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Core labour standards and foreign direct investment

David KUCERA*

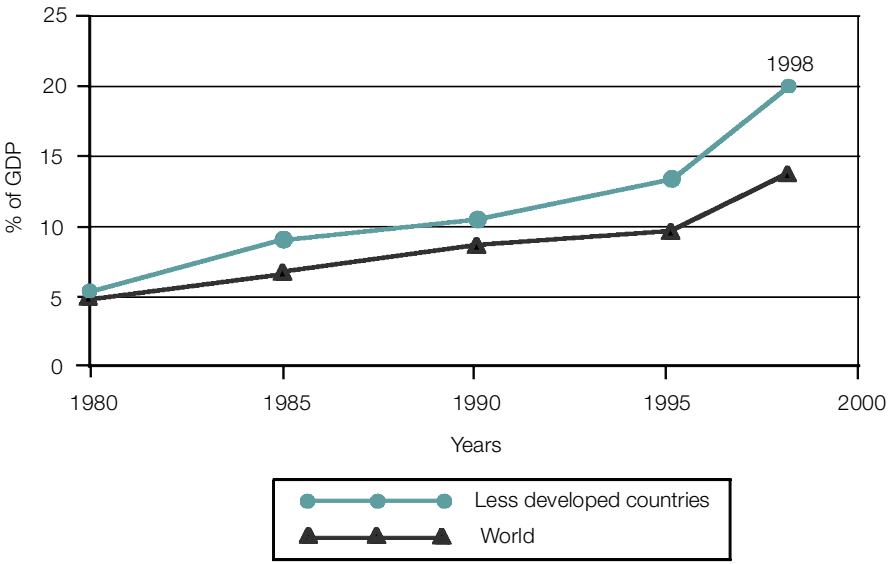
There has been a steady expansion of foreign direct investment (FDI) in recent decades. Figure 1 shows inward FDI stock as a percentage of GDP from 1980 to 1998 for the world and for less developed countries (LDCs). The upward trend is particularly strong for LDCs, increasing from 5.4 to 20.0 percentage points over these years and suggesting the increased importance for these countries of FDI, as well as the increased presence of multinational firms. Alongside the expansion of FDI have risen concerns regarding competition between countries or regions to attract FDI. Some determinants of FDI location, such as market size, are not amenable to short-run policy manipulation and so do not come into play in this regard. These more persistent long-run determinants have been referred to as "classical sources of comparative advantage" with regard to FDI location (Wheeler and Mody, 1992, p. 57). However, other potential determinants are more malleable, among them taxation policy and environmental and labour regulations. The scenario of countries or regions competing against each other by offering investors ever greater tax breaks and ever weaker regulations has been termed a "race to the bottom."

A recent study published by the OECD on competition between countries to attract FDI seeks to establish whether there is evidence of such a race to the bottom. The study concludes that there is no decisive evidence of "any inexorable tendency towards global 'bidding wars' among governments in their competition to attract FDI," but that the "'prisoner's dilemma' nature of the competition creates a permanent danger of such 'wars'" (Oman, 2000, p. 10). A race to the bottom does not depend on investors being truly attracted to countries with lower labour standards. Perception, true or false, will suffice.

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Figure 1. Inward FDI stock as a percentage of GDP, 1980-98



Source: UNCTAD: *World Investment Report 2000*, Annex table B.6, pp. 319-320.

Thus, a critical evaluation of the effects of core labour standards on FDI is important for policy and is the aim of the study presented here.

In a study of the effects of labour standards on FDI location, Rodrik writes of "the conventional wisdom about low-standard countries being a haven for foreign investors" (1996, p. 57). Friedman, Gerlowski and Silberman also refer to the "conventional wisdom" that foreign investors tend to locate where union representation is weaker (1992, p. 411). How strong is the evidence for this conventional wisdom, if it may fairly be called that? Rodrik finds no such evidence and neither do studies by the OECD (1996; 2000). In assessing the studies by Rodrik (1996) and the OECD (1996), however, Freeman writes as follows:

> Neither the Rodrik nor the OECD study is definitive. The effect of labour standards on comparative advantage and trade is one of empirical magnitude, which further research should be able to clarify. We need studies with alternative measures of standards, models, and samples of countries (Freeman, 1996, p. 103).

