the point of view of trade and labor standards is the evidence concerning the relationship between democratic institutions and the reaction to economic shocks. An economic shock might include an opening to trade, for example. For this purpose, Rodrik calculates the standard deviation for annual growth rates in real GDP, real consumption and investment. This measure of volatility is then regressed on per capita GDP, population, exposure to external risk, regional dummies, and the index of democracy. The coefficient on the democracy index was negative, large and statistically significant. Furthermore, the causality appears to run from regime type to volatility rather than the other way around.

137. Finally, Rodrik considers the particular impact of adverse shocks that rocked the developing countries during the 1970s. First, he looks for breaks in the trend growth rate by country. The change in the rate of growth during the break is taken to be the dependent variable, which is regressed on indicators of latent conflict and on proxies for institutions of conflict management. He finds that countries with greater ethnic tensions suffered the greatest decline in economic growth during a negative shock, whereas, countries with greater civil liberties and political rights had smaller negative responses to shocks. Furthermore, the results were highly significant.

138. Thus, strong governments do not appear to be necessary to deal with adversity or to steer a poor country through the development process. In fact, Rodrik concludes that adjustment to shocks requires institutions that help countries manage social conflicts. Democracies are better able to resolve such conflicts. If one applies this logic to episodes of trade liberalization, Rodrik's results predict that countries that develop democratic institutions *before* the transition will weather the transition with smaller adverse consequences.

139. The emphasis on conflict management that emerges from Rodrik's analysis raises an additional question concerning the cross-country comparison of institutions that support efficient markets. In Rodrik (1999*b*), the role of conflict resolution is to avoid coordination failures that stand in the way of mutually beneficial innovations. There are several generic institutions that are particularly effective at avoiding coordination failure: the rule of law, a high-quality judiciary, representative political institutions, free elections, independent trade unions, social partnerships, institutionalized representation of minority groups and social insurance.

140. Although it has been argued that economic integration through trade will lead to a convergence of institutional systems, Rodrik does not support that view. Nor does he believe that institutional convergence is desirable. Rather, he emphasizes the importance of "local knowledge" in developing mechanisms of conflict resolution that are optimal given a particular society's objectives and values. As a consequence, the development of institutions should emphasize local experimentation rather than best-practice "blueprints". Rodrik is highly skeptical of the notion that there is a specific type of institution, such as labor market legislation, that is uniquely capable of supporting efficient markets. Thus, international trade may alter a country's objectives and, therefore, alter its institutions, but convergence may not be inevitable or desirable.

6. Empirical Evidence on the Motivations for International Core Labor Standards

141. In spite of the theoretical and practical challenges to international labor standards, some OECD countries have continued to press the issue inside and outside the WTO. Bhagwati (1995) argues that the motivation for international labor standards is fundamentally protectionist. However, the empirical evidence on this point is mixed. Krueger (1996) draws evidence from the sponsors of the Child Labor Deterrence Act of 1995. The intent of the legislation was to prohibit imports of goods by the United States that were produced with child labor. There were 35 co-sponsors in the House of Representatives and seven

in the U.S. Senate. If the legislation were fundamentally protectionist, Krueger argues that one would expect that the voters in the districts supporting the legislation would be disproportionately made up of voters who are in competition with child labor.

142. Krueger looks at four voter characteristics for each district: the proportion of voters older than 25 years who have less than a high school diploma; union density; vote on the NAFTA; and party affiliation. The proportion of voters with less than a high school diploma was not a significant predictor of support of the legislation. This result, in particular, suggests that the motivation was not protectionist. Districts with high union density were more likely to support the legislation. However, as Krueger points out, union members are not in competition with child labor. Finally, opponents of NAFTA and GATT legislation were more likely to co-sponsor the Child Labor Deterrence Act. Supporters of NAFTA are presumed to be in favor of free trade. Therefore, this last result suggests that those who support international labor standards are more likely to support protectionist policies generally. On balance, Krueger interprets the evidence as supporting the view that opposition to child labor is a luxury good and, therefore, is opposed primarily by voters with high incomes.

143. In a critique of Krueger's analysis, Srinivasan (1996) points out that poorly educated workers are less likely to vote than the average worker. However, if the voters likely to be most adversely affected by trade do not vote, then one would still not expect trade legislation to be fundamentally protectionist.

7. The Economic Effects of an International Core Labor Standards Policy

144. The economic effects of an international core labor standards policy are as varied as the models used for analysis. The discussion below attempts to give a flavor of the wide range of conclusions that one can draw from the available literature.

Child Labor

145. We consider first, the economic analysis of policies concerning child labor. In the course of the discussion, great emphasis will be placed on each policy's impact on the welfare of the children involved rather than on the level of child labor. Policies that lower the level of child employment, while simultaneously making children worse-off, are not considered successful from the point of view of this survey. In fact, we will find that there is considerable evidence that employment of older children can be productively and humanely combined with schooling.

146. Similarly, policies that are welfare-improving in the sense of increasing the feeling of well-being that western consumers experience knowing that imports were not produced by children, will only be considered successful if the welfare of the children involved can also be shown to have improved as a consequence. Prohibiting children from working will frequently leave them with inferior alternatives. Therefore, evaluating the alternatives to working will be central to the analysis.

147. The neoclassical model of household decision-making is commonly employed in the analysis of child employment. (See, for example, Basu (1999), Maskus (1997) and Brown, Deardorff and Stern (1999).) Typically, child labor is embedded in a model of family choice in which parents make child employment decisions to maximize a family welfare function subject to market constraints. A child will attend school rather than work only if the net return to education is larger than the forgone wage. Therefore, in order to tilt the balance toward school, one or more of the following must happen: (1) the adult wage rises, (2) the child wage falls, (3) the cost of education falls, and/or (4) the productivity of education rises.

Prohibitions Against Child Labor

148. An outright prohibition against employing children is one of the most commonly proposed strategies for reducing child labor. There are several economic models that provide analytical support for such an approach.

149. Models of household bargaining fall into two broad categories: those in which children are assumed to have no bargaining power and those in which parents are assumed to be altruistic. In models in which children have no bargaining power in the household, parents make decisions that serve their own interests, with little regard for the impact on the child. For such families it is possible that in some cases the child can benefit from a prohibition against child labor, as demonstrated by Gupta (1998). Evidence to support a view of selfish parents is provided by Burra (1995) and Parsons and Goldin (1989) and is most easily established in the case of discrimination against female children in several developing countries.

150. Demonstrating the benefit of a prohibition against child labor is more difficult in models in which parents are altruistic. It is common to rely on the existence of some external effect of working children or collateral market failure to justify state intervention. For example, to the extent that working children are uneducated and, therefore, poorly informed citizens, society has an interest in fostering education. Mandatory schooling combined with a prohibition against child labor would be one mechanism for correcting the external effect. However, a school attendance subsidy would address the education market failure more directly.

151. Incomplete asset markets can also lead to child labor that exceeds the socially desirable level. In fact, asset market failure may be one of the most common causes of inhumane child labor. Parents in industrial countries facing financial adversity or illness would normally turn to the financial markets to span the difficult period. However, lacking collateral, parents in developing countries may be forced to offer their children as bonded laborers.

152. A ban on child labor, in some very special circumstances, could provide relief to marginally viable families with altruistic parents. Basu and Van (1998) argue that the labor market has multiple equilibria and government policy can be used to affect which equilibrium emerges from the market place. In their model, the supply of labor has three segments. At a wage below some critical level, both children and adults work. This part of the labor supply curve is upward sloping. However, once adult wages reach a critical level, parents will choose to withdraw their children from the work force. At this point, there is a discrete decline in the total labor supply. For wages above the critical level, adult employment continues to rise in response to the adult wage. The end result is that the labor supply is zig-zagged.

153. The demand for labor intersects the supply of labor at three points. The two stable points are the low-wage equilibrium in which both children and adults work and the high-wage equilibrium in which only adults work. A ban on child labor forcibly withdraws children from the labor supply. As a consequence, the only stable equilibrium that can emerge is characterized by high wages.

154. While the Basu and Van (1998) analysis is intriguing, several *caveats* must be noted. First, Dixit (1998) has pointed out that for a small open economy, wages are determined on international markets. Therefore, government policy cannot move the equilibrium from one wage to another.

