CORE LABOR STANDARDS AND FOREIGN DIRECT INVESTMENT IN LATIN AMERICA AND THE CARIBBEAN:

DOES LAX ENFORCEMENT OF LABOR STANDARDS ATTRACT INVESTORS?

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I. Introduction

The majority of Latin American and Caribbean countries have ratified key conventions of
the International Labor Organization (ILO), committing themselves to uphold four core
labor standards.   These core standards -- prohibition against child labor, forced labor, the
right of free association and collective bargaining, and freedom from discrimination--
have become synonymous with fundamental labor protections and rights worldwide.[2]
But ratifying an ILO convention and fully enforcing it in a proactive manner is another
matter: violations of core labor standards can be seen in nearly every country in the
world, including the most developed nations.

There is no doubt that enforcement of these four core labor standards is less systematic
and more uncertain in developing countries. One of the key attractions developing
countries hold for foreign investment is their lower average wage costs. Are lax
enforcement of labor standards perceived to keep labor costs down? Are Latin American
and Caribbean countries then compelled to compete, not by improving labor conditions
and productivity, but by removing labor protections in an attempt to lower wage costs? Is
lax enforcement of labor standards a criteria that really counts for investors in deciding
whether and where to invest?   If this were true, one might imagine seeing more so-called
"horizontal" investment decided in this manner. Horizontal foreign investment is made
across countries largely on the basis of labor and production costs.

Before even beginning to test econometrically whether measures of lower labor
enforcement yield statistically significant more foreign investment, this characterization
has and should be challenged. The first line of attack is that foreign investors care about
much more than labor costs. Capital costs matter as well, as do current demand
conditions for the firm's output and expectations of future profitability. Even if the
argument is refined to a *ceteris paribus* argument that—other things equal—investors
prefer to invest in where labor costs are lower, there is an important debate about whether
stricter observance of labor standards will in fact lead to higher labor costs.

Some have argued, for example, that stricter observance of core labor standards may in
fact increase the efficiency with which labor markets operate and raise the productivity of
workers. This might be the case because greater equality is associated with more rapid
economic growth, because reduction of child labor leads to greater accumulation of
human capital and hence faster rates of future growth, or because freedom of association
and collective bargaining remove the ability of employers to engage in anti-competitive
employment practices and provide workers greater job security. This, in turn, creates the
conditions under which workers will have sufficient incentives to acquire firm-specific
human capital and contribute productivity-enhancing innovations to firms (Kucera, 2002;
Maskus, 1997, Piore 2000).

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[2] Annex I describes these eight separate ILO conventions, two which apply to each of the four
core labor standards.

[3] The "race to the bottom" stands in stark contrast to the long-held belief that foreign direct
investment is welfare-improving: foreign investment generates increased employment, wages and
labor productivity, leading to sustained increases in personal and national income.

The proof, as the cliché goes, is in the pudding—or in this case, in empirical studies of the relationship between the enforcement of core labor standards and foreign direct investment (FDI).[4] Surprisingly, there have been relatively few such studies, and none have paid special attention to Latin America and the Caribbean. This paper will estimate the impact of the enforcement of core labor standards on FDI in the region. Section II below begins by surveying the literature on the determinants of FDI: theoretical models, empirical estimation of the determinants of FDI, and the few studies that have examined specifically the links between core labor standards and FDI. Section III describes the data used in this study and explains our decision to use sectorally-disaggregated bilateral flows of FDI from the U.S. and Japan as our dependent variable. Section IV details the methodology used in the estimations, while Section V presents the results. Finally, Section VI presents our conclusions.

In addition to its specific focus on Latin America and the Caribbean, this paper departs from previous studies on foreign direct investment and core labor standards in a number of ways:

▪ Rather than examine foreign direct investment in the aggregate, it examines, to the extent possible with available current data, a sectoral breakdown of FDI. The purpose of disaggregating FDI flows is to determine whether broad economic sectors (manufacturing/non-manufacturing) are more sensitive to the enforcement of core labor standards than others.

▪ It does not use ratification of ILO core labor conventions as a variable or proxy for enforcement of these standards. While widely used in other models, this study argues that ratification is likely to have little or no link with enforcement efforts in the case of Latin America and the Caribbean. In contrast to previous studies that have combined measures of ratification, enforcement and labor conditions, this study then tests whether enforcement and labor market conditions demonstrate to be more important for the region.

▪ It attempts to determine whether some core labor standards are more important than others in influencing foreign investment decisions. In particular, it examines whether indicators of collective bargaining, unionization and civil rights seem to be more relevant to investment patterns than child labor, for example. This contrasts with the majority of studies that either examine the impact of only one core standard or—in the case in which the impacts of multiple standards are examined—treat the standards one-by-one.

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[4] It is important at the outset to make the distinction between ratification of the ILO conventions on core labor standards and effective enforcement of these standards. We would expect that enforcement of conventions might impact FDI (in one direction or another), but that ratification per se would have little impact. Unfortunately, ratification is much easier to measure than enforcement—a topic that is discussed in more detail in the data section.

II. Foreign direct investment and core labor standards: a brief review of the literature

This section summarizes the theoretical and empirical literature on the determinants of foreign direct investment and more specifically on the relationship between foreign direct investment and core labor standards. The first sub-section describes the theoretical models on FDI that have been developed and reviews some key findings of the empirical literature on the topic. The second subsection narrows the scope to the limited number of studies that have examined the relationship between FDI and core labor standards, thus setting the stage for the new empirical work presented in this paper.

A.   Determinants of FDI: theoretical and empirical models

This subsection briefly reviews four broad explanatory models of FDI and some of the associated empirical literature, looking in particular at their interrelationships.

OLI model. For many years, the dominant paradigm in the modeling of direct foreign investment has been that proposed by John Dunning (1977, 1981). Over time, Dunning has integrated a number of theories into a general paradigm explaining international production. Rather than looking at foreign investment as principally a financial (portofolio) flow, he models FDI from the standpoint of investor decision-making. The basic premise of the Dunning OLI model is that foreign direct investment is undertaken if three conditions are met *simultaneously*: ownership advantages (O), locational advantages (L), and internalization incentives (I), hence OLI.

Ownership advantage refers to a firm's tangible and intangible assets which provide a foreign firm some advantage over its domestic competitors. Intangible assets include such factors as human resource management approaches and marketing skills. Tangible assets are often associated with size—factors such as economies of scale or scope and access to international credit markets (Cooke and Noble, 1998: 589-90).

Locational advantage hypothesizes that the location of international production (i.e., where FDI is situated) is determined by production costs and the attractiveness of local markets. Early examinations of locational advantage focused on low factor costs and high trade barriers as incentives for FDI. In part because empirical work documenting labor costs and trade barriers provided incomplete explanations for the location of FDI and in part because of advances in modeling, more attention has been focused on the attractiveness of local markets (Meyer, 1998: 65-6).

These two concepts of locational and ownership advantage can be thought of as the lens through which multinational firms view potential locations for FDI. Different potential locations are assessed for their locational advantages, and the firm examines its own ownership advantages vis-à-vis competing firms in potential locations for FDI. For any given firm, the result of the application of this model might be zero foreign investment (i.e., either remain a domestic firm rather than becoming a multinational enterprise or refrain from investing additional resources to expand the stock of foreign assets already owned), or it might be flows of FDI to one or more locations.

Internalization, the third of the simultaneous conditions, asks the more basic question: why does a firm undertake FDI at all, rather than simply using existing international markets to buy goods and services from external suppliers? In other words, why does a firm choose to internalize their foreign operations by pursuing FDI? The choice whether or not to internalize hinges on the relative transaction costs associated with each option.[5] Simply put, a firm compares the transaction costs associated with using international markets for goods and services with those of pursuing FDI to achieve the same objective.[6] FDI, according to this model, occurs when transactions costs associated with FDI are lower than those associated with purchases of products and services from external foreign firms.

Within the OLI paradigm, there has been empirical research on all three factors whose impact on FDI must be examined: ownership advantages, locational advantages, and internalization incentives. By far the largest amount of research has been on locational advantages. The reason is straightforward: since locational advantage focuses on country-specific factors—unlike the other two types, which have both country-specific and firm-specific factors in varying degrees—it lends itself far more easily to empirical testing. Data to test for the existence of ownership advantages and internalization incentives, available only from firm-specific data sets, are much more difficult to obtain.[7]

The most frequently tested explanatory variables are thus production costs and attractiveness of local markets. Production costs are particularly important to locational decisions when transportation costs are low. Key among production costs is the productivity-adjusted cost of labor; thus, factors influencing productivity can influence FDI. Such factors include transportation and communications infrastructure, as well as the quality of human capital.

The literature has called attention to market-related advantages as replacing factor costs for prime determinants of FDI in more modern times. Market-related advantages include: protectionism (FDI as a way around protected markets), transportation costs, availability of local producers of needed inputs, distribution channels (Solvell, 1987), production, sales and other services, and access to localized knowledge (Cantwell, 1989).