The need for more studies seems plain, but not many have been forthcoming. The reasons for this bottleneck are that few alternative measures of labour standards are available and that, as Martin and Maskus put it, "Available measures of labor standards are questionable indicators of actual worker rights and could be improved" (1999, p. 20). This article will present a study which attempts to make some

headway in these respects by employing newly constructed indicators of labour standards that focus on actual worker rights, in a cross-country analysis of FDI inflows in the 1990s for samples of up to 127 countries. This study addresses what are commonly called core labour standards or fundamental rights at work, broadly those covered by the ILO's Declaration on Fundamental Principles and Rights at Work and its Follow-up, namely, freedom of association and the effective recognition of the right to collective bargaining, the effective abolition of child labour, and the elimination of discrimination in respect of employment and occupation (ILO, 1998, Article 2).[1]

This study finds no solid evidence in support of the conventional wisdom. If anything, the balance of evidence leans in the opposite direction, with all evidence of statistical significance suggesting that FDI tends be greater in countries with stronger worker rights. However, this evidence is not found to be consistently statistically significant in sensitivity analysis regarding variations in model specification and country samples.

The findings are similar overall to those of prior studies of the effects on FDI of labour costs, unions, worker rights, and political and social stability – studies that variously evaluate total FDI inflows by country, outward United States FDI by country and region, and manufacturing FDI into the states of the United States. These studies are surveyed in some detail elsewhere (Kucera, 2001a), but can be summarized as follows. The evidence of the effects of labour costs on FDI is mixed, but tends to suggest that higher labour costs negatively affect FDI.[2] This is more clearly the case for the two studies that directly control for labour productivity. As to the effects of the presence of unions, the evidence is mixed and inconclusive.[3] Regarding worker rights, studies suggest that FDI tends to be greater in countries with stronger worker rights.[4] As with worker rights, studies addressing political and social stability suggest that greater stability positively affects FDI.[5] Though arriving at similar conclusions, the present study complements the above findings, in that it is based on alternative

[1] The other ILO "fundamental right at work" concerns the elimination of all forms of forced or compulsory labour. A forced labour index was constructed and tested in the FDI model, but did not yield stable results, with small sample changes yielding widely varying coefficients estimates of opposite signs (Kucera, 2001a).

[2] See Schneider and Frey (1985); Culem (1988); Friedman, Gerlowski and Silberman (1992); Wheeler and Mody (1992); Jun and Singh (1996); Cooke and Noble (1998); Billington (1999); Head, Ries and Swenson (1999); Traxler and Woitech (2000).

[3] See Friedman, Gerlowski and Silberman (1992); Karier (1995); Cooke (1997); Cooke and Noble (1998); Head, Ries and Swenson (1999); Traxler and Woitech (2000).

[4] See Rodrik (1996); Cooke and Noble (1998); OECD (2000).

[5] See Schneider and Frey (1985); Wheeler and Mody (1992); Jun and Singh (1996).

measures of labour standards, as well as on a substantially larger sample of countries.

This article contains five sections. The section following this introduction addresses the multiple ways in which worker rights may affect FDI – not just through labour costs but also by facilitating human capital development and political and social stability – and also how the effects of worker rights vary according to the type of FDI involved, notably vertical as opposed to horizontal FDI. The next section describes the measures of worker rights used in this study, both those newly constructed from coding textual sources and others from previously available data. The following section describes the FDI model and then presents hypotheses of and modelling results for the effects of worker rights on FDI. Section 5 concludes.

Causal connections

Two lines of argument taken together provide support for the notion that foreign investors favour countries with lower labour standards. The argument is that lower labour standards lead to lower labour costs. There is reason in this view. No-one should be surprised, for instance, if severe and persistent violations of basic freedom of association and collective bargaining rights were to lead to lower labour costs, nor if, when discrimination occurs, some groups of workers are paid less than others for similarly productive work. The second line of argument is also credible, namely, that foreign investors prefer to locate their investment where labour costs are lower, other things being equal, and most importantly with differences in labour productivity accounted for. For once one accounts for differences in labour productivity, labour costs represent labour's share of income, and profits come out of the remaining share.