155. Second, Brown, Dearnorff and Stern (1999) point out that the only way in which a ban on child labor might work in a trading equilibrium is if it is applied *worldwide*. In this case, the world supply of labor will decline, thereby raising wages and, hopefully, rendering a high wage-no child labor outcome as an equilibrium. In order for a ban on child labor to be effective, the supply of child labor must be large enough relative to the market to alter the international wage structure. However, this seems unlikely in

reality. UNICEF (1994) estimates that there are approximately 80 million exploited child workers. These children typically earn USD .50 to USD 1.00 per day. So the total value of child labor worldwide is on the order of USD 300 billion. It is hard to imagine that such a small figure could effect international factor prices.

156. Third, Krueger (1996) points out that many markets have multiple equilibria. Carefully designed policies can move the economy away from a second-best outcome to a first-best outcome, but the reverse is possible as well. When labor standards are imposed indiscriminately without regard to each market's peculiarities, the outcome can be perverse.

157. Fourth, implicit in the Basu-Van analysis is the assumption that an economy is sufficiently advanced that the value of output is great enough to sustain all families without requiring children to work. Rogers and Swinnerton (1999) point out that only countries with relatively high labor productivity meet such a requirement.

158. Rogers and Swinnerton analyze the case in which adult productivity is not adequate to support all families without using some child labor. They find that in such a case, the number of working children will be minimized by maintaining an uneven distribution of income. Families at the higher end of the income distribution can afford to withdraw their children from the workforce. In the event that income were evenly distributed for such an economy, all families would need to send their children to work in order to survive, thus raising the total number of children working.

159. The work by Rogers and Swinnerton contains a deeper lesson. Countries for which adult productivity is inadequate to support all families without using some child labor do not have any policy options for completely *eliminating* child labor other than supporting economic growth. International pressure on such countries to ban child labor will be counterproductive unless it is accompanied by some financial contribution or strategy for raising adult productivity.

160. Empirical analysis undertaken by Rogers and Swinnerton (1999) supports the importance of their analytics. They find that for countries with real GDP per worker below USD 5020,¹⁵ *more* income inequality is associated with *less* child labor. That is, total income is not sufficient to support all families without some children working.

161. The possibility of multiple equilibria also emerges in models in which parents are influenced by societal norms. Albert Hirshman¹⁶ has argued that parents who send their children to work suffer some social stigma for doing so. However, the degree of social approbation depends on the extent of the practice community-wide. The more common child labor is in a community, the lower the psychic cost of offering one's child for work. Thus, if all parents send their children to work, the social stigma of the practice for each family is negligible. The low cost may be sufficient to tip the balance in favor of child labor for each family. By contrast, if no children in a community work, the social cost of offering one's child could be quite high, thus tipping the balance away from child labor for each family.

162. Empirical evidence is consistent with the view that social norms play some role in determining child employment choices. For example, the income level at which children are removed from the labor force varies across societies. Ray (1998) finds that Peruvian parents remove their children from the work force as the family crosses the poverty line, whereas parents in Pakistan do not.

15. Denominated in 1985 dollars.

16. As reported in Basu (1999).

163. As noted above, a prohibition against child labor can switch the equilibrium from one in which children commonly work to one in which almost no children work. While this is a simple argument, such a policy may accelerate the sociological transition for communities leaving a low-income state in which child labor is fundamental to the survival of the family and entering a higher income state in which child labor is phasing out.

Poverty Alleviation

164. Other policy options include targeted education programs, improved access to capital markets for poor families and other policies designed to alleviate poverty. Improved access to capital markets and poverty alleviation are intended to eliminate the root cause that motivate parents to offer their children for employment in the first place. Krueger (1996) has demonstrated empirically that there is a *very* strong negative correlation between child labor and per capita GDP. In fact, when GDP reaches USD 5 000 per capita, child labor virtually disappears.

165. However, the level of child labor can be sensitive to the mechanism used to increase income. Basu (1999) examines the case in which rigidities in the market for adult labor give rise to child labor. Consider, for example, a market in which the adult wage is downward rigid, giving rise to adult unemployment. For those families with an unemployed adult, children must work. Raising the adult wage by *fiat* will aggravate the disequilibrium in the market for adult labor, thereby actually increasing child labor rather than bringing about a reduction.

166. In a separate vein, several authors examine the differing impact on child labor of the level of each parent's wages. Grootaert (1998), Ray (1998) and Basu (1993) find evidence that raising the wages of female workers tends to draw mothers into the formal-sector workforce. To compensate, daughters may be removed from school in order to replace the mother's work in the home. However, other studies suggest the opposite. In particular, raising the mother's wage relative to the father's tends to raise the mother's bargaining power within the household. To the extent that mothers are more likely to press for the interests of their children than fathers, as some evidence suggests, child labor may decline and educational achievement may increase.

167. There may be several additional strategies that can be pursued to deter child labor exploitation while waiting for the level of per capita income to reach the critical level identified by Krueger. Some possibilities are discussed below.

Capital Markets

168. Capital market failure arguably lies at the heart of the most egregious forms of child labor exploitation. Bonded child labor, as opposed to other forms of child labor contracts, to some degree reflect the fact that many parents lack the collateral that would provide access to formal capital markets. Several authors also emphasize the role of capital market failure in sub-optimal human capital formation arising from formal education, *e.g.* Parsons and Goldin (1989), Jacoby and Skoufias (1997), and Baland and Robinson (1998).

169. In this case, the first-best policy is to correct the market failure in the asset market. However, it not clear how such a market could be corrected as a practical matter. One possibility is for the government to make an outright grant to poor families, thus providing them with collateral. Second, the government may offer a program providing uncollateralised loans for families below a particular income level. A general welfare program that lifts marginal families above some critical level is a third possibility.

Product Labeling

170. Freeman (1996) has proposed the use of product labeling to deter the employment of children. He argues that, if the negative external effect of child labor is a private good affecting only the consumer purchasing the good, the external affect can be fully internalized if a credible label identifying products that are produced by adults is affixed to the product.

171. Critics of the labeling approach frequently point out that only about 5% of child labor is employed in the production of goods for export. Therefore, product labeling is severely limited in its potential to reduce child labor.

172. However, problems with product labeling run far deeper than its small reach. Freeman's analysis turns the attention to the negative effects of child labor on the welfare of western consumers and does not address the interests of the children involved at all. Brown (1999) has shown that even a credible labeling program introduces inefficiencies in the technique of production and may have no effect on the total employment of children or the wages of their parents.

173. In this model, the export sector for a small open economy is taken to be adult-labor intensive and the import-competing sector is taken to be child labor-intensive. Cost-minimizing firms in each sector employ a mix of child and adult labor. If we introduce a credible labeling scheme, the consumer pays a premium for goods produced with adult labor only. Firms that choose to label, employing adults only, must be paid a premium that covers the additional cost of the adult-only technology. If the willingness to pay by consumers falls short of this amount, no firms will choose to label. However, if some consumers are willing to pay a premium for labeled products that just covers the additional cost of the adult-only technology, some firms will choose to label. In the new equilibrium, export-sector firms will be indifferent between labeling and not labeling. So some adult labor will be re-deployed to a third sector which uses the adult-only technology to produce for export.

174. What is the effect on employment and production? The Rybczynski Theorem tells us that, if the supply of adult labor to the two original sectors is reduced, production of the adult-labor intensive export sector declines and production of the child-labor intensive import-competing sector expands. All of this is accomplished without changing factor prices.

175. This leads us to several conclusions. Adult wages and child wages are unchanged. Therefore, there is no impact on the supply of child labor. Second, child labor moves from the export sector to the import-competing sector.

176. One might wonder then, what happened to the premium paid by consumers for goods produced only by adult labor. The answer is that it was dissipated through the use of an inefficient technology. Producers who choose to employ adults only are no longer employing a cost-minimizing mix of adults and children. That is, they are not using the most efficient technology available to them. The premium paid by consumers is just sufficient to cover the cost of the less efficient adult-only technology. What has been we bought through the use of inefficient technology? Only the good feeling that western consumers enjoy knowing that they have not bought a good produced by a child.¹⁷

17. Additional complications arise when one considers issues of cheating by firms claiming to use an adult-only technology and problems of credibility for the labeling agency. For a complete discussion, see Brown (1999). However, suffice it to say that none of the complications make it more likely that a labeling program will improve the interests of the children they were designed to protect. Children can only gain if consumers are willing to pay a labeling premium that is large enough both to cover the additional cost of

Alternative Trade Organizations

177. Some of the weaknesses of product labeling can be resolved by alternative trading organizations (ATOs), as argued by Zadek and Tiffen (1996). ATOs, which began to emerge in the 1970s, offer more attractive terms of trade in handicrafts, textiles, manufactures using traditional techniques of production and coffee than could be obtained from most multinational firms. ATOs pay a higher price and provide market information to producers, thereby improving their bargaining power.