   Industrial Relations Systems and Institutional Analysis. Several other theoretical models of FDI have emerged to compete with or complement Dunning's OLI model. One of the most prominent is know alternatively as "industrial relations systems" (Cooke and Noble, 1998) or "institutional analysis" (Meyer, 1998). Cooke and Noble's industrial

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[5] Transaction costs in this context are defined as the unobservable costs of using the price mechanism. In the case of engaging in market transactions, transaction costs would include costs of negotiation and contracting, costs of information gathering on prices and quality, as well as opportunity costs associated with delays in delivery of products or services (Meyer, 1998: 88). Of course, there are transaction costs associated with FDI as well.

[6] Meyer (1998: 88-90) provides a simple but elegant mathematical formulation of this decision.

[7] There has been some interesting empirical research undertaken on ownership advantage, though—despite the fact that specific ownership advantages may vary significantly by home country of the FDI and by economic sector.

relations systems (henceforth, IRS) model uses Dunning's OLI model as a jumping off point. Cooke and Noble develop a typology of IRS on the basis of labor force attributes and management's ability to set terms and conditions of employment in a given country. Countries are categorized on the basis of worker's skill levels (educational levels serving as a proxy for skill level), compensation costs, and constraints on management imposed by government and/or collective bargaining structures.[8] They conclude for their 33 country, nine industry sample that the type of IR system significantly influences US FDI abroad. For example, education is negatively related to FDI across low skill-low wage countries, but positively related across high skill and high wage countries.

The empirical work on IR and institutional analysis takes account of the social, legal, institutional and general policy environment. Typical explanatory variables include measures of: workers' education and skill levels; compensation costs and productivity; the presence of labor legislation such as restrictions on layoffs, provisions for severance pay, or the ratification of key ILO conventions; market size and growth rates; tax policy; incentives for FDI; political risk; and distance from source country for the FDI. For Meyer (1998: 68-9), the institutional framework includes the social, legal, institutional and general policy environment. An important element of the institutional framework is political risk, as reflected in potential changes in the legal framework, political violence or revolutions, as well as changes in the structure of taxes, tariffs or the regulatory environment.

Results using this framework suggest that the general policy environment of the host country is a more important determinant of FDI than are fiscal measures designed to attract such investment. At most, fiscal and tax incentives may shape the location of FDI within a destination country or region (Guisinger, 1985; Hill, 1990; Safarian, 1993, cited in Meyer, 1998). Openness of the economy is one key policy factor (Li and Guisinger 1992) along with the regulatory environment. Source country policies matter in exceptional cases of such as Japan in the 1970s (Ozawa 1979) and Sweden (Blomstrom and Kokko 1995).

Economic geography. Krugman (1991) uses economic geography as an explanation of the regional concentration of economic activity. He focuses on external economies of scale in labor and input markets to explain the cumulative process of geographic concentration. Examples could include: local institutions/workforces adapted to foreign investment (e.g. speak foreign languages) attracting more concentrated investment and suppliers of intermediate goods (e.g., automobile parts) following their customers. Once a critical mass of capital and industry-specific infrastructure is reached, locational patterns can change very suddenly, with investment moving to new centers by historical accident or temporary protectionism (Krugman 1991). Economic geography

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[8] Six categories are specified: i) high skill-high wage-high constraint systems; ii) high skill-high wage-low constraint systems; iii) low skill-high wage-high constraint systems; iv) low skill-low wage-low constraint systems; v) low skill-low wage-moderate constraint systems; and vi) mixed systems, with varying levels of skill, compensation costs and constraints. The authors then proceed to estimate a model of the determinants of FDI, including variables that reflect Dunning's OLI model, as well as variables that capture skills, wages and constraints.

has made an important contribution to the theoretical literature on the determinants of the location of FDI, focusing on the importance of agglomeration economies in firms' decision calculus. Agglomeration economies can arise from a number of sources, including the geographic concentration of labor markets for specialized skills, information flows and telecommunications infrastructure, and the presence of specialized suppliers of non-labor inputs to production (Krugman, 1991 and 1992). There are, to date, no empirical tests of the economic geography approach. The empirical research that has been done has used simulations of the impact of agglomeration economies on FDI (Meyer, 1998).

Conceptualizing the theoretical approaches to FDI. One way to conceptualize these different theoretical approaches is in terms of their focus on either country-specific or firm-specific factors; some approaches bridge the gap and focus on both country- and firm-specific considerations. Figure 1 presents this conceptualization. Institutional analysis/industrial relations systems, locational advantage and economic geography all focus exclusively on conditions in potential destinations of FDI; thus, they are located to the left of the line separating country-specific from firm specific determinants. The fact that locational advantage overlaps with IRS/Institutional models indicates that the two explanations share common elements, as do locational advantage and economic geography to a lesser degree. Internalization and ownership advantage, on the other hand, include both country- and firm-specific factors.

Heterodox models. Heterodox models are characterized by not being clearly identified with any one theoretical approach; rather, they are reduced form equations with a set of explanatory variables, which may vary significantly from author to author. Table 1 summarizes the explanatory variables used in two such heterodox studies of the determinants of FDI, by Harrison (1996) and Billington (1999). The table is useful for two reasons. First, it indicates that there frequently is significant overlap in types of variables that are typically included: measures of market size, labor cost, friendliness to FDI, and economic openness. Second, it shows that studies also diverge in terms of the types of explanatory variables included. There is no one standard, accepted heterodox model.

By presenting these different types of empirical models, the reader may be left with the impression that they generate quite distinct sets of explanatory variables. This is only partially the case; the different approaches frequently share key explanatory variables. One clear example of this is the variables that operationalize locational advantage and those that capture industrial relations systems. Since locational advantage is determined by production costs and attractiveness of local markets, factors such as wage levels and worker productivity certainly should be included in any test of this model. But so too do they belong in any test of the industrial relations system. Heterodox models, as their name implies, include explanatory variables from that emerge from different theoretical models. This "sharing of variables" across different models means that it is very difficult to arrive at one best or dominant model of FDI.

B.	Core labor standards and FDI: empirical studies

Relatively few studies have examined empirically the links between core labor standards and FDI. The methodologies and conclusions of these studies have varied, particularly in how to identify and measure enforcement of core labor standards. All studies (including this one) suffer from weak or incomplete measures of the enforcement of labor standards. Generally, studies to-date have found little evidence that foreign direct investment is correlated with lower enforcement of core labor standards (Rodrik 1996, Kucera 2001, OECD 1996, 2000). Interestingly, though, a number of studies (Rodrik 1996, Kucera 2001) have found that higher child labor standards are positively correlated with investment, that is, investors are more attracted to countries where child labor is less prevalent or standards are better enforced. Kucera, however, cautions that greater specificity is needed before drawing conclusions, particularly in examining child labor in traded vs. non-traded sectors, and for wage vs. nonwage labor.

To advance on the common challenges on how to measure labor standards enforcement, most studies (e.g. Kucera, 2001, Rama and Artecona 2002) have combined indicators on the number and type of ILO labor standards ratified with other indicators that these conventions are or are not being observed (e.g. rates of child labor, gender pay gaps).

The first study to combine data on ratification with measures of enforcement on a broad basis was undertaken by the OECD in 1996, and focused on the relationship of free association and collective bargaining (FACB) to FDI.[9]   The OECD study examined the impact on FDI between 1995 and 1998 of a composite index that reflects both violations of FACB standards and government efforts to enforce compliance with FACB standards. Regarding violations, the OECD study developed an index of violations that ranked 24 OECD countries and 50 others on a 1-5 scale from "most severe violations" (ranking 5) to "least severe restriction (rank 1).   The OECD drew on U.S. State Department Annual Human Rights reports (Section 6, Labor Rights), the ICFTU's annual survey, and ILO reports. These sources identify specific instances of violations of national laws, harassment of workers and union members, and efforts to prevent union activity and formation. These reports were also used to construct a rating of government compliance/enforcement from "no efforts" to comply with ILO standards to government compliance "with satisfaction." The composite index represents the most comprehensive measure to-date of free association and collective bargaining rights. The OECD study found a small but positive correlation (rho = 0.20) between FDI and FACB. This evidence suggests that FDI levels tend to be somewhat greater in countries with better labor rights scores; the study, however, did not control for other determinants of FDI.

Rodrik (1996) examined FDI from the U.S. in 40 countries, and found no relationship between U.S. manufacturing FDI and the number of ILO conventions ratified, when using ratification of ILO conventions as a proxy for enforcement. Of course, there are significant limitations to the use of ratifications as a proxy for enforcement (see data section below). When Rodrik used other measures of the enforcement of labor standards, he found a significant correlation. His model found FDI greater in countries with

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[9] The study was updated in 2000.

stronger workers rights as measured by the Freedom House indicators (e.g. civil liberties, democracy, and political rights). He also found a significant negative correlation between investment levels and lack of enforcement of child labor prohibitions, as reported by the U.S. Department of Labor.[10] Rodrik's model, however, did not control for labor costs.