If labour costs were the sole mediating link between labour standards and FDI location, then the case for the "conventional wisdom" would be more clear-cut. But there are numerous ways in which labour standards may influence FDI location. For a start, there is evidence that higher standards, or stronger rights, may lead to more rapid economic growth, and several studies provide evidence that economic growth attracts FDI (surveyed in Billington, 1999). Regarding gender inequality in education, for instance, a study by Klasen finds that greater inequality is associated with slower economic growth (1999).[6] Klasen argues that this results from a "selection distortion

[6] Such a broad view of "discrimination in respect of employment and occupation" is motivated by ILO Convention No. 111, as is discussed in the opening of the next section.

factor," through which greater inequality translates into lower average human capital. Regarding child labour, in a recent survey of its economic effects, Galli identifies several ways in which reductions of child labour might lead to more rapid economic growth, e.g. by facilitating human capital development (2001). Stronger rights may also be associated with greater political and social stability – particularly freedom of association and collective bargaining which in essence are workers' civil rights – and a number of studies find that greater political and social stability are associated with more rapid economic growth (surveyed in Bénabou, 1996).

These are examples of possible positive effects of worker rights on FDI location mediated by economic growth. More direct positive effects of worker rights on FDI are also possible on the basis of the same human capital and political and social stability factors contributing to economic growth, factors that may also be determinants of FDI in their own right. Suggestive in this regard is a recent survey of several hundred managers of transnational corporations (67 per cent of respondents) and international experts around the world (33 per cent of respondents), who provided scores of 0 to 5, *not important* to *very important*, for 13 FDI location criteria (Hatem, 1997, pp. 14, 47, 55-56). These location criteria are ranked in declining order of importance as follows, with the score given in parentheses:[7]

(1) Growth of market (4.2)
(2) Size of market (4.1)
(3) Profit perspectives (4.0)
(4) Political and social stability (3.3)
(5) Quality of labour (3.0)
(6) Legal and regulatory environment (3.0)
(7) Quality of infrastructure (2.9)
(8) Manufacturing and services environment (2.9)
(9) Cost of labour (2.4)
(10) Access to high technologies (2.3)
(11) Fear of protectionism (2.2)
(12) Access to financial resources (2.0)
(13) Access to raw materials (2.0)

The two highest ranked criteria (growth and size of market) relate to market potential; political and social stability ranks fourth;

[7] These rankings are based on assessments of the five years prior to the survey, but rankings based on the five years following are nearly the same, the only change being a switch of rankings between fear of protectionism and access to financial resources.

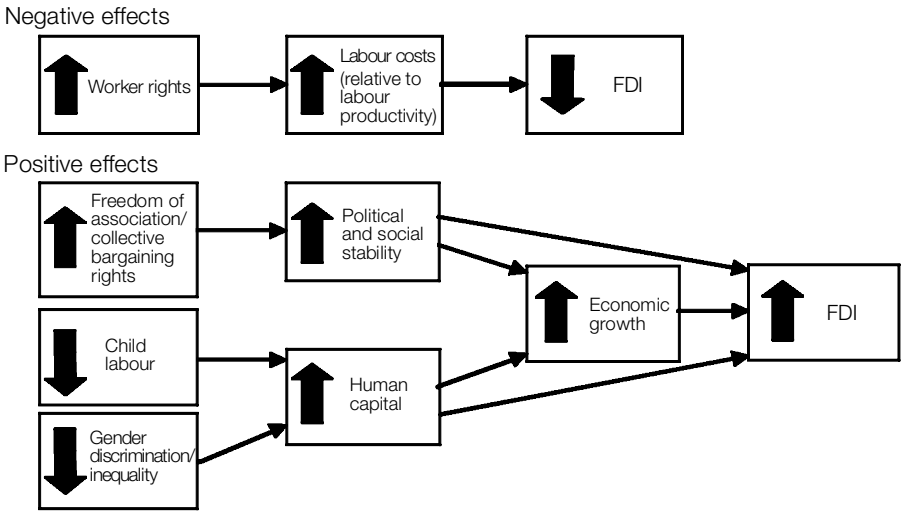
and the cost of labour is well down the list, at ninth position. These survey results suggest that if stronger worker rights are associated with higher labour costs – a negative for FDI – but also with greater stability – a positive for FDI – the positive effects may well offset the negative. These results are similar to those of executive surveys from the 1960s, described by Schneider and Frey as follows: "executives report political instability to be the most important variable influencing their foreign investment decisions, aside from market potential" (1985, p. 162).