178. ATOs clearly will not be as profitable as profit-maximizing firms. ATO employees are expressing their humanitarian values by accepting lower wages and lower profits. This is not unlike the willingness of consumers to pay above-market prices for goods produced using socially responsible techniques of production. The difference, however, is that the principal-agent relationship that exists between the consumer and the labeling agency makes it difficult to determine whether the good has actually been produced using the techniques claimed. However, in the case of the ATO, no informational problems exist. The employees of the firm whose moral values are at issue can easily observe the practices of the firm.

Targeted Educational Subsidies

179. Finally, targeted educational subsidies can be part of a first-best response to the problem of child labor, particularly when embedded in a broad program to support economic development. It is generally recognized that the two most common sources of child labor are poverty and poor or expensive educational opportunities. Making education available to a child is unlikely to reduce child labor unless there is some mechanism to replace the child's income in the home. Subsidies tied to the child's participation in education are one such mechanism.

180. The Mexican government offers subsidies to families whose children maintain a minimum attendance record in school. In other words, the government is buying out the child's labor contract in return for school attendance. This strategy dominates one of simply paying a per child subsidy independent of school attendance in cases where the family's income is far below the level at which the child would normally leave the work force and attend school. Such families would accept a cash grant but the child would continue to work. Therefore, if the subsidy is tied to school attendance, the transition out of the work place can be accomplished at a much lower level of economic development.

181. Two other design features of the Mexican program are intended to improve its effectiveness. First, the subsidy is paid to the mother. Some empirical evidence suggests that the child's status and role in the household are positively correlated with the mother's relative contribution to household income. Therefore, if the subsidy is paid to the mother, it is more likely that household decision-making will reflect the direct interest of the child. Second, the size of the subsidy increases with years of school attendance. The older a child is, the greater the opportunity cost of schooling. Consequently, a larger subsidy is necessary to deter work *in lieu* of education.

182. It remains to be determined how successful the Mexican program will be. However, a similar program has been introduced in Cantaduva, Brazil and the incentive seems to have had large effects in the desired direction. During the tenure of the program, the truancy rate dropped from over 20% to under 1%.

the adult-only technology and also bids up the cost of adult labor relative to child labor to the point where parents begin to withdraw their children from the labor force.

183. The targeted educational subsidy dominates the use of sanctions, a ban on child labor, and product labeling as a strategy for improving child welfare and lowering child employment. First, the options available to the family would not be reduced by the educational subsidy. If child labor is still optimal even in the presence of the subsidy, that option remains open to the family. Second, the wages of children who continue to work will not fall. If there is any change, child wages will rise. Third, education subsidies have the potential to dramatically reduce child employment well before a community reaches the critical level of per capita GDP at which parents might normally remove their children from the labor force for full-time schooling. Fourth, the policy is not punitive and, therefore, avoids most of the political complications associated with imposing western values on developing countries. Fifth, the cost of the education subsidies is not prohibitive. The subsidy need only replace the value of child employment in the household, which may be as low as USD 0.50 to USD 1.00 per day per child in some developing countries.¹⁸

184. Funding such a subsidy scheme may be difficult, particularly for countries with a very high incidence of child labor and which fail to satisfy the Rogers-Swinnerton criterion. Families in such countries cannot survive without child labor. In this case, international aid may be necessary.

185. Finally, the subsidy only needs to be paid for one generation of children. Basu points out that policies such as the Mexican education subsidy help countries avoid the child labor trap. In the absence of education, human capital formation is low. As a consequence, adult wages are low, thereby requiring children to work. However, if the Mexican experiment is successful for one generation, the country can escape the child labor trap indefinitely.

Trade Sanctions and Child Labor

186. Among the most popular strategies for responding to child labor is to impose trade sanctions on countries that tolerate the employment of children below a certain age. The impact of such a ban on the welfare of children depends greatly on the cause of child labor and the type of labor market in question.

187. As discussed above, Basu and Van (1999) have argued that in a labor market with multiple equilibria, a ban on child labor may force a high wage/no child labor equilibrium to emerge. Basu (1999) also points out that such a ban is likely to raise wages of unskilled labor world-wide if the ban is coordinated across countries. However, Basu (1999) also points out that detailed empirical work would have to be undertaken in order to be certain that a ban on child labor would, in fact, force a high-wage/no child labor equilibrium to emerge.

188. In order for trade sanctions to be effective, the cost of forgoing trade must be greater for the targeted country than the gain from child labor. For countries that fail to meet the Rogers-Swinnerton criterion discussed above, families cannot survive without child labor. For such countries, eliminating child labor is not feasible. Trade sanctions will, therefore, eliminate trade and its associated growth, but have no effect on child labor.

189. Basu (1999) also raises a second concern with an international ban on child labor. If the ban were to be applied only to the export sector, then it is entirely possible that child workers will simply be diverted into less desirable employment in the import-competing or non-tradables sectors.

18. One could justify such a subsidy from an efficiency point of view for an economy with two equilibria, one characterized by low educational attainment and the other by high educational attainment, and the productivity gains from the high education exceed the cost of education.

190. Concern with the alternatives available to children forced out of the export sector has been raised by Maskus (1997). He analyzes the case of a small open economy in which the export sector is adult labor-intensive, the import sector is capital-intensive and a nontraded intermediate input to the export sector is produced using child labor. The child's labor supply is increasing in the child's wage and decreasing in the adult wage. A child who does not work is assumed to consume leisure or receive an education. The marginal child worker is the youngest since the opportunity cost in terms of foregone education falls as the child ages. Finally, disutility from child work is a public good.

191. In this setting, a foreign tax imposed on child work can lead to the social optimum in the sense of internalizing the external effect of child work on the wellbeing of western consumers. However, the impact on children themselves is ambiguous. First, the tax will have the effect of raising the minimum age at which children begin working. This is the case since younger children are closer to the work-leisure margin than older children and, therefore, are more likely to have their employment decisions affected by the tax.

192. Second, for children who are no longer working, the effect of the tax could be positive if, as the model assumes, unemployed children consume leisure or receive an education. However, if the alternatives for the child are diminished, the newly unemployed child will become worse off.

193. This leads us to the question as to whether we can say anything about the child's alternatives. If the parents choosing to place the child in employment had sacrificed the child's interests to that of the rest of the family, the alternatives available to the child may be better than employment. The tax constrains the ability of the parent to place the child in employment that is detrimental to the child. Thus, the child will be better off in the presence of the tax. However, if the parent placing the child in employment was acting in the best interest of the child when offering him for work, work is the best alternative available to the child. Any other alternative must necessarily be worse. In this case, the tax on child labor lowers the welfare of the children no longer working. Children who continue to work are definitely worse off. Firms who continue to employ children have to pay a tax. In a small open economy, a tax must lower the after-tax wage of the working child.

194. Therefore, the success of the policy in terms of benefiting children turns exclusively on the condition that parents offering their children for work are sacrificing the best interest of the child to serve the best interests of the family. That is, parents in this model must be selfish.

195. A ban on child labor is more likely to be beneficial. Children who are prevented from working will face the same options as with the tax. But firms no longer have to pay a tax on children still working. Furthermore, the number of children employed will fall, so the wages of children who continue to work will rise.

196. Rodrik (1997) makes a moral argument in favor of trade sanctions against countries that permit child labor. He argues that each country has a right to set rules for the moral attributes that characterize the process used to produce goods for domestic consumption. He makes the following argument. Suppose foreign workers and capital were relocated to an enclave within a country's borders. It would be morally and legally unacceptable to have one set of rules protecting children in the enclave and one set for children in the rest of the economy. From an ethical point of view, there is no difference between foreign producers located in an enclave and located at home. Therefore, it is also morally and legally unacceptable to have one set of rules protecting child workers at home and another set for the foreign producer. Following this logic, each country is morally justified in setting minimal conditions on the treatment of children employed to produce for domestic consumption, no matter where they are located.

197. Sanctions might also be justified if it can be demonstrated that household decision-making concerning child labor is made without regard to the interests of the children. While it may be difficult to

establish such a condition for all child labor, it appears that the child's interests are undervalued in the case of bonded child labor. When children are bonded, the employer provides food, clothing and shelter for the child. In addition, the employer makes a lump-sum payment to the parents for the child. Therefore, it must be the case that the child is maintaining a standard of living that is below his marginal value product. That is, there must be an implicit transfer from the child to the parent. Since the labor productivity of a child must certainly be below that of the adult, the parents must be enjoying a higher standard of living than the child. The evident transfer of wealth from the child to the parent strongly suggests that the welfare of the child is not highly valued in the family.