Cook and Noble (1998) also examine the link between U.S. FDI and the ratification of ILO labor conventions, as well as other indicators of labor market conditions within their IRS (industrial relations systems) model. In contrast to Rodrik, Cook and Noble find U.S. FDI significantly greater in countries with more ratifications and with more works council policies. Cook and Noble find, however, that union penetration, centralized negotiation structures and government restrictions on layoffs are negatively related to US FDI. As the study includes only five, relatively higher-income Latin American countries, the broader applicability of the findings to the region is unknown.[11]

Flanagan (2002) offers a twist on the measurement of core labor standards ratified by comparing ratifications of a wider range of labor standards to that of the four core labor standards. His regression analysis finds no influence of international labor standards on labor costs, exports, or foreign investment. His conclusion prompts him to conclude that these standards are more symbolic and have little effect on workers.

Of all studies to date, Kucera (2001) includes the most extensive set of country-level indicators of labor rights. He tests their relationship to foreign direct investment and wage costs (manufacturing wages) for 127 countries worldwide. Kucera's conclusions are consistent with prior studies. He finds no solid evidence of a race to the bottom; on the contrary, he determines that investment is attracted to more stable environments with higher labor standards. He suggests that the effects of worker rights may be transmitted not only through labor costs and productivity, but also through enhanced political and social stability and higher levels of human capital accumulation that attract investors. The study does not employ panel data for the 127 countries in the sample, but rather cross sectional data for one a point in time. While a path-breaking study in many respects, it has one serious weakness: in the econometric specification, the core labor standards variables are never introduced simultaneously, but rather are considered in isolation from one another.[12] This approach, unfortunately, is likely to lead to biased estimates of the marginal impact of each standard, since the regressions will suffer from omitted variable bias.

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[10] Countries were coded 1,2,3 based on reported problems/inadequacies of legislation or enforcement of child labor prohibitions.

[11] These countries are Mexico, Venezuela, Brazil, Colombia, and Argentina.

[12] In other words, Kucera first estimates a baseline model of the determinants of FDI, with all explanatory variables except enforcement of core labor standards. Then he adds to this baseline specification a measure of enforcement of one of the core labor standards (e.g., child labor). A second regression will examine enforcement of a second core standard (e.g., freedom of association), but will not contain an explanatory variable for the first core standard (child labor). Clearly, Kucera adopts this approach to conserve degrees of freedom.

There are a range of associated studies that look at the correlation of enforcement of core labor standards with other key economic variables such as exports, trade and growth. Rama and Ravallion examine whether labor market indicators explain any of the "unexplained" variation in income inequality across countries. Their results show "most labor market indicators, including in particular the ratification of the ILO conventions associated with "core" labor standards were basically irrelevant (Rama and Artecona, 2002: 16). In a series of works, Palley (2002, 2000) demonstrates the importance of core labor standards to developing country growth, income distribution, and improved governance.

III. Data

The data for this study covers the years 1989 -2000. To simulate flows of foreign direct investment overtime and smooth out some year-to-year reporting discrepancies, period averages were used for 1989-92, 1993-96 and 1997-2000. Here we provide an overview of the nature and limitations of the data used for foreign investment, macroeconomic conditions, core labor standards and related labor market and political conditions; we also briefly discuss the choice of these indicators.

A.   Data on foreign investment and macroeconomic and labor conditions affecting investment

This study uses bilateral FDI flows rather than total inflows to the host country. Bilateral data on investment flows have several advantages vis-à-vis data on total flows by host country. The first advantage is that bilateral flows allow one to control for characteristics in the source country, as well as for characteristics that capture the relationship between the source and host countries. A number of theories on the determinants of FDI focus on host country characteristics. Most of these characteristics, though, should be considered in relation to the source country. These characteristics might also depend on the nature of FDI flows. For example, a narrow interpretation of locational advantage might consider only the size of the internal market of the host country.[13] If the dependent variable is gross investment flows, however, size of the source economy clearly also matters. Production costs are another area where source country characteristics are important: in the decision whether to locate some stage of its production process abroad in order to take advantage of factor price differences, a firm will take into consideration not the absolute factor prices in the potential host country, but rather host country prices relative to source country prices. Furthermore, because vertical FDI is complementary to trade flows, other variables, e.g. the distance to the source country's market or the size of the source country's market, become relevant to foreign investors. Yeyati, Stein and Daude (2003) find that vertical FDI patterns seem to especially relevant in Latin America and the Caribbean, so that it is important to account for bilateral characteristics and source country characteristics.

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[13] This could be especially relevant for FDI in non-tradable goods, where the host country is the only destination market.

The second advantage bilateral data is that some bilateral flow data contains sectoral breakdowns of FDI that are not available in total flows data.   This sectoral breakdown is essential in order to test whether a "race to the bottom" is occurring. The argument of lower standards leading to lower labor costs would seem more important for the sectors that were more intensive in unskilled labor and produce tradable goods; the use of aggregate FDI data may not allow to distinguish very different level of sensitiveness to labor standard enforcement across sectors.

Recent trends underscore further the importance of analyzing the effects of labor standards on a sectoral level and over time. According to the IDB (2002), in 1988 around of 65 percent of FDI towards Latin America and the Caribbean was in manufacturing, 10 percent in natural resources and 25 percent in services. However, in 1999 due to processes of privatization and deregulation the composition has change significantly. The share of manufacturing has declined to 37.5 percent, while services increased to around 55 percent and natural resources to 12.5 percent.

Of the available bilateral flow data, only U.S. and Japanese FDI offer a sectoral breakdown that was both sufficiently detailed and comparable enough by sector to be used in this study. Clearly our preference would have been to incorporate a wider range of source countries, but such data are not currently available.

In the case of U.S. FDI flows we used data reported by the *Bureau of Economic Analysis* of the Department of Commerce. The data on FDI flows are reported by country and sector of destination with a breakdown of 13 sectors.[14] The Latin American countries included are: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru, and Venezuela.

There are two major shortcomings to this data set. First, due to confidentiality requirements investment in several sectors is not reported for several countries.[15] These missing observations do not allow us to use a detailed breakdown since we would lose observations and may induce important sample selection biases by systematically excluding smaller economies and sectors from the sample. We overcome this problem by aggregating over manufacturing and non-manufacturing sectors. Second, the breakdown does not include particular sectors that *a priori* would be of interest, such as agriculture or textiles. In this case, our solution is to test the relevance of labor standards on FDI in these sectors using only the Japanese data (see below).

In the case of Japan we used outflows from Japan to countries in Latin America and the Caribbean at a two-digit ISIC breakdown reported by the *International Finance Division* of the Ministry of Finance of Japan between 1989 and 2000. We aggregated the data into

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[14] The sectors are: petroleum, food and kindred products, chemicals and allied products, primary and fabricated metals, industrial machinery and equipment, electronic and other equipment, transportation equipment, other manufacturing, wholesale trade, depositary institutions, finance Insurance and real estate, services, other industries.
[15] Basically, data are not reported if the number of companies investing in a given sector and a given country is so small that firm-specific information could be deduced from the sectoral data.

compatible groups with the U.S. data and converted them to dollars using the average exchange rate reported in the *International Finance Statistics* of the IMF. Finally, before aggregating the data over the periods 1989-1992, 1993-1996 and 1997-2000, we expressed all FDI data in constant prices of 1995 prices using the U.S. GDP Deflator. The Japanese database contains investment figures for 21 countries in the region. These countries are: Argentina, Bahamas, Belize, Brazil, Barbados, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Panama, Peru, Paraguay, El Salvador, Trinidad and Tobago, Uruguay, and Venezuela.

We use average GDP at 1995 constant prices from the *World Development Indicators (WDI)* database to capture the effect of the host country's market size. We use this variable as well to take into account the difference in the size of the economy of the source country.   As discussed previously, in the case of vertical FDI transportation and trade costs might be relevant in the location of FDI. In order to address these issues, we use the distance between both countries and trade openness. As is standard in the gravity trade literature, we calculate the distance as the great circle distance between Chicago or Tokyo with respect to host country's capital in miles.[16]

The investment climate may also be affected by the quality and consistency of macroeconomic policies in the host country. Greater stability may induce higher predictability of the overall economic environment the firm is placed and reduce uncertainty. We deal with this issue by incorporating the average inflation rate in the host country from the *WDI* database.

As investment decisions may be based on the availability of factors and their prices, we incorporated the average illiteracy rate from the *WDI* database to capture the availability of skilled versus unskilled labor. Additionally, in order to control for labor productivity and labor costs jointly, as Kucera (2001), we use the average ratio of wages to value added in the manufacturing sector from UNIDO.[17]

B.   Data on core labor standards and related labor market and political conditions

Data on ratification of the eight ILO conventions related to the four core labor standards by Latin American and Caribbean countries was examined initially for possible use in the econometric work. Several things stand out from a cursory inspection of these data. First, the majority of Latin American and Caribbean countries (14 out of 26) have ratified all eight conventions. All countries have ratified convention 105 on forced labor, and only one country, Suriname, has not ratified the two conventions regarding discrimination.