Quality of labour ranks fifth in this survey. It has been noted that greater gender equality in educational attainment and reductions in child labour may contribute to economic growth by facilitating human capital development. This result suggests that enhancing human capital also has a direct positive effect on FDI location, in addition to the indirect positive effect through growth. In this sense, too, stronger worker rights may lead to greater FDI inflows. This finding is consistent with prior studies comparing the characteristics of multinational and domestic firms, summarized by Hanson as follows:

> That multinational firms are different from purely domestic firms is abundantly clear. Across countries and time, several empirical regularities are apparent. Relative to their domestic counterparts, multinationals are larger, pay their workers higher wages, have higher factor productivity, are more intensive in capital, *skilled labour*, and intellectual property, are more profitable, and are more likely to export (Hanson, 2001 p. 13; emphasis added).

Some considerations on child labour are called for in connection with the quality of labour. Child labour is unskilled labour and, therefore, even if more child labour does result in lower average labour costs, this holds only for the market for unskilled labour. Moreover, if reducing child labour facilitates human capital development, e.g. by enabling regular school attendance or providing children with more time and energy for their studies, this relates more to the market for skilled than for unskilled labour (though the effect of children's education on workforce skills unfolds over time, as these children gradually enter into the workforce). As these survey results and the passage quoted from Hanson suggest, the market for unskilled labour is less relevant for multinational firms and for FDI location decisions than the market for skilled labour. In this sense, the causal channel through which reducing child labour may lead to more FDI (by increasing human capital) is more directly linked with the determinants of FDI location than the causal channel through which reducing child labour may lead to less FDI (by increasing labour costs in the unskilled labour market). For these reasons, too, the relationship between FDI and labour standards is quite multifaceted. These various causal channels through which worker rights are hypothesized to affect FDI, negatively and positively, are illustrated in figure 2. There may be further

Figure 2. Hypothesized negative and positive effects of worker rights on FDI



positive effects of higher labour standards on FDI as multinationals endeavour to avoid bad publicity, product boycotts and the like, resulting from investing in countries with low labour standards.

Vertical and horizontal FDI

Evaluating the determinants of FDI location is complicated by the fact that FDI is heterogeneous and is undertaken for different reasons. Most important is the distinction between vertical and horizontal FDI. Vertical FDI, it is argued, results from multinationals taking advantage of inter-country differences in factor costs, concentrating their more labour-intensive activities where labour costs are lower and more capital-intensive activities where capital costs are lower. Brainard calls this the "factor-proportions hypothesis", which she describes as "the dominant explanation of multinational activity within traditional trade theory" (1997, p. 520). For vertical FDI, goods are produced not for sale to, but for export from, countries receiving FDI. Export processing zones (EPZs) provide a classic example of vertical FDI, for which restrictions are typically imposed on multinationals selling in the domestic market (Hanson, 2001).

Horizontal FDI occurs when firms locate investment abroad in order to facilitate sales to the countries or regions in which they are investing. From the viewpoint of a firm in its home country, horizontal FDI provides an alternative to exporting as a means of selling in

foreign markets. The extent to which firms rely on horizontal FDI rather than exporting, it is argued, depends on exporting costs (particularly transport costs and tariffs), restrictions on FDI flows, and the importance of scale economies. Brainard calls this the "proximity-concentration hypothesis," in that the exporting costs to firms of being farther from customers trade off against the scale benefits to firms resulting from the concentration of production (Brainard, 1997, p. 520).