Sectoral Taxes and Foreign Intervention

198. There are other policies that affect the employment of children indirectly. For example, the government could tax the output of the export sector employing children. However, such a tax is not focused directly on the source of the market failure and so will add a distorting effect on consumer decisions.

199. Similarly, a foreign tax on imports of goods produced using child labor will be counter-productive. First, as in the case of the tax on child employment, the impact on child wages and opportunities is likely to be negative. Second, the exporting country could suffer a terms-of-trade loss normally associated with a foreign tariff.

200. Generally, we find that a foreign tariff is a sub-optimal approach to poor labor practices. This result is simply an application of the well-known theory of optimal intervention. According to this theory, market failure should be addressed at the source. Since the source is almost never at the border, border controls are almost never a first-best policy. Furthermore, border controls introduce distortions of their own which may or may not offset the original market failure. The optimal intervention in this case is for those impacted by the external effect of child labor to make a lump-sum payment to lower child labor.¹⁹

201. Although the above analysis lends little support to the idea that trade sanctions will improve the lot of children, Krueger (1996) argues that this is not necessarily the relevant criterion. Governments of countries in which children are employed may choose to change their laws rather than endure the punishment of trade sanctions. As long as trade sanctions are only applied in cases where the cost of the sanction exceeds the benefit of the offending labor practice, the targeted country may choose to reduce child labor rather than suffer the trade sanction. Thus, the mere *threat* of trade sanctions could have positive implications for child welfare. Nevertheless, when considering sanctions, it is essential that any gain from the threat of sanctions be weighed against the possibility that child labor practices will not change despite the penalties imposed by the rest of the world.

202. Trade sanctions against countries that have poor labor practices can also be justified using the same type of argument that is used to justify the general application of trade sanctions. In fact, it is rarely optimal in textbook analysis to countervail foreign subsidies or to impose anti-dumping duties, yet this class of trade sanctions survives in the WTO. Such seemingly sub-optimal institutional characteristics can be justified when viewed in a political economy context.

203. It is argued by Krugman (1997) that the structure of sanctions in the WTO and the emphasis on reciprocity and harmonization is aimed at constraining domestic special interests rather than introducing the first-best policy. A similar argument applies to sanctions against child labor. To the extent that

19. Srinivasan (1998) has suggested further that many of the problems that labor standards are designed to address can also be dealt with simply by allowing free international migration.

domestic interests in OECD countries believe that they are exposed to unfair or unethical competition from producers that employ exploitative labor practices, punishing such practices will serve to support the free trade coalition in OECD countries.

Empirical Evidence on Regulation and Child Labor

204. Before closing the discussion on child labor, it is interesting to review the historical evidence on the successful assault on child labor in the early part of the 20th century. At that time, three strategies were used to reduce child labor: (1) laws regulating the employment of children; (2) laws on compulsory education; and (3) economic prosperity. Several authors have attempted to determine empirically which of these strategies was the most effective.

205. Scholliers (1995) examines the case of Ghent, Belgium. By the mid 19th century there were no children under the age of ten years working. This transition occurred completely in the absence of legislative intervention. By contrast, Bolin-Hort (1989) reports that the decline in child labor in the cotton mills of Manchester, England was heavily influenced by laws regulating child labor and education. Brown, Christiansen and Philips (1992) study child labor in the U.S. fruit and vegetable canning industry between 1880 and 1920. They conclude that the law played a role but economic factors dominated.

206. Although these studies provide conflicting conclusions, they generally agree that laws regulating education are easier to monitor than laws regulating child labor. For example, Moehling (1998) looks at the decline in child labor in the United States between 1880 and 1910. As a consequence of activism, several states introduced minimum age legislation. In 1900, twelve states had a minimum age law prohibiting work by children under the age of 14 years. By 1910, 32 states had enacted similar legislation. However, a review of the censuses taken in 1880, 1900 and 1910 suggests that the legislation had little effect on the incidence of child labor.

207. It should be pointed out, though, that this type of analysis can be misleading if little attempt is made to distinguish cases in which the law is properly implemented from those where enforcement is inadequate. The phenomenon of endogenous compliance frequently clouds the analysis of policy where externally imposed standards are concerned.

208. In fact, there is an abundance of evidence of noncompliance. Krueger (1996) looks at the relationship between mandatory education and the actual age at which children leave school. In Brazil, 80% of students leave school before the age of 13, even though school attendance is mandatory through age 14. In Mexico and Portugal, 25% leave school before the legal age. More generally, none of the developing countries studied showed a spike at the compulsory age.

209. By contrast, changes in the minimum age of working children correspond well to the law in the United Kingdom. In 1947, the United Kingdom raised the age at which children could leave school from 14 years to 15. In 1973, the age was raised again from 15 years to 16. In both cases, the modal age at which students left school corresponded with the law. Only 5% of students left school early.

210. The evidence leads Krueger to conclude that compulsory laws, in and of themselves, have no effect. They must be accompanied by available education, enforcement, parental support and the financial means to attend school.

211. Furthermore, education and work are not necessarily incompatible. Psacharopoulos (1997), examining data from Bolivia and Venezuela, found that child workers make an important contribution to household income, though they also receive less education. By contrast, Patrinos and Psacharopoulos

(1997), examining the case of Peru, find that child labor makes it possible for children to attend school. Hence, part-time work and schooling can be complementary.

Discrimination in Employment and Wages

212. Underlying the analysis of most labor standards is the implicit assumption that labor standards are *labor-using*. That is, raising standards will ultimately withdraw labor from the market place, thereby raising the wage, particularly of unskilled labor, world-wide. Thus, it is not always easy to disentangle the protectionist motive from the humanitarian motive for pursuing coordinated labor standards. However, discrimination in employment does not have this labor-using characteristic. In fact, Maskus (1997) argues just the opposite. As a consequence, many of the concerns generally raised with international core labor standards do not emerge with discrimination in employment.

213. Consider, for example, the analysis put forward by Maskus. Suppose that the supply of female labor is upward sloping but there is a legally mandated ceiling on the wages paid to female workers in the export sector. The ceiling on female wages will deter women from supplying labor to the export sector. Thus, exports will be lower than otherwise expected. Furthermore, female workers will be diverted to the residual sector where they are likely to bid down the wage, thus increasing the competitiveness of the residual sector. That is, discrimination in this case will worsen the competitiveness of the export sector while simultaneously reducing the options for female workers. Therefore, efforts to eliminate discrimination by the domestic government will, if successful, ultimately expand export supply while raising female wages. Furthermore, discrimination is inefficient in this model. Its elimination, therefore, will be welfare improving.

214. Nevertheless, a foreign tariff may not improve the lot of female workers. In fact, discrimination may actually intensify following the imposition of sanctions. The tariff will lower the demand for the export good and, therefore, lower the demand for female workers. As a consequence, firms will find it less costly than before to engage in discrimination, thus making discrimination more likely. Women, of course, are made worse off in the process relative to male workers. The foreign tariff will only be successful if the government responds to the *threat* of sanctions by eliminating the discriminatory practice.

215. A similar result emerges if the discrimination is economy-wide and the export sector is female-labor intensive. Discrimination against females will lower the number of women in the labor force. As a consequence, the production possibility frontier will shift in. Following the Rybszynski Theorem, production of the female labor-intensive export good will contract and production of the male labor-intensive good will expand. Thus, exports will decline.

216. Maskus draws several conclusions from his analysis. First, discrimination may or may not expand exports. Hence, the impact of labor standards on competitiveness is ambiguous. In any event, discrimination that depresses the wages of women (or any group) and keeps them out of the labor force, contracts the world-wide supply of labor. Thus, wages are generally higher in the presence of discrimination than they otherwise would be.

217. From the point of view of the country where discrimination is occurring, discrimination is costly and inefficient. So it is in that country's overall best interest to eliminate discriminatory practices whether or not they are impelled to do so by international pressure. Nevertheless, there maybe special interests that gain from continued discrimination and have the political power to block reforms. Foreign pressure may be usefully applied in this case. However, the form of the intervention that will lead to the reduction in discrimination depends on the market situation, as discussed above.