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[16] See Frankel (1997) for a discussion of the trade literature and the gravity model.
[17] This variable is only used in the regressions for the manufacturing sector, since this measure of productivity is likely to be quite sector-specific.

Second, the pattern of non-ratification does not, on the surface, appear to be correlated with strength of enforcement efforts particularly when we examine Latin America and the Caribbean.   Compared to other developing regions such as Asia, Latin America and the Caribbean have much greater coverage of ILO conventions, and when ratification has not happened, there are often more plausible explanations for non-ratification than non-enforcement. Moreover, non-ratification does not necessarily seem to capture the countries perceived to have lower standards. Bolivia, Colombia, Haiti, Jamaica, Suriname and Venezuela have not yet ratified Convention 182 (Convention regarding the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor), the most recent of the conventions related to the core labor standards.   While these may well be countries where child labor enforcement is especially lax, but weak institutions and legislative delays may be better explanations of non-ratification.   Bolivia is the only country that did not ratify convention Convention 29 on forced labor, but it was Belize, Haiti, and the Dominican Republic that were recently named by the U.S. State Department as tier three countries, associated with the worst violations of forced labor standards, and these three countries ratified both forced labor conventions.   Brazil is the only country in the region not to ratify Convention 87 on freedom of association because its legislation does not allow more than one union to represent the same occupational or economic group (Reynauld and Vidal, 1998: 53). Others have reported (Sussekind, 1984) that it would be incorrect to use this national context to argue that there is low enforcement of freedom of association in Brazil. Suriname may be the only country that did not ratify the two anti-discrimination conventions, but neither did the United States—again raising questions about just what non-ratification measures.   In sum, particularly for Latin America and the Caribbean the indicator of ratification of a convention does not appear to be a good predictor of enforcement of the corresponding core labor standard.[18]

By jettisoning the traditional indicator of non-enforcement – non-ratification of ILO conventions – a much more complex and difficult problem arises: namely, how to find consistent indicators on a time-series basis of enforcement of labor standards in each of the four areas.

To measure enforcement of the child labor conventions, this study uses labor force participation rates of children ages 10-14 and non-enrollment rates in secondary education.   Higher rates are indicative, in both cases, of lower observance of child labor conventions.

There are no specific indicators of discrimination that cover a wide range of Latin American and Caribbean countries. Disaggregation of the workforce on a time series basis when it is available, covers only gender differences (male/female), and not race, ethnicity (indigenous peoples or afrodescendents) or other distinguishing labor market characteristics (e.g. persons with disabilities). Gender pay differences were first explored

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[18] While this conclusion regarding ratification contrasts with Kanbur (2001), it is based on a review of LAC countries' ratification, rather than a more comprehensive global review.

as a proxy variable for labor market discrimination but the data sample set was too sparse to be used. As a result, differentials in illiteracy rates (male/female) were used.   This requires an important *caveat* as illiteracy rates would reflect "pre" labor market conditions, not actual discrimination levels in the workforce.   The working assumption is that labor market and pre-labor market discrimination would occur in roughly similar proportions, although it is recognized that a labor market indicator would clearly be superior.

Freedom of association and collective bargaining have frequently been measured by rates of unionization and numbers of workers covered by collective bargaining arrangements. These measures were considered for this study, but substantial gaps in data availability for regional countries, together with instability of the data within countries over time, raised questions of how significant were these indicators for the region and their utility in the model. Thus, these indicators were jettisoned in favor of a broader indicator of labor and political rights as described below.

No data source could be found to consistently measure the number of forced laborers in a given Latin American or Caribbean economy overtime (as an indicator of non-enforcement). Available qualitative information indicates that conditions of forced labor exist in Latin America, predominantly in the agricultural sector and in illicit sectors such as prostitution.   Rankings of slavery and human trafficking compiled by Bales (Bales, 2002) contain information on only 10 Latin American and Caribbean nations.[19] With the exception of agriculture, it is not likely that lax enforcement of forced labor laws would be reflected in any significant way in foreign investment statistics. For this reason and because of the limited country coverage of Bales' data, we have chosen to have no specific forced labor indicator, but interpret conditions permitting forced labor to occur as being reflected more broadly in political and civil conditions.

As broad indicators of national conditions permitting the exercise of civil, political and labor rights, the study tests two indicators: one of civil liberties/rights, the other of political rights developed by *Freedom House*[20] that are available on an annual basis for the overwhelming majority of Latin American and Caribbean countries.   While admittedly not a specialized indicator on labor rights, the Freedom House indicators can be useful as broad indicators of the political environment for labor rights drawn from diverse sources (e.g. document review, fact-finding missions, and interviews). The civil liberties index in particular contains references to freedom of association and collective bargaining. The political rights index that we also use is more broadly indicative of business climate in terms of stable, participatory democracy. All three Freedom House indicators were used in the Kucera model (2001) (civil rights, political rights, and a democracy index which is a composite of the previous two), while Rodrik (1996) used the composite indicator that reflects both civil liberties and political rights.

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[19] These countries are: Argentina, Barbados, Brazil, Colombia, Costa Rica, Dominican Republic, Haiti, Mexico and Peru with the largest aggregate numbers reported for Brazil and Haiti.
[20] Freedom House. Freedom in the World. New York. An explanation of each of these indicators can be found at http://www.freedomhouse.org/research/freeworld/

Finally, we also employ data from the ILO on the number of workers on strike in a given year. This indicator must be interpreted with caution, given its complex relationship to collective bargaining and free association. On the one hand, a large number of strikes may reflect a poor environment for collective bargaining in which workers are left no option but to strike in order to press collective grievances. On the other hand, a large number of strikes is a priori evidence that workers are in fact organized and the right to free association is respected. It may also reflect a non-repressive political environment in which the right to strike is respected rather than repressed. Perhaps it is best to interpret this indicator as broadly indicative of a potentially negative climate for investors, both foreign and domestic, since strikes interrupt production and introduce uncertainty over future profit f lows.

The reader will note that this study does not contain variables that measure the enforcement of core labor standards as evaluated in qualitative reports published by the U.S. State Department and others. Work using these variables (by Kucera (2001) and the OECD (1994, 2000) is a valuable contribution to CLS research, but these variables are currently available on a cross-sectional basis and are not disaggregated by economic sector or over time. Since our study covers FDI in three time periods and uses sectorally disaggregated FDI flows—and because resource and time constraints precluded us developing such measures for all the time periods covered in this study—such measures are not employed here.

IV. Methodology

The methodological approach used to measure the impact of core labor standards on FDI is to first estimate a "baseline model" of the determinants of FDI without including measures of the enforcement of core labor standards. The measures of core labor standards are then introduced. Dummies for the sub-regions of Latin America and the Caribbean are subsequently introduced to determine whether the results are vary significantly by sub-region.

The base line specification employed is:

$$ln(1 + FDI_{ijt}) = a + x'_{jt}b + g\,ln(GDP_{it}) + j\ ln(Distance_{ijt}) + e_{ijt},$$

where FDI_{ijt} is foreign direct investment flows from country i to country j in period t, x_{jt} is a vector that contains the following host country characteristics: GDP in logs, inflation rate, trade openness, and illiteracy rate, GDP_{it} is the GDP of the source country i in period t, and Distance is the distance between either Chicago or Tokyo (depending on the source country) and the host country's capital city.

The dependent variable is defined as the natural log of 1 + the gross flow of foreign direct investment from country i to j. The log transformation has been used extensively in the gravity model of trade (see Frankel, 1997). It has sound theoretical foundations in trade, somewhat ad-hoc in FDI, but also often used in empirical studies of FDI. In order to keep

the zero observations, we add a one as Eichengreen and Irvine (1995, 1997) in the case of trade do, and more recently Levy Yeyati, Stein and Daude (2003), and Stein and Daude (2002) for FDI.[21]

We pool the data for U.S. and Japanese FDI flows, taking care to use consistent definitions of sectors across the two data sources. The use of source country GDP as an explanatory variable will limit problems in the heteroskedasticity of error terms brought about by the pooling of the data. We also test for the appropriateness of a fixed effects versus a random effects specification; a Hausman test indicates that the random effects specification is appropriate. Thus, we report both OLS regressions with White consistent heteroscedastic standard errors and random effects regressions.

    V.   Econometric results

a. Baseline regressions

The results of the baseline specification are reported in Table 2. Six different regressions are reported: for total FDI, for the manufacturing sector, and for non-manufacturing. In each case both standard OLS and random effects results are reported.