Since patterns of vertical but not of horizontal FDI are argued to be determined by differences in factor costs, differences in labour costs (e.g. those arising from stronger worker rights) vary in significance for vertical and for horizontal FDI. Specifically, an increase in labour costs, all else being equal, is expected to have a negative effect on countries whose comparative advantage in attracting vertical FDI depends on low labour costs. At the same time, if labour costs are lowered by, for instance, weakening rights of freedom of association and collective bargaining, then all else is not equal, since this weakening can create the political and social instability to which foreign investors are averse. With horizontal FDI, the effects of labour cost increases, all else being equal, are less clear-cut, since multinationals not only produce but also sell in recipient countries. In this sense, market potential matters in determining the location of horizontal but not of vertical FDI, and labour cost increases may affect market potential. For a given level of labour productivity, labour cost increases create a shift in functional income distribution towards labour and away from other factors of production. In the short run, the effect of such a shift on market potential is goods specific and depends on the extent to which goods produced by multinationals are purchased by workers or rather are luxury goods. If products are purchased primarily by workers, then an increase in labour costs might lead to increased demand for those goods, potentially offsetting negative effects on FDI resulting from higher labour costs. In a more long-run, dynamic sense, such a shift in functional distribution might also increase overall market potential by boosting aggregate demand, depending on whether a country is in a scenario of wage-led growth or profit-led growth (Taylor, 1991; Blecker, 1996).

Evaluating the effects of labour costs on the location of *total* FDI depends, then, on the relative importance of vertical as opposed to horizontal FDI. It is useful in this regard to return to the survey of executives of multinationals and international experts noted above, which asked additional questions about the relative importance of horizontal FDI and vertical FDI, with breakdowns by respondents from service and manufacturing sector firms and from firms with headquarters in North America, Western Europe, Japan, and Asian newly industrialized economies (NIEs). These additional and disaggregated results sug-

gest that horizontal FDI is more important overall than vertical FDI (consistent with the top rankings given to growth of market and size of market), but that horizontal FDI is more important in the service than the manufacturing sector and that horizontal FDI is more important and labour costs less important for respondents from Western European and North American firms than for respondents from Japanese and Asian NIE firms (Hatem, 1997).

Given the heterogeneity of FDI, the results presented here of a study which looked at total FDI hold as a macroeconomic average, and not necessarily for FDI originating from different regions and undertaken in different sectors and for different strategic reasons.

Measures of worker rights

The study reported on here employs multiple measures for each worker right considered. This use of multiple measures enables one more adequately to address causal specificity – the ways in which, for instance, different aspects of freedom of association and collective bargaining rights or different kinds of gender inequality may variously affect labour costs and FDI location. The use of multiple measures also provides a test of robustness, as regards the different types of measurement error to which different measures are prone.

In this article the definition of "discrimination in respect of employment and occupation" is restricted to a focus on gender inequality (ILO, 1998, Article 2(d)). This focus on gender rather than other forms of inequality is chosen both because data with gender breakdowns are far more readily available and because of the universality of gender inequality (World Bank, 2001). As for the focus on inequality rather than on discrimination, the latter is generally defined in economics as residual inequality after accounting for other determinants of a given employment outcome (leaving aside the issue of unobserved determinants). But given the difficulty of controlling, at the country level, for these other determinants of employment outcomes, it is not obvious how to construct meaningful country-level measures of discrimination. Also relevant is the fact that the ILO uses a very broad definition of discrimination, in essence equating discrimination not only with inequality in employment outcomes, but also with inequality in the determinants of employment outcomes. This is apparent from the ILO's Discrimination (Employment and Occupation) Convention, 1958 (No. 111), one of the key Conventions undergirding the ILO's concept of fundamental rights at work. The reference in that Convention to equality of opportunity and access to vocational training motivate evaluation of gender inequality in educational attainment and literacy.

The measures of worker rights and variables used in the FDI model generally refer to the mid-1990s, with all models cross-sectional in form and countries as units of observation. This cross-sectional approach results from information constraints existing in the years prior to the mid-1990s for the new measures of worker rights constructed from coding textual sources. In short, the textual information used to construct these measures is of considerably poorer quality for earlier years – if it exists at all.