218. A foreign tariff will unambiguously raise the cost of discrimination only if the export sector is male-labor intensive. In this case, the fall in the demand for exports will simultaneously lower the demand for male workers. The *equilibrium* male wage will decline relative to females. Therefore, it will be more costly to preserve the pre-existing male wage premium. In addition, the tariff may impose a terms-of-trade loss. Thus, there will be increased pressure to eliminate the practice of discrimination. However, if the foreign tariff lowers the demand for female labor, it will also lower the equilibrium female wage. Thus, the efficiency loss associated with discrimination is reduced. In that case, the only penalty for continued discrimination is the deterioration in the terms of trade, which must be set against the reduced efficiency loss associated with discrimination. In this case, a country may choose to continue with the discriminatory practice rather than yield to international pressure.

219. The objective of a foreign tariff would be to induce the country in which the discrimination is occurring to eliminate the practice. The policy has failed, from a world-welfare point of view and from the point of view of female workers, if the country chooses the tariff punishment over eliminating the practice of discrimination. The problem with using a policy that makes discrimination less costly is that it raises the probability that the exporting country will choose to live with the sanction rather than eliminate the practice of discrimination.

220. Furthermore, discriminatory practices are most likely to abate with the intensification of trade. Although this argument is made with regard to all labor standards, it is particularly the case with discrimination. Discriminatory practices are not generally profit-maximizing. The more intense is international competition, the greater the pro-competitive pressures to cut costs. This provides firms with a strong incentive to discontinue discriminatory practices.

Imperfect Competition

221. The presence of imperfect competition generally alters the results of policy analysis since we are thrust into the world of the second-best. For example, Maskus models a 2-sector economy with sector-specific male and female employees. The employer is monopsonistic and discriminates between male and female workers. On the one hand, the firm discriminates against females which is welfare-reducing. However, discrimination against women forces the firm to hire more males. Thus, the distortion in the market for male workers is not as severe as it otherwise would be.

222. The impact on trade depends on where the distortion is most severe. If the distortion is most severe in the export market, discriminatory practices will contract the supply of exports. Eliminating discrimination in this case will expand exports, thereby intensifying worldwide competition in the market for labor-intensive goods. The impact of a foreign tariff also depends on where the distortion is most intense. If the discrimination is most distorting in the export market, a foreign tariff, by further lowering factor demand in the export sector, will make the distortion greater.

Freedom of Association and the Right to Collective Bargaining

223. The economic effects of freedom of association and the right to collective bargaining depend heavily on the objectives of the union. The ambiguous nature of unions and the consequences for economic policy are nicely captured in Maskus' (1997) discussion.

224. For example, if union activity produces an inefficient allocation of resources, a trade policy that punishes restrictions on union activity is inefficient. Unions that attempt to set a minimum wage at a sufficiently high level that it generates unemployment are generally inefficient. Constraining such activity should not be subject to international sanctions. However, if unions offset monopsony power and bargain

for a wage that is equal to the worker's marginal value product, the union's conduct would be welfare-enhancing.

225. The impact of trade sanctions when union activity is suppressed is ambiguous. For example, suppose there is monopsony power in the export sector but unions are not permitted to organize labor or bargain collectively. In this case, a tariff that lowers the demand for the export good will also lower the demand for labor in the export sector. The monopsonistic distortion is thus intensified. The policy can only be considered a success if the threat of a foreign tariff leads the local government to relax the control over union activity.²⁰

226. A second concern with union activity is raised by Harrison and Leamer (1997) and others. Unions function in the formal sector only. They have little relevance for the informal sector and compliance will almost certainly be an issue. Given the varying degrees of compliance with the right to organize, it is likely to be the case that labor standards will vary markedly across the economy. Labor may be forced to flow out of the export sector into the informal sector, lowering compliance even further.

227. However, as noted by the World Bank (1995), the informal sector may have its own traditional or community-based devices for mediating the mutual interests of workers and employers. Thus, issues of compliance may not be as relevant in the informal sectors as they are in the formal sector.

228. There are many reasons, of course, that unions may be welfare-improving. For example, to the extent that unions serve to enhance job security of their members, workers may increase investment in job-specific human capital. Workers, feeling a greater commitment to their firm, may reveal productivity-enhancing information. Firms, for their part, may respond to this by increasing investment in training and innovation for their most committed workers. More generally, unions help to stabilize industrial relations and counter-balance the market power of firms.

229. Allowing workers to play some role in corporate governance can also reduce the cost of asymmetric information. Stiglitz (1999) argues that strikes are a costly way of transmitting information between workers and firms concerning the supply of labor or the firm's profitability.

230. The question, however, is if providing job security serves the interests of the firm, for all of the reasons listed above, why must they be forced to provide job security by a union? Several explanations are offered to resolve this apparent paradox. For example, the firm may not be able to credibly commit to job security in the absence of a union contract. Furthermore, Summers (1989) has argued that collective bargaining eliminates moral hazard. Finally, firms may not have an interest in divulging job-related risks in the absence of union pressure.

231. Stiglitz (1999) also raises a host of labor market failures associated with informational asymmetry, transactions costs and agency that may not be solved without government intervention. For example, a firm may have an interest in hiding information from its creditors. Workers can play a highly effective monitoring role on behalf of the creditors since they are "on the spot." If workers have some role in management, they can verify or challenge claims made by the firm's owners.

232. In addition, the ability of stockholders to adequately monitor the conduct of management is quite poor, particularly for large firms. Managers may, for example, indulge a taste for discrimination in the absence of close stockholder control. Unions have the capacity to fight for more efficient outcomes that include eliminating costly discriminatory practices by some managers.

20. See also Corden and Vousden (1997) for analysis of the effects of trade policy when the export sector is monopsonized.

233. Unions generally can play some role in increasing the worker's identification with the firm. To the extent that this occurs, monitoring costs are reduced. One should not underestimate the economic and social costs of monitoring. It is common for firms to pay a wage above the equilibrium wage – a so-called *efficiency wage* — as a mechanism for monitoring workers. An above market-clearing wage has two effects. First, it creates a pool of unemployed. Second, it raises the cost of shirking for a worker who, thus, runs the risk of being fired. The social cost of such a monitoring strategy is significant given the attendant unemployment.

234. The empirical evidence on the welfare effects of unions is ambiguous. Freeman (1993) claims that the connection to productivity growth is weak. However, Levine and Tyson (1990) report on a survey of 43 studies on worker participation and productivity. They find that nearly all studies report that worker participation either raises productivity or leaves it unchanged. Very few studies found any negative effects.

8. Core Labor Standards and Trade Disciplines

235. Currently, core labor standards are unequivocally excluded from the WTO with very few exceptions. Many authors support this approach. For example, Srinivasan (1996) argues in favor of a WTO that is concerned primarily with unfair trade practices that emerge at the border. The problem with adding core labor standards to the anti-dumping clause is that such an action would establish a principle that any domestic policy that affects costs could be subject to anti-dumping duties.

236. Srinivasan (1998) makes a further argument against including labor standards in the WTO. In his view, monitoring tasks ought to be allocated across international agencies according to the appropriate tools of enforcement. The virtue of free trade can be established without regard to income level or stage of development. Furthermore, we can determine from a world-welfare point of view that trade barriers ought to be harmonized at zero. It can be established as a matter of basic policy analysis that border controls on trade rarely raise welfare. In the rare cases in which a country gains from border controls, the policy is a *beggar-thy-neighbor* policy. That is, gains by the country imposing the policy are smaller than the losses imposed on trade partners. As a consequence of this analysis, optimal trade standards can be clearly articulated, apply equally to all participants and the punishment for deviations can be justifiably severe.

237. By contrast, we cannot establish that core labor standards ought to be applied uniformly across all members. Furthermore, countries will endogenously move toward tighter labor standards as a byproduct of economic development. Therefore, labor standards are poorly suited to the culture of the WTO. Rather, labor standards are most appropriately encouraged through economic development and technical assistance, which is the approach adopted in the ILO. Thus, Srinivasan concludes that enforcement of core labor standards should be in the exclusive purview of the ILO.

238. Brown (2000) levels a somewhat different criticism of incorporating core labor standards in the WTO. There is no reason in principle why the WTO could not set separate regulation and enforcement mechanisms for trade and labor standards. The problem, however, is that the industrialized countries may be tempted to interpret core labor standards violations as if they were violations of trade standards. Such countries cannot credibly pre-commit not to try to link poor labor practices to trade disciplines. For if this strategy were successful, the rigid rules governing international trade would be applied inappropriately to labor standards. Rather than run the risk, developing countries will seek to partition core labor standards into a separate organization, such as the ILO, where the maximum power to punish by the agency is appropriate for labor standards.