 The first thing to note is that this model explains a significant proportion of the total variability of FDI flows in our sample—between 57 and 82 percent, depending on the specification and the sector. While the significance and magnitude of particular coefficients vary somewhat among regression specifications, there are some results that are quite consistent across specifications. As predicted in a gravity model of FDI, host country GDP is positive and significant in almost all specifications, as is source country GDP. Similarly, distance separating source and destination countries is negative and significant in every case except for the non-manufacturing sector.[22] The fit produced by inclusion of the three gravity variables—host country GDP, source country GDP and

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[21] The use of the log transformations means that observations for which the gross flow of FDI is negative cannot be used. Gross flows can be negative if: equity capital flows are negative (i.e., a U.S. parent firm reduces its equity interest in an existing foreign affiliate); a foreign affiliate repays a loan to a U.S. parent firm or extends a loan to its U.S. parent; or when a foreign affiliates earnings are negative or a U.S. parent receives dividends in excess of its claim on current earnings (see Bureau of Economic Analysis, 1995 for more details). In our data set, we lose 16 observations because of negative gross flows. This option is deemed preferable to using a non-log specification, both because the log specification gives less weight to outliers in the data set and because the fit of the equation is much better with a log specification.

[22] Note that while for the manufacturing sector this can be interpreted as confirmation of the importance of transportation costs (relevant for re-export to the source country), it does not have such an easy interpretation in non- manufacturing, which includes both tradable and non tradable goods. For the non-manufacturing sector, it can be interpreted as a proxy for transportation costs in the case of tradable goods, but in the case of non-tradables it must be capturing some other effect, such as cultural similarity.

distance—is quite good. If only these three variables are included, almost 60% of the total variation in FDI flows is explained in the regression for total FDI flows.

The remaining explanatory variables in the baseline specification explain a much smaller share of the variation in investment flows. Openness, measured as the share of trade in GDP, has a positive and significant effect on total FDI (in the OLS specification) and on FDI in manufacturing (in both OLS and random effects specifications). Openness, on the other hand, is not relevant for the non-manufacturing sector, perhaps due to the importance of non-tradables in the non-manufacturing sector. The illiteracy rate, a proxy for the skill level of the labor force, is negative and significant in several specifications (in both specifications for total FDI and in the OLS specification for the non-manufacturing sector); it does not have any impact on FDI in the manufacturing sector. The wage-to-value-added ratio in manufacturing is included as an explanatory variable only for the manufacturing sector, but it does not achieve statistical significance.

Two additional variables are included as measures of the general investment climate for foreign investment: the log of the number of strikes and the Freedom House score for respect for political rights.[23] The strikes variable is never a statistically significant determinant of FDI. The coefficient on the political rights variable has an unexpected sign in all regressions, indicating that greater respect for political rights is associated with lower levels of FDI; it is statistically significant in the total FDI regressions and in the random effects specification for the non-manufacturing sector.[24]

Since this is a pooled regression with bilateral flows from both the U.S. and Japan, we tested whether the coefficients on the explanatory variables vary significantly for U.S. vis-à-vis Japanese FDI. We tested this hypothesis by interacting the a dummy for U.S. flows with all the explanatory variables. For the variables GDP, distance, inflation and illiteracy, there are no differences between U.S. and Japanese flows. Only for openness is there a small difference: increased openness in the host country will attract more U.S. than Japanese FDI.[25]

b. Core labor standards and FDI: the overall picture for the region

The baseline regressions reported in the previous section are perhaps not of great interest in and of themselves; rather, they are the building blocks upon which a more complete model of the determinants of FDI is built—a model that includes measures of the enforcement of core labor standards.

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[23] As detailed in section IIB, number of strikes is difficult to interpret as an indicator of observance of the core labor standards of freedom of association and collective bargaining. Thus, we include it only as a general indicator of investment climate.

[24] The Freedom house variables (both civil and political rights) are defined such that less rights are reflected in higher values of the indicator. Thus, a positive coefficient on political rights means that lower political rights is associated with more FDI.

[25] Somewhat surprisingly, the intercept for the two countries is also the same; i.e., flows of U.S. FDI do not tend to be larger than Japanese FDI, despite the larger size of the U.S. economy.

As described in Section IIB on data availability, we are able to construct variables that capture enforcement of three of the four core labor standards: prohibition against child labor, the right of free association and collective bargaining, and freedom from discrimination. Unfortunately, we have no measure of freedom from forced labor.

Table 3 reports the results from the regressions that include measures of enforcement of core labor standards. The first thing to note in this table is the coefficients of some of the variables present in the baseline regressions maintain their significance levels and magnitudes; this the case for host country GDP, source country GDP, distance, and, for most specifications, openness. The inflation rate continues to be an insignificant determinant of FDI. A small number of coefficients on variables in the baseline regressions are affected by the introduction of the labor standards variables. The number of strikes becomes statistically significant in several specifications (total FDI and manufacturing FDI); an increase in the number of strikes is associated with a decrease in FDI. The illiteracy variable loses its negative impact on total FDI flows, becoming statistically insignificant. In the case of manufacturing FDI, illiteracy becomes statistically significant and has a surprising positive relationship with FDI.[26] Political rights generally loses its statistical significance (and its surprising negative impact on FDI).

Of course, the variables of interest are those reflecting core labor standards. As can be seen in Table 3, several of these variables are statistically significant determinants of FDI, but none in the direction suggested by the "race to the bottom" hypothesis. Civil liberties—a proxy for freedom of association and collective bargaining—is statistically significant in several specifications (total FDI using random effects and manufacturing FDI using both OLS and random effects); more civil liberties are associated with more, not less, FDI. The female-to-male illiteracy ratio is negative and significant in two specifications (total FDI and non-manufacturing FDI, both using OLS), implying that more discrimination in labor markets against women is associated with less, not more, FDI. Finally, the point estimate for the coefficient on labor force participation of 10 to 14 year olds is never statistically significant, although its coefficient sign suggests that higher rates of child labor are associated with less, not more, FDI.

The overall fit of the regression is quite good, explaining between 63 and 91% of the variance in the FDI flows. It is important to note, however, that the R^2 of these regressions is only modestly higher than those of the baseline regressions. For total FDI, the addition of the core labor standards variables explains an additional 3 to 5% of the variation in FDI, for manufacturing an additional 9% of the variation is explained, and in the non-manufacturing sector an additional 4 to 6% is explained. In sum, the core labor standards variables explain only a small percentage of the variation in FDI flows.[27]

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[26] This is at least partially due to the relatively high correlation between illiteracy and child labor rates (rho=0.70).

[27] It is important to note that while the core labor standard variables do not add significantly to the explanatory power of the baseline regressions and in some cases their coefficients are not statistically significant, this does not mean that they do not have some

A relevant and important question is the relative impact of changes in core labor standard enforcement vis-à-vis changes in the other determinants of FDI. One way to make this comparison is by computing the elasticity of FDI with respect to the proxies for core labor standard enforcement and with respect to the other variables in the regression that can be influenced by policy interventions. As can be seen in Table 4, the highest elasticity of FDI flows is with respect to exogenous economic conditions in the source country. Some variables that can be influenced by policy in the host country exert a considerable impact on FDI. In the case of trade openness a one percent increase in this variable would lead to an increase in FDI of about 1.6 percent in the manufacturing sector. Improving the level of education of the labor force would have a positive impact on FDI as well: a one percent decline in the illiteracy rate results in an increase in FDI of approximately 2.6 percent. Considering the core labor standards indicators, FDI is quite responsive to increased respect for civil liberties. A one percent increase in the Freedom House score (in the direction of increased respect) will lead to an almost 3 percent increase in FDI in manufacturing. A decrease in labor market discrimination against women, as measured by the illiteracy ratio, will increase total and non-manufacturing FDI by 1.8 and 2.0 percent, respectively.[28]

In summary, for the region as a whole, our baseline regressions provide a quite good fit. The core labor standards variables add only a small amount of explanatory power, but there is absolutely no support for the "race to the bottom" hypothesis; on the contrary, when the coefficients on these variables achieve statistical significance, they seem to indicate that stronger enforcement of core labor standards is associated with more, not less, FDI.

c. Core labor standards and FDI: the sub-regional picture

In order to detect whether the impact of core labor standard enforcement on FDI flows varies by sub-region, we ran a series of regressions in which the labor standard variables were interacted with regional dummies for Central America (Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama), the Andean Region (Bolivia, Ecuador, Colombia, Peru and Venezuela), and the Southern Cone (Brazil, Chile, Paraguay and Uruguay).[29]

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impact on FDI and the overall performance of the economy. The regression results indicate is that there is no direct linkage – e.g., between child labor and FDI. Since a reduction in child labor, however, can lead to higher school attendance and therefore lower illiteracy rates, there are potentially important indirect and positive effects of the observance of core labor standards.

[28] These elasticities are computed on the basis of the coefficients reported in Table 3.

[29] Because of the limited degrees of freedom available, the interaction dummies were introduced one region at a time; i.e., the base case for all the regional dummies was "rest of Latin America". Due to space constraints, the results from these regressions are not reported in table form.