When data are available annually, five-year averages for the 1993-97 period are constructed. The exceptions are the dependent variable in the FDI model, which is a seven-year average for the 1993-99 period (accounting for a somewhat lagged response to explanatory variables for the 1993-97 period and yielding a slightly better modelling fit). Also, the variable on wages as a share of value-added is for the 1992-97 period, to enable an increased number of observations. In a number of cases, data are not available annually, in which case data for 1995 or the nearest available years were used.

For the indices constructed from coding textual information, events that occurred between 1993 and 1997 inclusive are coded. These have been constructed for up to 170 countries and are underlined in the tables. What follows are brief descriptions of the measures constructed from coding textual information along with descriptions of other measures used. Fuller descriptions of the newly constructed indices are available elsewhere (Kucera, 2000, 2001b). Additional information on data sources is provided in an appendix.

Freedom of association and collective bargaining measures

Seven measures related to freedom of association and collective bargaining (FACB) are used. Described in detail below, these are: the rate of unionization; an unweighted and a weighted index of freedom of association and collective bargaining (FACB); an index (dummy variable) of FACB violations in export processing zones (EPZs); and indices of civil liberties, political rights and democracy.

Unionization rate: the number of union members as a percentage of the non-agricultural labour force.

FACB index (unweighted) and *FACB index (weighted)*: these measures of freedom of association and collective bargaining are based on 37 evaluation criteria that address both *de jure* and *de facto* problems, tending to emphasize the latter. The 37 evaluation criteria are based on the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) and the Right to Organise and Collective Bargaining Convention, 1949 (No. 98) and related ILO juris-

prudence, as well as problems noted in textual sources. The 37 criteria are identified in table 1. The measures are constructed in unweighted (i.e. equally weighted) and weighted form. They are scaled to range from 0 to 10, with 0 indicating the least number of violations observed, and thus the best possible score, and 10 indicating the greatest number of violations observed, and thus the worst possible score. This scaling method is consistent with violations-based measures of FACB rights, which basically involve counting the number of violations observed. Note that, because of the scaling method, in the model a negative coefficient is associated with a positive effect of worker rights on FDI, and vice versa.

The method used to construct the measures is as follows. First, three textual sources were examined: the International Confederation of Free Trade Unions' (ICFTU) *Annual Survey of Violations of Trade Union Rights*, the US State Department's *Country reports on human rights practices*, and the ILO's *Reports of the Committee on Freedom of Association*. Where an evaluation criterion is reported as having been violated, the source concerned is identified in the table (column B). Next, a dummy variable is constructed for each country in which an observation of a problem in any of the three sources is given a value of 1, and no observations in any of the sources is given a value of 0 (column C), for each of the evaluation criteria. For the weighted measures, each of the evaluation criteria is assigned a weight of 1, 1.25, 1.5, 1.75 or 2, the greater weights indicating more severe problems (column D). Dummy variables for each country are then multiplied by the weights, and this product is then summed across the evaluation criteria to yield, for each country, a non-scaled raw score. The non-scaled measures are then rescaled to range from 0 to 10, with 10 equal to the maximum observed non-scaled score.[8] The same procedure is used for the unweighted measures, except for the multiplication by the weights.

A hypothetical example of this method is illustrated in table 1. Column A contains descriptions (not precise definitions) of the 37 evaluation criteria used. Each of the criteria is based on a detailed set of definitions and decision rules, referring to relevant articles in the ILO Convention(s) concerned and reports of jurisprudence, and indicating how to classify the diverse range of problems observed in the information sources, and how the various evaluation criteria relate to each other. The aim is to develop a sufficiently detailed set of definitions and decision rules to ensure that different evaluators would arrive at the same (or at least very similar) results; i.e. the aim is reproducibility.

[8] This means that if these measures are constructed for future periods, the mid-1990s measures might need to be rescaled.