239. Maskus (1997) points out that even extending GATT Article XX to include a broader definition of labor standards would not be relevant. This article requires the acting government to demonstrate that

suspending trade is necessary to correct the offending conduct. However, as discussed above, trade barriers are almost never the optimal intervention where labor standards are concerned and frequently would have adverse consequences. Therefore, Article XX is unlikely to be relevant, even if broadened in scope.

240. Krugman (1997), however, takes the approach of a realist when thinking about the issues that should be subject to international trade negotiations. He views the WTO as, at least in part, an international agency that strikes international agreements that make it possible to maintain a coalition for open trade *within* each member. Maintaining support for an open trading regime frequently depends on controlling the impact of trade on the distribution of income. Since harmonization of labor standards can diminish the impact of trade on the distribution of income, they may become a legitimate basis for negotiations.

241. Krugman's conclusions are drawn from the analysis of Brown, Deardorff and Stern (1996). They analyze the case in which costly but socially desirable standards are imposed by legislation. Underlying the legislation is the presence of some externality in a sector that is not efficiently mediated by the market. In a small open economy, firms subject to the legislation bear a new cost but are not able to change price. Therefore, all of the cost of the legislation is borne by the producer.

242. However, if all countries in the trading system are subject to similar legislation, the worldwide supply of the good will fall and, thus, the international price will rise. A rise in the world price allows domestic producers to pass some or all of the cost of the regulation on to consumers. A similar result would have occurred if the economy had been closed.

243. The conclusion, of course, is that developing a political consensus for the efficiency-enhancing standard in the presence of an open trading system will be easier if all governments in the trading system agree to harmonize on the same standard. That is, harmonization that reduces the negative distributional effects of desirable economic policy supports both free trade and efficient resource allocation.

244. Some analysts such as Charnowitz (1996) and Lawrence (1996) make a similar argument with regard to the relationship between trade standards and the impact of trade on wages. International trade is expected to harm the scarce factor of production, which in the OECD countries is unskilled labor. If international labor standards are basically labor-using, world-wide adoption would contract the supply of labor and bid up the international wage of unskilled labor. The impact on labor-scarce countries would be to reduce the negative income effect on unskilled labor, thereby countering some of the adverse distributional effects of international trade.

245. Other domestic political failures can also be used to justify placing core labor standards on the international agenda. First, countries that do not have democratically elected governments may not choose a socially optimal level of such standards. Second, newly industrializing countries may not realize that they have lost a comparative advantage in unskilled labor-intensive production or are suffering through the political consequences of the transition to the second stage of industrialization. Such countries may be inclined to resist core labor standards in a vain hope of preserving competitiveness in sectors that are intensive in unskilled labor.

9. Core Labor Standards and Trade Liberalization

246. Rather than resort to international agreements and trade sanctions to bring about a harmonization of core labor standards, we might consider instead relying on endogenous mechanisms such as international trade to precipitate convergence. The connection between labor standards and trade liberalization has been analyzed by Cassella (1996) from a theoretical standpoint. Her analysis begins from the assumption that differences in labor standards are in part driven by differences in income. Therefore, trade will cause endogenous convergence in labor standards if trade also gives rise to convergence in

income levels. However, the convergence is not triggered by a drive for competitiveness but rather a convergence in the underlying demand for standards.

247. So when would we expect convergence in incomes? Casella examines the case of a Heckscher-Ohlin type model with two countries, two goods, and two factors. The two factors are skilled and unskilled labor. Suppose first, that both countries are democracies and the number of unskilled workers is larger than the number of skilled workers. If factor-price equalization occurs, unskilled workers will earn the same wage in both countries and, therefore, will vote in favor of the same level of labor standards regulations. So perfect convergence in standards occurs.

248. If, on the other hand, there are a majority of skilled workers in the skill-abundant country and a majority of unskilled workers in the unskilled-labor abundant country, standards may or may not move closer together but they definitely will not converge. Opening to trade raises the return to the abundant factor. Since the median voter in each country is also an abundant factor, opening to trade will raise the demand for standards in both countries. However, the return to skilled labor will be higher than the return to unskilled labor. So voters in the skill-abundant country will demand higher labor standards than voters in the unskilled labor-abundant country.

249. Alternatively, we could consider a Ricardian type trade model in which trade is driven by differences in technology. If we assume that the country with the low technology is also smaller, trade will lead to convergence on the standards set by the high-productivity/high-standards country. We know that in a Ricardian model with trade occurring between a small and a large country that the equilibrium goods prices will equal the autarky goods prices of the large country. Hence, the large country does not gain from trade. All the gains from trade accrue to the small country. In this case, the small country is also the low-standards country. The subsequent convergence in income to the level of the richer country triggered by trade will also lead to a convergence in standards on the level set by the high-standards country.

250. Needless to say, if the small country is the high-standards country, all of the gains from trade accrue to the high-income country. Income levels then diverge further and so do standards.

10. Summary and Conclusions

251. The purpose of this paper is to provide a critical review of the current debate and recent literature on several aspects of international core labor standards. We attempt to address two basic issues. One strand of the literature examines the role that international trade plays in mediating international differences in wages, levels of development, labor law and cultural practices. In this context, we examine the theory and evidence concerning the impact of differing labor standards for international trade and whether such trade has implications for the income distribution in OECD countries. We also consider the impact of heterogeneous cross-country labor standards and practices for legal institutions relating to labor standards and industrial relations. In particular, we are interested in whether cross-country differences in labor standards give rise to a race to the bottom in labor protections and what the consequent decline in standards might imply for broader economic performance.

252. We turn first to the impact of international labor standards heterogeneity on the income distribution. The precipitous rise in the return to education in some OECD countries throughout the 1980s and 1990s, coincident with an increase in trade with low-wage countries, lent casual support for the view that international trade was causing a decline in the wages and/or a rise in unemployment of unskilled workers in the OECD countries.

253. For example, Cline (1997) concludes, based on a review of the literature, the preponderance of evidence indicates that international trade accounts for an increase in the return to some college education

in the United States of about 2.5 percentage points over the decade of the 1980s. That is, trade accounted for 15-20% of the widening wage differential. Something of a consensus has developed around these figures. Nevertheless, the subsequent empirical and theoretical debate, while intense, was ultimately not conclusive. The available evidence neither confirms nor refutes the hypothesis that international trade caused some or all of the widening distribution of income.

254. Measures of the factor content of trade suggest a substantial role for trade in determining the distribution of income. However, the assumptions on the nature of technology and preferences required to connect the factor content of trade to wages are not satisfied. The price of unskilled labor-intensive goods provides an alternative indicator of the implications of trade for the distribution of income. If trade had lowered wages of unskilled workers, then the relative price of unskilled labor-intensive goods should have fallen. However, no such decline in relative prices has been detected during the 1980s and 1990s. Several hypotheses have been offered to explain the absence of the expected goods price changes but none has been established empirically.

255. Although the existing evidence on the effect of international trade on the distribution of income is inconclusive, we know as a matter of theory that trade *could* affect relative wages and employment. It is possible that the failure to measure the impact is a consequence of the small volume of trade between low-wage and high-wage countries.

256. Next, we turn to the question as to whether countries with poor labor practices are altering their comparative advantage as a consequence. One study found that exports as a fraction of GDP was negatively correlated with some labor protections. In a second study, labor costs were positively correlated with labor protections above and beyond what would be expected given differences in labor productivity. The impact of protection on labor cost also appears to alter comparative advantage. Low-income countries that have a longer work week and a higher incidence of child labor also tend to export more labor-intensive clothing and textiles than would be expected given their factor endowments of labor, land and human capital.

257. However, poor labor practices do not appear to attract FDI. In fact, countries with a high incidence of child labor have a particularly difficult time attracting capital (with the possible exception of China). The study did not establish causality. That is, are foreign investors put off by child labor or do countries unable to attract capital resort to child labor in order to survive?

258. Although cross-country differences in core labor standards may have implications for international trade and foreign direct investment, competition in legal protections and labor contracts may occur as well. Some fear that a failure to coordinate labor standards will result in a race to the bottom in labor protections.

259. While the arguments in favor of a race to the bottom appear superficially compelling, many *caveats* apply. First, the gains from trade are larger, the more different countries are from one another even if the difference is caused by different labor standards.

260. Second, if countries in the trading system are so small that they do not and cannot affect one another, then each country has no competitive interest in the standards maintained elsewhere. The case for coordination of standards would not rest on a fear of the race to the bottom, but rather in correcting a political failure. Labor standards, even when welfare-improving, have distributional effects which make them politically unpalatable. Imposing such standards internationally may make them less costly to certain constituents and, therefore, easier to implement.