In the case of total FDI, the presence of child labor (as measured by the labor force participation rate of 10 to 14 year olds) had an even stronger negative effect on FDI in Central America than in the regional regressions as a whole. The interaction term in the Andean region and the Southern Cone is positive and significant and larger in absolute value than the child labor coefficient itself—indicating that in these regions the presence of child labor attracts FDI.

In all three sub-regions, the interaction term with the illiteracy ratio is positive and significant, and larger in absolute value than the negative coefficient in the illiteracy ratio by itself. This result indicates that FDI to these two regions is attracted by the presence of low-skilled female workers, perhaps because of *maquila* production. Finally, the coefficient on the interaction term with strikes is negative and significant in Central America and the Andean region, indicating that the effect of strikes in these two regions is especially prejudicial to FDI. In the Southern Cone, this coefficient is not statistically significant.

In general terms, the results for the non-manufacturing sector are quite similar to those reported above for total FDI, while no interaction terms are significant for the manufacturing sector.

VI. Conclusions

To examine the potential relationship between foreign direct investment and the enforcement of key core labor standards for the Latin America and the Caribbean region, this study developed an econometric model built on pooled cross section, time series data for a wide range of Latin American and Caribbean countries. It is the first study to examine the link between FDI and core labor standards specifically for the Latin American region, and it is the first study that we know of that uses pooled data for any region of the world. The most important conclusion reached is that results from the Latin American region seem to be broadly consistent with those cross sectional studies with a more global focus: we find no evidence of a "race to the bottom" in Latin America. As previous studies typically had data for only a smaller range of Latin American countries, the broadening of this conclusion to a more diverse range of countries and a longer time frame solidifies this finding.

Also in consonance with other studies, we find that the observance of some core labor standards leads to higher levels of FDI. This is the case, for example, with free association and collective bargaining and for labor market discrimination. We must interpret these results with caution, however, since the proxy variables used to measure the enforcement of these standards are far from perfect. Unlike some other studies, we did not find evidence that enforcement of child labor standards attracts more FDI. Nor did we find that more political rights lead to higher levels of foreign investment, as has been documented for a wider cross section of countries (Kucera 2001, Rodrik 1996, OECD 1994, 2000).

The study also documented that the more traditional determinants of foreign direct such as market size and distance between source and destination country are more important than the observance of core labor standards for determining the location of FDI, at least in terms of explaining observed flows. At the same time, our work has documented that, counter to popular impression, increasing the enforcement of certain core standards has the potential to generate significant increases in direct foreign investment. Disagregating at the sectoral level (manufacturing/non-manufacturing) did not substantially alter the overall conclusions but deepened the understanding of some trends. For example, stronger civil liberties/freedom of association were more positively associated with manufacturing than non-manufacturing investment, and strikes more negatively affected manufacturing DFI.

The tentative results reached here are intended to contribute to an evolving body of literature and study and to focus greater attention to the Latin American and Caribbean region. Clearly variables with a "closer fit" with actual enforcement of labor standards should continue to be developed and explored. At the same time, we would like to caution that better enforcement variables may never resolve the controversy of whether there is a "race to the bottom" or not; proxy variables can always be criticized for not adequately capturing the enforcement of standards.

Much of the perception of the "race to the bottom" in Latin America and the Caribbean relates to impressions about investor decisions in key sectors. In select export sectors such as textiles and apparel, light manufacturing, agriculture and *maquiladoras* some foreign investors are believed to be trying to reduce labor costs through poor and even repressive working conditions (e.g. squeezing out unions, increasing hours without compensation), practices inconsistent with enforcement of core labor standards.

We would suggest that further research in this field might explore trends at the firm level, using firm level data and surveys of investors. This would allow concentration on the key industries or sectors of contention, which are difficult to analyze at the macro level at which FDI data are typically collected.

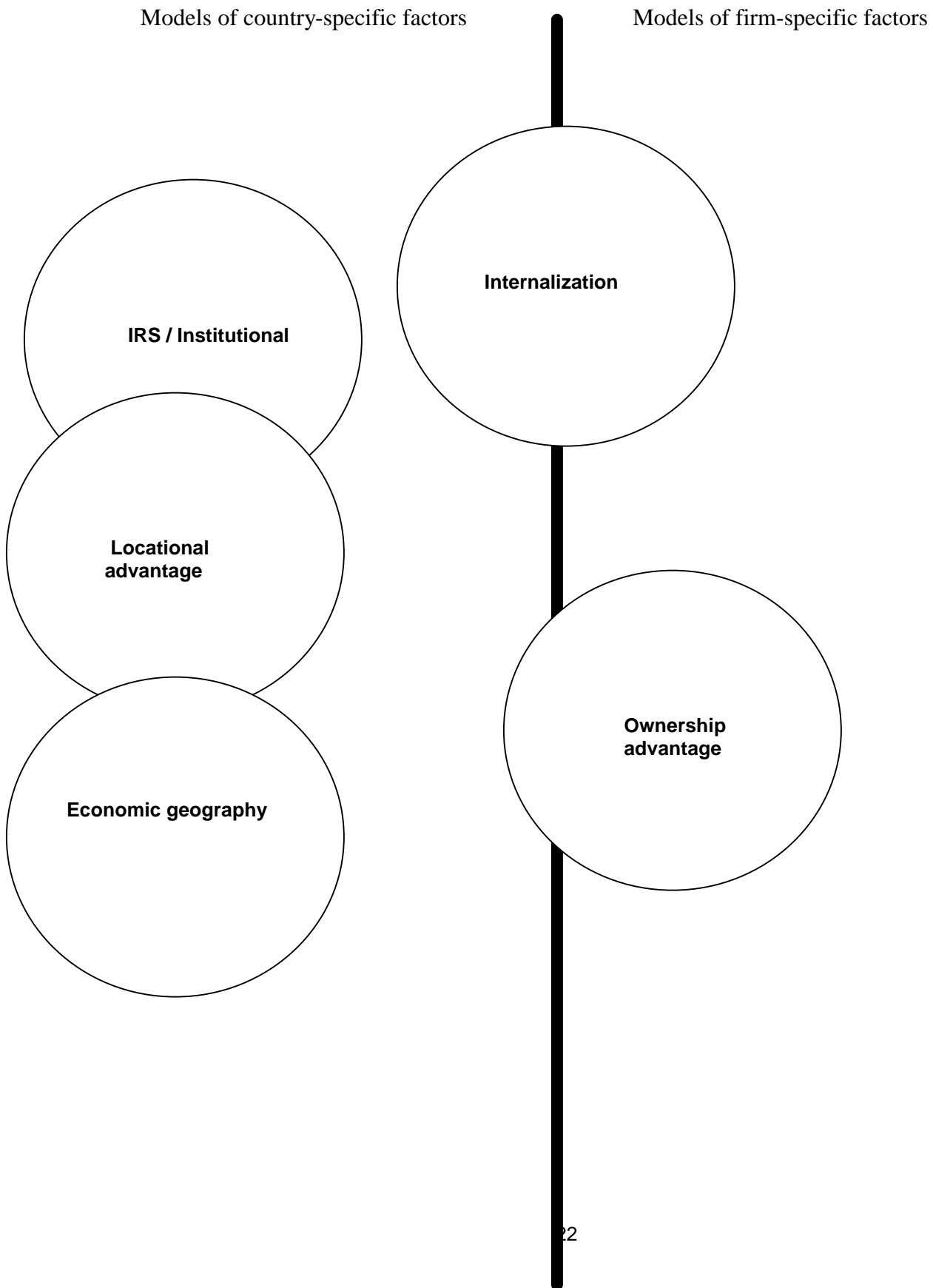Figure 1. Models of country-specific and firm-specific determinants of FDI

Models of country-specific factors   Models of firm-specific factors

Internalization

IRS / Institutional

Locational advantage

Ownership advantage

Economic geography

Table 1. Explanatory variables used in heterodox studies[30]

Variable	Concept measured	Harrison (1996)[31]	Billington (1999)
GDP	Size of market	N/A	
Sales in sector as percentage of total manufacturing sales	Size of market	+ (C,V)	N/A
GDP growth rate	Market potential	N/A	+
Expenditures on transport and communications	Infrastructure	N/A	
Energy consumption	Infrastructure	N/A	
Hourly manufacturing wages in destination country	Labor cost	N/A	
Sectoral manufacturing wages in source country	Labor cost		N/A
Unemployment rate	Availability of labor	N/A	+
% of government revenue from taxes on international trade and transactions	Openness	N/A	
Import penetration	Openness	- (M) + (V)	N/A
Corporate tax rate	"friendliness" to FDI	N/A	-[32]
Severity of regulatory restrictions on FDI	Friendliness to FDI		N/A
Nominal interest rate	Cost of capital raised domestically	N/A	+
Herfindahl index	Market concentration	- (C,M,V)	N/A
Labor-capital ratio	Capital intensivity in sector	+,- (C) - (V)	N/A
Costs of pollution abatement	Migration of "brown" industries to developing countries	+ (C,M)	N/A

[30] Positive or negative signs indicate statistically significant coefficients and the sign of these coefficients. A blank cell indicates that the coefficient was not statistically significant. N/A indicates that the variable was not included in the regression equation.