Table 1. Measure of freedom of association and collective bargaining (hypothetical example for a single country)

	A Thirty-seven evaluation criteria	B Sources	C Dummy	D Weights	E Dummy x weights
			(0 = no evidence, 1 = evidence)	(1, 1.25, 1.5, 1.75 or 2)	
	Freedom of association/collective bargaining-related civil liberties				
1	Murder or disappearance of union members or organizers		0	2	0
2	Other violence against union members or organizers	ab	1	2	2
3	Arrest, detention, imprisonment, or forced exile for union membership or activities	a	1	2	2
4	Interference with union rights of assembly, demonstration, free opinion, free expression	ab	1	2	2
5	Seizure or destruction of union premises or property		0	2	0
	Right to establish and join union and worker organizations				
6	General prohibitions		0	default	na
7	General absence resulting from socio-economic breakdown		0	default	na
8	Previous authorization requirements		0	1.5	0
9	Employment conditional on non-membership in union		0	1.5	0
10	Dismissal or suspension for union membership or activities	abc	1	1.5	1.5
11	Interference of employers (attempts to dominate unions)	a	1	1.5	1.5
12	Dissolution or suspension of union by administrative authority		0	2	0
13	Only workers' committees and labour councils permitted		0	2	0
14	Only state-sponsored or other single unions permitted		0	1.5	0
15	Exclusion of tradeable/industrial sectors from union membership		0	2	0
16	Exclusion of other sectors or workers from union membership	ab	1	2	2
17	Other specific *de facto* problems or acts of prohibition	a	1	1.5	1.5
18	Right to establish and join federations or confederations of unions		0	1.5	0
19	Previous authorization requirements regarding row 18		0	1	0
	Other union activities				
20	Right to elect representatives in full freedom	ab	1	1.5	1.5
21	Right to establish constitutions and rules		0	1.5	0
22	General prohibition of union/federation participation in political activities	b	1	1.5	1.5
23	Union control of finances	c	1	1.5	1.5

	A Thirty-seven evaluation criteria	B Sources	C Dummy	D Weights	E Dummy x weights
			(0 = no evidence, 1 = evidence)	(1, 1.25, 1.5, 1.75 or 2)	
	Right to bargain collectively				
24	General prohibitions		0	default	na
25	Prior approval by authorities of collective agreements		0	1.5	0
26	Compulsory binding arbitration		0	1.5	0
27	Intervention of authorities		0	1.5	0
28	Scope of collective bargaining restricted by non-state employers		0	1.5	0
29	Exclusion of tradeable/industrial sectors from right to bargain collectively		0	1.75	0
30	Exclusion of other sectors or workers from right to bargain collectively		0	1.75	0
31	Other specific *de facto* problems or acts of prohibition	ab	1	1.5	1.5
	Right to strike				
32	General prohibitions		0	2	0
33	Previous authorization required by authorities		0	1.5	0
34	Exclusion of tradeable/industrial sectors from right to strike		0	1.5	0
35	Exclusion of other sectors or workers from right to strike		0	1.5	0
36	Other specific *de facto* problems or acts of prohibition	ac	1	1.5	1.5
	Export processing zones				
37	Restricted rights in EPZs	a	1	2	2
				Non-scaled (raw) weighted score:	22

Notes: na = not applicable; default = a maximum scaled country score of 10.

Sources: a = International Confederation of Free Trade Unions (ICFTU): *Annual Survey of Violations of Trade Union Rights*; b = US State Department: *Country reports on human rights practices*; *c = ILO: Reports of the Committee on Freedom of Association.*

Column B shows the coding of problems according to the information source, and column C the dummy variables derived from column B. Within column C, a look at the two shaded rows indicates a value in the dummy variable of 1 for both rows, even though problems were found in all three information sources for the upper row and only one source for the lower row. The rationale for treating both rows the same (rather than giving more weight to the upper) was to avoid double counting, for the different sources often describe the same problem in a country and often refer to each other.

Weights are shown in column D. Column E shows the product of the dummy and the weights, the sum of which yields the non-scaled weighted score for a given country. The non-scaled unweighted score is simply the sum of column C. In addition, in column D any country for which there are general prohibitions of the right to establish and join unions and worker organizations (row 6), general absence of the above resulting from socio-economic breakdown (row 7), or general prohibitions of the right to bargain collectively (row 24) receive a default scaled score of 10. In spite of the differences in construction, the correlation coefficient between the unweighted and weighted measures is 0.99. (Unless indicated otherwise, all correlation coefficients reported hereafter are for the largest sample of countries evaluated in the econometric models (127) rather than for all countries for which measures are available.)