261. Third, even if countries are sufficiently large to affect one another, a race to the bottom may not occur. To the extent that labor standards are efficiency-enhancing and, therefore, welfare-improving, governments in a well-functioning democracy have an incentive to maintain them even if labor rights are not protected elsewhere. Empirical evidence suggests that labor standards have some efficiency properties that governments, workers, and managers may not want to lose.

262. A competitive lowering of labor standards could occur, in principle, if firms relocate capital to countries with weak labor protections. Also, if trade with low-standards countries lowers the price of labor-intensive goods then the wages could fall. Firms will lower the cost of labor by cutting money wages and may also weaken labor protections. However, as an empirical matter, researchers have not been able to document a fall in the price of labor-intensive goods in the OECD countries in the recent past. Furthermore, empirical evidence suggests that firms are more likely to invest in countries with some labor protections than in countries with poor labor practices, particularly with regard to working children.

263. We then turn to consider policies that might be used to remedy poor labor practices relative to core labor standards. Several policies have been suggested to reduce child labor. A prohibition against child labor can be justified in some cases. For example, if the labor market has multiple equilibria or if parents act without regard for the child's interests, then a ban has the potential to improve the lot of working children. An internationally coordinated strategy of reducing child labor may raise adult wages enough to eliminate the poverty that gives rise to child labor in the first place.

264. However, a ban on child labor will not be successful in communities in which adult productivity is so low that family survival is not possible without requiring children to work. In this case, there may be policies that reduce child labor but only economic growth or transfers from wealthier countries will eliminate it.

265. Trade sanctions are sometimes thought to be an appropriate tool to enforce international standards on child labor. While appealing, sanctions may not be optimal or even effective. Trade interventions are rarely appealing from an analytical point of view because they do not address the underlying market failure at its source. Furthermore, to be effective, it must be the case that the cost of the foregone trade is larger than the cost of the forgone wages of children. Otherwise, a targeted country will choose to forgo trade rather than eliminate child labor. In such a case, it is unlikely that the affected children have been made better off. In order for sanctions to play a constructive role for poorer countries, they would have to be accompanied by a financial contribution by industrialized countries that tips the balance in favor of compliance.

266. There are several other causes of child labor for which a ban is not a constructive response. If child labor is excessive because of poor educational opportunities or if parents lack access to capital markets, then a ban will have little positive effect on the welfare of children. Prohibiting children from working will constrain their choices without offering improved alternatives.

267. Targeted educational subsidies provide a much more positive approach to child labor. Children who are paid for attending school rather than paid for work have an incentive to invest in human capital without placing a burden on the family. Some evidence suggests it might be more effective to pay the subsidy to mothers rather than fathers in poor families.

268. As with child labor, international policies intended to reduce discrimination in employment can be constructively implemented only after careful analysis of each situation. If the export sector is male-labor intensive, then a foreign tariff will lower the equilibrium male wage relative to females. Female workers are better off as a consequence. In addition, the foreign tariff is costly both because it worsens the terms of trade and increases the social cost of the discriminatory practice. As a consequence, the

government has an added incentive to eliminate the practice of discrimination. More importantly, the foreign government can both threaten sanctions and carry out the threat because the foreign tariff improves the welfare of female workers.

269. However, if the export sector is female-labor intensive, then a foreign tariff will lower the demand for female labor and further depress female wages. That is, the foreign tariff will harm precisely the group of worker who are already victimized. This adverse effect of the foreign tariff undermines the credibility of the threat of foreign action.

270. A similar credibility problem emerges with the rights to free association and collective bargaining. For example, if a union would counter monopsony power in the export sector but is prohibited from doing so by the government, then a foreign government may threaten sanctions as punishment. But if the threat fails, then a foreign tariff will lower export demand, thereby intensifying the monopsonistic exploitation and further harming workers in the export sector. A threat with such adverse consequences could hardly be credible.

271. Finding an arena in which core labor standards are ultimately established and enforced may prove to be the greatest challenge. It appears unlikely that international trade and trade openness, by itself, will produce convergence in international standards. The only case in which the median voter in all countries will support the same standards is if factor-price-equalisation occurs. Since this is highly unlikely for many reasons, voters across countries almost certainly will continue to vote for a disparate set of standards in the absence of international coordination.

272. It is argued by some observers that the WTO might be an appropriate body for enforcing labor standards. The case for using the enforcement power of the WTO rests on the implicit assumption that ILO enforcement mechanisms are extremely weak. Furthermore, to the extent that establishing international core labor standards is central to maintaining the consensus for a free-trade coalition, labor standards will be a key accouterment to any trade agreement. However, there are many issues concerning fairness to developing countries, appropriate standards to be set, the culture of the WTO and the credibility of threats in the absence of compliance that will have to be satisfactorily addressed before much credence could be put in this argument. For these reasons, others believe that the ILO is the most appropriate international organization to set and enforce core labor standards.

*APPENDIX I***INDUSTRIAL LABOR RELATIONS POLICY
AND STRATEGIES FOR GROWTH**

As discussed in Section III.2 above, Kuruvilla (1996) carefully documents the connection between industrial policy and industrial relations policy in Singapore, Malaysia, the Philippines and India. Results of Kuruvilla's analysis are presented in detail below.

Singapore, like many other developing countries, adopted an import-substitution strategy shortly after independence in 1959. This policy was relatively unsuccessful due to the absence of a large domestic market, and so was replaced with an export orientation in 1965. The expectation was that export growth would be financed with foreign direct investment concentrated in sectors such as radio receivers and television.

In order to attract FDI, attention was directed to infrastructure development and the establishment of export processing zones. The objective of industrial relations policy was to provide investors with a flexible, cheap, stable workforce.

Stability in the labor force was fostered by the creation of a national tripartite governance structure. Union leaders were educated as to development needs in relation to the labor force. Restrictions were placed on the range of issues subject to collective bargaining. Transfers, promotions, job assignments and layoffs were not negotiable. Furthermore, strikes were not permitted as a part of dispute resolution.

An industrial arbitration court ratified all collective bargaining agreements. Contracts were written for a fixed five-year term and wage guidelines were set by a national wage council.

By 1974-75, wages in Singapore had risen sufficiently that competitive pressures were felt from countries such as Korea and Taiwan. The Singapore government, at this point, launched a second-stage export promotion policy. The move to higher value-added industries included computer assembly and semiconductors.

The national wage council set out to raise wages by 12% each year for the period 1979-81. Great emphasis was placed on secondary education, vocational training and the creation of technical universities. The union structure was reorganized in 1981 similar to the Japanese style of enterprise-level unions. Enterprise-level unions were created and collective bargaining agreements were intended to reflect the specific financial circumstances of each firm. Firms were encouraged to invest in human capital financed by a skills-development fund. Labor contracts made increasing use of lump-sum payments rather than changes in the wage base in order to maintain flexibility in the labor contract. Wages were no longer set nationally, but rather by industry.

Singapore is now turning to the development of the services sector, particularly finance, banking and shipping. Unions have a voice at the national level but there are still restrictions on strikes and bargaining.

Labor-management relations are cordial and wages rise steadily. However, as the economy turns towards the provision of services, union density has dropped dramatically.

Malaysia followed a somewhat different path. In the 1957-63 period following independence, government policy focused on infrastructure and rural development. Industry was largely left to the private sector.

However, between 1963 and 1970, the government became an investor in the industrial structure. Industrial relations followed the British model of collective bargaining and minimum standards. The government saw its role as one of containing conflict, prohibiting strikes, limiting union activity and restricting bargaining over transfers and layoffs. However, the government did not regulate heavily. Kuruvilla refers to this period as one of "controlled pluralism"

By 1973 it was clear that heavy industry was going to fail and Malaysia was saddled with a huge foreign debt. At this point, the government turned to a policy of export promotion based on cheap labor and FDI.

Labor relations policy changed dramatically with a focus toward containing costs. Tax breaks were introduced for foreign corporations, foreign corporations were exempt from labor law, and changes were introduced in overtime pay. There was no minimum-wage legislation, no provisions for nondiscrimination, and unions were banned in some sectors such as electronics. The government became very activist in managing labor relations matters including registering unions and dispute resolution. Heavy use was made of compulsory arbitration in an attempt to control conflict.

The overall policy was successful. As with Singapore, wage growth accelerated rapidly.

By the mid-1980s, Malaysia shifted to a secondary export promotion strategy. At this point, attention shifted from cost containment to training. However, there is a continued attempt on the part of the government to keep the labor union movement fragmented and ineffective.