[31] Harrison ran separate regressions for Cote d'Ivoire, Morocco and Venezuela. Positive or negative signs are included if the coefficient in question was significant in any of the three countries, and the letters in parentheses indicate for which countries the coefficients were statistically significant.

[32] the square of the corporate tax rate.

Table 2: Determinants of FDI, *excluding* core labor standards, for total FDI, manufacturing FDI and non-manufacturing FDI.

	(1) Total	(2) Total	(3) Manufacturing	(4) Manufacturing	(5) Non Manufacturing	(6) Non Manufacturing
	OLS	Random Effects	OLS	Random Effects	OLS	Random Effects
Host Country GDP (log)	1.467	0.89	1.516	1.431	0.951	0.509
	[5.42]**	[2.89]**	[7.56]**	[5.70]**	[2.69]**	[1.55]
Source Country GDP (log)	4.017	3.693	3.419	2.009	5.487	4.938
	[3.27]**	[2.48]*	[2.37]**	[1.29]	[3.50]**	[3.02]**
Distance (log)	-0.987	-1.097	-1.028	-1.294	-0.718	-0.914
	[2.56]*	[1.98]*	[2.68]*	[3.16]**	[1.64]	[1.48]
Inflation (log[1+inflation])	-0.063	0.015	0.065	0.065	-0.032	-0.045
	[0.55]	[0.17]	[0.44]	[0.45]	[0.29]	[0.45]
Openness (Trade/GDP)	0.028	0.013	0.028	0.027	0.015	0.006
	[2.80]**	[1.12]	[2.54]*	[2.37]*	[1.32]	[0.46]
Illiteracy Rate	-0.052	-0.066	0.029	0.020	-0.056	-0.047
	[2.83]**	[1.86]#	[1.09]	[0.70]	[2.23]*	[1.19]
Wages/Added Value	-	-	1.183	0.502	-	-
	-	-	[0.60]	[0.22]	-	-
Political rights	0.357	0.307	0.20	0.221	0.246	0.256
	[2.13]*	[2.17]*	[0.85]	[1.35]	[1.31]	[1.68]+
Number of strikes (log)	-0.295	0.059	-0.138	-0.098	-0.330	0.129
	[1.36]	[0.41]	[1.09]	[0.68]	[1.12]	[0.81]
Constant	-142.19	-118.07	-127.95	-82.116	-174.27	-147.32
	[3.75]**	[2.73]**	[2.90]**	[1.77]#	[3.55]**	[3.09]**
Observations	82	82	57	57	68	68
R-squared	0.7	0.66	0.82	0.82	0.64	0.59
R-squared within	-	0.40	-	0.11	-	0.44
R-squared between	-	0.67	-	0.81	-	0.59
Number of pair	-	30	-	26	-	28

Robust t statistics in brackets

Table 3. Determinants of FDI, *including* core labor standards, for total FDI, manufacturing FDI and non-manufacturing FDI.

	(1) Total OLS	(2) Total Random Effects	(3) Manufacturing OLS	(4) Manufacturing Random Effects	(5) Non Manufacturing OLS	(6) Non Manufacturing Random Effects
Host Country GDP (log)	1.651	0.947	2.265	2.265	0.729	0.646
	[4.89]**	[2.52]*	[6.94]**	[6.94]**	[2.09]*	[1.70]+
Source Country GDP (log)	4.120	4.015	2.474	2.474	4.624	1.79
	[2.77]**	[2.07]*	[2.10]*	[2.10]*	[2.40]*	[0.83]
Distance (log)	-1.024	-1.173	-1.286	-1.286	-1.190	-1.988
	[2.12]*	[1.73]+	[4.14]**	[4.14]**	[2.30]*	[2.54]*
Inflation (log[1+inflation])	0.059	0.091	-0.008	-0.008	0.075	-0.064
	[0.49]	[0.82]	[0.06]	[0.06]	[0.65]	[0.46]
Openness (Trade/GDP)	-0.002	0.004	0.027	0.027	-0.020	-0.003
	[0.15]	[0.30]	[2.02]+	[2.02]+	[1.21]	[0.22]
Illiteracy Rate	0.023	-0.059	0.199	0.199	-0.044	-0.035
	[0.44]	[0.93]	[2.88]**	[2.88]**	[0.92]	[0.48]
Wages/Added Value	-	-	-3.822	-3.822	-	-
	-	-	[1.84]+	[1.84]+	-	-
Political rights	0.561	0.627	0.262	0.262	0.475	0.232
	[1.49]	[2.67]**	[0.85]	[0.85]	[1.10]	[0.96]
Number of strikes (log)	-0.537	0.025	-0.513	-0.513	-0.363	0.085
	[2.01]*	[0.14]	[2.84]**	[2.84]**	[1.28]	[0.47]
Constant	-143.30	-125.33	-112.63	-112.63	-134.20	-46.61
	[3.06]**	[2.17]*	[3.03]**	[3.03]**	[2.15]*	[0.72]
Child labor	-0.149	-0.015	-0.089	-0.089	-0.076	-0.041
	[1.62]	[0.16]	[1.26]	[1.26]	[1.02]	[0.38]
Civil liberties	-0.586	-0.618	-1.013	-1.013	-0.399	-0.147

	[1.36]	[2.02]*	[3.12]**	[3.12]**	[0.77]	[0.48]
Illiteracy ratio	-1.407	-0.754	-0.006	-0.006	-1.462	-0.71
	[3.35]**	[1.06]	[0.01]	[0.01]	[3.20]**	[0.89]
Observations	74	74	47	47	60	60
R-squared	0.75	0.69	0.91	0.91	0.70	0.63
R-squared within	-	0.28	-	0.19	-	0.13
R-squared between	-	0.73	-	0.95	-	0.67
Number of pair	-	29	-	23	-	27

Robust t statistics in brackets

[#] significant at 10%;* significant at 5%; ** significant at 1%

Table 4. Elasticities of FDI with respect to key variables.

Explanatory variable	Elasticity		
	Total FDI	Mfg. FDI	Non-mfg. FDI
Host country GDP	1.47	1.52	0.95
Source country GDP	4.02	3.42	5.49
Distance	-1.02	-1.29	-1.19
Openness	—	1.62	—
Illiteracy rate	—	2.64	—
Strikes	-0.54	-0.51	—
Wages/Added Value	—	-1.05	—
Child labor	—	—	—
Civil liberties	—	-2.94	—
Illiteracy ratio (female/male)	-1.84	—	-1.96

Bibliography

Bales, Kevin. 2000. "Expendable People: Slavery in the Age of Globalization." Journal of International Affairs 53:2, pp. 461-70.

Billington, Nicholas. 1999. "The Location of Foreign Direct Investment: an Empirical Analysis." Applied Economics 31: 65-76.

Blornstrom, Magnus and Ari Kokko. 1995. "Policies to Encourage Inflows of Technology through Foreign Multinationals." World Development 23:3 (March).

Bureau of Economic Analysis. 1995. "A Guide to BEA Statistics on U.S. Multinational Companies," Survey of Current Business (March).

Cooke, William. 1997. " The Influence of Industrial Relations Factors on U.S. Foreign Direct Investment Abroad." Industrial and Labor Relations Review 51(1): 3-17.

Cooke, William and Deborah Noble, 1998. "Industrial Relations Systems and U.S. Foreign Direct Investment Abroad." British Journal of Industrial Relations 36 (4): 581-609.

Dunning, John. 1977. "Trade, location of economic activity and the MNE: A Search for an Eclectic Approach," In The International Allocation of Economic Activity. London: MacMillan Press.

Dunning, John. 1993. Multinational Enterprises and the Global Economy. New York: Addison-Wesley.

Dunning, John. 1981. "Explaining the International Direct Investment Position of Countries: Towards a Dynamic and development Approach," Weltwirtschaftliches Archiv, 117:30-64.

Eichengreen, B. and D. Irvine. 1995. "Trade Blocs, Currency Blocks and the Reorientation of Trade in the 1930s." Journal of International Economics 38 (1-2):1-24.

Eichengreen, B. and D. Irvine, 1997. "The Role of History in Bilateral Trade Flows." In J. Frankel, editor. The Regionalization of the World Economy. Chicago: University of Chicago Press.

Frankel, Jeffrey. 1997. Regional Trading Blocs. Washington, DC: Institute for International Economics.

Freedom House. Freedom in the World. New York: Freedom House, annual reports, also available on www.freedomhouse.org

Harrison, Ann. 1996. "Determinants and Effects of direct foreign investment in Cote d'Ivoire, Morocco and Venezuela", in M. Roberts and J. Tybout (eds.), Industrial Evolution

in Developing Countries: Micro Patterns of Turnover, Productivity and Market Structure. Oxford, England: Oxford University Press.