The Philippines provide the most interesting example in Kuruvilla's set of studies. During the post-World War II period, the Philippines followed a policy of import substitution, tax incentives and border controls. Labor relations during this period followed the American model of collective bargaining, arbitration and unionism.

A large inflow of capital precipitated a balance of payments crisis in 1960. Loans from the IMF and the World Bank were made on condition that the Philippines relax import restrictions. Between 1962 and 1972, the Philippines followed a mixed development strategy. Agricultural interests sought liberalization while the manufacturing sector preferred protection.

In 1972, the Philippines set out on an export promotion strategy, emphasizing cheap labor. Industrial relations followed the New Labor Code of 1974. The objective was to guarantee industrial peace. It included a ban on strikes in vital industries and compulsory arbitration. Existing strike funds were converted to education funds. "Unfair" labor practices were decriminalized and one union was established for each industry. Furthermore, each union was required to become a member of the National Trade Congress, a group heavily influenced by the government. Growth in the minimum wage was controlled and rules were relaxed on work hours, overtime and occupational safety and health.

The development strategy was unsuccessful, compared to Malaysia and Singapore. Crony capitalism and macro-mismanagement are frequently blamed for the failure. The government resorted to martial law under which greater restrictions were placed on labor activity. Strikes were made more difficult, membership in the registered unions declined, illegal unions began to emerge and unemployment began to rise. Overall, labor relations were characterized by far more strife than had been seen in Singapore and Malaysia at a similar stage of development.

When the Marcos regime was replaced by Aquino and Ramos, restrictions on labor activity were relaxed. Industrial relations policy came to resemble a policy more characteristic of the period of import substitution. But the change in policy did not promote stable labor relations since the labor movement was fragmented and weak. Ultimately, it took 30 years to implement the first stage of export promotion.

The case of India provides further evidence concerning the relationship between industrial relations and development strategy. Following independence, India launched on a path of import substitution and central planning, with a heavy emphasis on capital goods and indigenous technology.

Close ties existed between labor and the government as an artifact of the independence movement. Labor law in 1948 called for protections that exceeded standards in industrialized countries, including maternity leave, child care, occupational health and safety and unregulated union formation. All aspects of the labor contract were eligible for bargaining and restrictions were placed on firing, layoffs, and unemployment compensation. Firms were allowed to close only with government approval. Labor relations were contentious and characterized by frequent strike activity. Clearly, the government was mandating inefficient labor contracts.

The financial crisis in 1991 triggered a change in policy toward export promotion. Simultaneously, pressure emerged to change labor law.

APPENDIX II

LABOR STANDARDS IN EXPORT PROCESSING ZONES

Much concern about the enforcement of core labor rights has focused on government regulations of export processing zones (EPZs). It is commonly argued that rights are most likely to be suppressed in EPZs precisely to gain a competitive advantage in trade. Romero (1995), however, argues that wages in EPZs are generally higher than in the rest of the economy for several reasons. First, firms that operate in EPZs pay productivity incentive bonuses and overtime. Second, firms that operate in EPZs tend to be larger: pay scales and working conditions are positively correlated with firm size. Furthermore, large firms are more effectively regulated than small firms in the informal sector. Third, company policy of foreign-owned firms frequently calls for higher wages and better working conditions than in the surrounding economy, partly to attract quality workers and partly because supervisors are bound by “best-practice” company policies. Finally, some governments have established higher minimum wages for EPZs in the hope of establishing a more stable and productive work force.

Romero (1995) also points out that workers in virtually all EPZs worldwide have a legal right to form or join a union. A large majority of countries that host EPZs have ratified ILO Conventions 87 and 98 that cover freedom of association and collective bargaining rights, with the noted exception of the Peoples Republic of China. Overall, however, EPZs tend to have relatively low unionization rates due both to the difficulty of organizing workers and lax enforcement of rights.

Workers in EPZs also tend to enjoy better working conditions than workers in the rest of the economy. Foreign firms, especially those headquartered in an OECD country, tend to follow higher standards generally. Exceptions tend to occur in low-skilled labor-intensive assembly operations where enforcement of rights is lax, such as garment and gem-cutting firms. Poor working conditions are also likely to prevail in older plants or in cases where legal protections have not kept pace with technological change.

Maskus (1997) makes two additional arguments. First, firms that operate in EPZs may have to pay a wage premium in order to attract quality workers into the zone. Second, products made in EPZs are generally intended for export to developed economies. The demand for product quality is quite high, necessitating the employment of better than average workers.

However, Maskus does go on to point out that there are some cases in which EPZ firms have been found to pay lower wages as compared to other local enterprises. Such cases may occur even in countries that have liberal wage policies and minimum wage legislation. This may be the case if there are restrictions on labor union rights in the EPZs and if inspection procedures are lax.²¹

21. Maskus does *not* believe that sub-par wages are the result of restrictions on labor migration in and out of EPZs that might depress wages since he has found little systematic evidence of such restrictions.

Table 1. Studies relating core labor standards to trade performance and FDI

Author/ Sample Period	Countries	Dependent Variable	Independent Variables	Statistically Significant Variables
Mah (1997)	45 developing	Exports/GDP	Freedom of Association Right to Organize Collective Bargaining Free from Forced Labor Nondiscrimination Real Interest Rate	negative correlation weak negative correlation weak negative correlation strong negative correlation
Rodrik (1996) 1985-1988	All countries Reporting data	Labor Cost/Worker	ILO Conventions Ratified CLS ILO Conventions Ratified F. H. Democracy Indicator Incidence of Child Labor Statutory Hours Worked Days of Paid Annual Leave Unionization Density Per Capita Income	positive correlation positive correlation strong negative correlation strong positive correlation
Rodrik (1996) 1985-1988	All countries Reporting data	Textile and Wearing Apparel Exports/ Total Exports	Population/Land Average Years of Schooling ILO Conventions Ratified CLS ILO Conventions Ratified F. H. Democracy Indicator Incidence of Child Labor Statutory Hours Worked Days of Paid Annual Leave Unionization Density	positive correlation negative correlation positive correlation
Rodrik (1996) 1985-1988	Low Income (Per capita GDP <USD 6 000, 1985)	Textile and Wearing Apparel Exports/ Total Exports	Population/Land Average Years of Schooling ILO Conventions Ratified CLS ILO Conventions Ratified F. H. Democracy Indicator Incidence of Child Labor Statutory Hours Worked Days of Paid Annual Leave Unionization Density	positive correlation negative correlation positive correlation positive correlation
Rodrik (1996) 1985-1988	All countries Reporting data	US FDI/Capital Stock	Population/Land Black Market FE Premium Income Growth ILO Conventions Ratified CLS ILO Conventions Ratified F. H. Democracy Indicator Incidence of Child Labor Statutory Hours Worked Days of Paid Annual Leave Unionization Density	positive correlation negative correlation positive correlation positive correlation negative correlation

Table 2. Studies relating core labor standards to economic growth

Author/ Sample Period	Countries	Dependent Variable	Independent Variables	Statistically Significant CLS Variables
Palley (1999) 1997	Argentina Brazil Dominican Republic Ecuador Fiji Guatemala Honduras South Korea Panama Peru Philippines Suriname Thailand Uruguay Venezuela	GDP growth rate	Freedom of Association regional GDP growth rate industrialized GDP growth	strong positive correlation
Rama (1995) 1980-1992	Latin America Caribbean	GDP growth rate	ILO Conventions Ratified Annual Paid Leave Social Security Contributions Labor Market Rigidity unionization density government employment macro determinants of growth labor cost	negative correlation negative correlation negative correlation
Barro (1996) 1972-1994	All	GDP growth rate/capita	FH measure of democracy FH measure squared GDP Schooling Life Expectancy Fertility Government Consumption Rule of Law Terms of Trade Inflation Rate	small positive correlation negative correlation
Rodrik (1997a)		GDP growth/capita	Base Period GDP Education Quality of Gov't Institutions Democracy Index	

Table 3. Studies relating core labor standards to wages

Author/ Sample Period	Countries	Dependent Variable	Independent Variables	Statistically Significant CLS Variables
Rodrik (1999a) 1960-1994		Wages	Democracy Labor Productivity GDP/Capita Relative Price of Consumption	strong positive correlation strong positive correlation
Rodrik (1999a) 1960-1994		Wages	Unionization Density ILO CLS Conventions Ratified Labor Productivity FH Civil Liberties FH Political Rights Competitive Political Participation GDP/Capita Relative Price of Consumption	weak positive correlation strong positive correlation strong positive correlation positive correlation strong positive correlation

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