Inter-American Development Bank.   2002. Economic and Social Progress in Latin America. Washington, DC: Inter-American Development Bank.

Kucera, David. 2001. "The effects of core workers rights on labour costs and foreign direct investment: Evaluating the 'conventional wisdom.' Discussion paper #130. Geneva: International Labour Office.

Kucera, David. 2002. "Core Labour Standards and Direct Foreign Investment." International Labour Review 141 (1-2): 31-69.

Maskus, Keith. 1997. "Should core labor standards be imposed through international trade policy?" World Bank Policy Research Working Paper #1817. Washington, D.C.: World Bank.

Meyer, Klaus. 1998. Direct Investment in Economies in Transition. Aldershot, UK and Northampton, MA: Edward Elgar.

OECD. 1996.   Trade, Employment, and Labour Standards: A Study of Core Workers' Rights and International Trade. Paris.

_____. 2000. International Trade and Core Labour Standards. Paris.
Piore, Michael. "Labor Standards and Business Strategies." In Labor Standards, Development and Trade. pp. 35-49.

Ozawa, Terutomo. 1979.   "International Investment and Industrial Structure: New Theoretical Implications from the Japanese Experience."   Oxford Economic Papers 31:1 (March), pp. 72-92.

Palley, Thomas I. 2002. "A New Development Paradigm Domestic Demand-Led Growth: Why it is Needed and How to Make it Happen." Foreign Policy in Focus Discussion Paper(September).

_____. 2000. "Labor Standards, Economic Governance, and Income Distribution: Some Cross Country Evidence." Washington, DC: AFL-CIO Public Policy Department Economic Policy Paper.

Rama, Martin and Raquel Artecona. 2002. "A Database of Labor Market Indicators Across Countries," Paper prepared for World Bank research project "The Impact of Labor Market Policy and Institutions and Economic Performance," June 25.

Raynauld, Andre and Jean-Pierre Vidal. 1998. Labour Standards and International Competitiveness: A Comparative Analysis of Developing and Industrialized Countries. Cheltenham, UK: Edward Elgar.

Rodrik, Dani. 1996. "Labor standards in international trade: Do they matter and what do we know about them", in R. Lawrence, D. Rodrik and J. Whalley (eds.), <u>Emerging Agenda for Global Trade: High Stakes for Developing Countries</u>. Washington, D.C.: Overseas Development Council.

Safarian, Albert E. 1993. <u>Multinational Enterprise and Public Policy: A Study of the Industrial Countries.</u> New Horizons in International Business Series. Brookfield, VT: Ashgate.

Stein, Ernesto and Christian Daude. 2002. "Institutions, Integration and Location of Foreign Investment," <u>New Horizons for Foreign Direct Investment</u> Paris: OECD, Global Forum on International Investment.

Yeyati, Levy, Ernesto Stein and Christian Daude. 2003. "Regional Integration and the Location of Foreign Investment," Washington, DC: Inter-American Development Bank, Research Department, Working Paper #492.

Annex I. Latin American and Caribbean Ratification of ILO Core Labor Standards Conventions

	Forced Labor		Freedom of Association		Discrimination		Child Labor	
	C. 29	**C. 105**	**C. 87**	**C. 98**	**C. 100**	**C. 111**	**C. 138**	**C. 182**
Argentina	14/03/1950	18/01/1960	18/01/1960	24/09/1956	24/09/1956	18/06/1968	11/11/1996	05/02/2001
Bahamas	25/05/1976	25/05/1976	14/06/2001	25/05/1976	14/06/2001	14/06/2001	31/10/2001	14/06/2001
Barbados	08/05/1967	08/05/1967	08/05/1967	08/05/1967	19/09/1974	14/10/1974	04/01/2000	23/10/2000
Belize	15/12/1983	15/12/1983	15/12/1983	15/12/1983	22/06/1999	22/06/1999	06/03/2000	06/03/2000
Bolivia	-	11/06/1990	04/01/1965	15/11/1973	15/11/1973	31/01/1977	11/06/1997	-
Brazil	25/04/1957	18/06/1965	-	18/11/1952	25/04/1957	26/11/1965	28/06/2001	02/02/2000
Chile	31/05/1933	01/02/1999	01/02/1999	01/02/1999	20/09/1971	20/09/1971	01/02/1999	17/07/2000
Colombia	04/03/1969	07/06/1963	16/11/1976	16/11/1976	07/06/1963	04/03/1969	02/02/2001	-
Costa Rica	02/06/1960	04/05/1959	02/06/1960	02/06/1960	02/06/1960	01/03/1962	11/06/1976	10/09/2001
Dominican Republic	05/12/1956	23/06/1958	05/12/1956	22/09/1953	22/09/1953	13/07/1964	15/06/1999	15/11/2000
Ecuador	06/07/1954	05/02/1962	29/05/1967	28/05/1959	11/03/1957	10/07/1962	19/09/2000	19/09/2000
El Salvador	15/06/1995	18/11/1958	-	-	12/10/2000	15/06/1995	23/01/1996	12/10/2000
Grenada	09/07/1979	09/07/1979	25/10/1994	09/07/1979	25/10/1994	-	-	-
Guatemala	13/06/1989	09/12/1959	13/02/1952	13/02/1952	02/08/1961	11/10/1960	27/04/1990	11/10/2001
Guyana	08/06/1966	08/06/1966	25/09/1967	08/06/1966	13/06/1975	13/06/1975	15/04/1998	15/01/2001
Haiti	04/03/1958	04/03/1958	05/06/1979	12/04/1957	04/03/1958	09/11/1976	-	-
Honduras	21/02/1957	04/08/1958	27/06/1956	27/06/1956	09/08/1956	20/06/1960	09/06/1980	25/10/2001
Jamaica	26/12/1962	26/12/1962	26/12/1962	26/12/1962	14/01/1975	10/01/1975	-	-
Mexico	12/05/1934	01/06/1959	01/04/1950	-	23/08/1952	11/09/1961	-	30/06/2000
Nicaragua	12/04/1934	31/10/1967	31/10/1967	31/10/1967	31/10/1967	31/10/1967	02/11/1981	06/11/2000
Panama	16/05/1966	16/05/1966	03/06/1958	16/05/1966	03/06/1958	16/05/1966	31/10/2000	31/10/2000
Paraguay	28/08/1967	16/05/1968	28/06/1962	21/03/1966	24/06/1964	10/07/1967	-	07/03/2001
Peru	01/02/1960	06/12/1960	02/03/1960	13/03/1964	01/02/1960	10/08/1970	13/11/2002	10/01/2002
Suriname	15/06/1976	15/06/1976	15/06/1976	05/06/1996	-	-	-	-
Trinidad and Tobago	24/05/1963	24/05/1963	24/05/1963	24/05/1963	29/05/1997	26/11/1970	-	23/04/2003
Uruguay	06/09/1995	22/11/1968	18/03/1954	18/03/1954	16/11/1989	16/11/1989	02/06/1977	03/08/2001
Venezuela	20/11/1944	16/11/1964	20/09/1982	19/12/1968	10/08/1982	03/06/1971	15/07/1987	-

Source: International Labor Organization, www.ilo.org

Annex II. Description of ILO Core Labor Standards Conventions

Forced Labor

No. 29 Forced Labor Convention (1930). Requires the suppression of forced on compulsory labor in all its forms. Certain exceptions are permitted, such as military service, convict labor, which is properly supervised, emergencies such as wars, fires, and earthquakes.

No. 105 Abolition of Forced Labor Convention (1957). Prohibits the use of any form of forced or compulsory labor as a means of political coercion or education, punishment for the expression of political or ideological views, workforce mobilization, labor discipline, punishment for participation in strikes, or discrimination.

Freedom of Association

No. 87 Freedom of Association and Protection of the Right to Organize Convention (1948). Establishes the right of all workers and employers to form and join organizations of their own choosing without prior authorization, and lays down a series of guarantees for the free functioning of organizations without interference by the public authorities.

No. 98 Right to Organize and Collective Bargaining Convention (1949). Provides for protection against anti-union discrimination, for protection of workers' and employers' organizations against acts of interference by each other, and for measures to promote collective bargaining.

Discrimination

No. 100 Equal Remuneration Convention (1951). Calls for equal pay and benefits for men and women for work of equal value.

No. 111 Discrimination (Employment and Occupation) Convention (1958). Calls for a national policy to eliminate discrimination in access to employment, training and working conditions, on grounds of race, color, sex, religion, political opinion, national extraction or social origin and to promote equality of opportunity and treatment.

Child Labor

No. 138 Minimum Age Convention (1973). Aims at the abolition of child labor, stipulating that the minimum age for admission to employment shall not be less than the age of completion of compulsory schooling.

No. 182 Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor (1999). The Convention and Recommendation seek the prohibition and immediate elimination of child labor involving slavery, prostitution and pornography, illicit activities such as drug trafficking and work

which will endanger the health, safety or morals of the child. This prohibition will apply
to all children under the age of 18.