FACB in EPZs (last evaluation criterion): this is a dummy variable for observations of FACB violations in export processing zones, with 1 indicating violations found and 0 indicating none found, and is based purely on the 37th row of table 1.

Complementary measures concerning violations of FACB are indices of *civil liberties, political rights,* and *democracy*. All three indices are constructed by Freedom House[9] and provide a useful indication of the broader rights context within which worker rights are situated. They also measure important aspects of the political and social stability within countries. The civil liberties index is based partly on a consideration of FACB rights. The political rights index is concerned with the holding of free and fair elections, the existence of a multi-party system, self-determination, and discrimination. The democracy index is the mean of the civil liberties and political rights indices.

The Freedom House measures are rescaled in order to be directly comparable with the study's FACB indices (0-10 with 0 indicating the best and 10 indicating the worst possible score). Correlation coeffi-

[9] A non-profit, non-partisan organization with headquarters in Washington, DC, championing democracy, peace, and freedom around the world.

cients between the civil liberties index and the unweighted and weighted FACB indices are 0.54 and 0.57 respectively, and 0.50 and 0.54 respectively for the political rights index.

Measures of child labour

Five measures of child labour are used (nine, if breakdowns by sex are counted). Described in detail below, these are: the labour force participation rate of 10 to 14-year-olds; the rate of non-enrolment in secondary education; an index of child labour in tradeable sectors; an index of child labour in tradeable sectors *and* the "worst forms of child labour"; and an index of child labour in all sectors.

Labour force participation (LFP) rate, 10-14 years, total, male and female: these are estimates of the labour force participation rates of those in this age group, broken down by sex.

Rate of non-enrolment in secondary education (2nd educ. NON-enrol. rate), total, male and female: defined as 100 minus gross secondary education enrolment rates, broken down by sex. This measure is a useful complement to labour force participation rates, for which measurement error is "particularly problematic at the tails of the age distribution" (Mehran, 2000, p. xi). The correlation between non-enrolment rates and labour force participation rates is quite high, with a correlation coefficient of 0.84 for the total category, as of 1995. Though non-enrolment rates surely mismeasure the extent of child labour for any given country (for non-enrolled children are not necessarily in the labour force, and children in the labour force may also be attending school), the strong correlation with labour force participation rates suggests fairly consistent cross-country mismeasurement that largely washes out in the analysis of cross-country variation (the standard result of mismeasurement error).

These measures provide aggregate measures of child labour. The next two measures focus on sectors more directly linked to manufacturing and traded goods.

Index of child labour (CL) in tradeable sectors: this index is based on summing dummy variables for evidence in textual sources of child labour in four tradeable sectors, plus the construction sector (roughly equivalent to industry plus agricultural tradeables):

(1) textiles, apparel, rugs, leather goods, or footwear
(2) other manufacture or craft production
(3) mining
(4) construction
(5) market-oriented agriculture, forestry, or fishing.

The index ranges in value from 0 to 5, 0 for no evidence found in any sector, 5 for evidence found in all sectors.

Index of child labour (CL) in tradeable sectors + worst: this index is based on the previous one, but adds two further dummies for evidence found in tradeable sectors of the "worst forms of child labour", i.e. forced labour and other work likely to be harmful to children's health and safety (as defined in the ILO's Worst Forms of Child Labour Convention, 1999 (No. 182)). This index ranges in value from 0 to 7.

Index of child labour (CL) in all sectors coded: this measure adds two sectors to the four tradeable sectors plus construction: subsistence (family-use) agriculture or fishing; and the informal (or small-scale) service sector. This index ranges in value from 0 to 7.

The sectors and categories addressed in the three previous indices were not determined on *a priori* grounds but only after much of the subsequently coded textual information had been read. These sources are various ILO publications and the US State Department's *Country reports on human rights practices*. The *Country reports*, for instance, appear consistently attentive to the sectors in which child labourers work and to whether there was evidence of forced or otherwise dangerous labour carried out by children in these sectors.

Gender inequality measures

Five measures of gender inequality are used: the proportion of female workers in industry; that of female administrators and managers; that of female professionals and technicians; the ratio of women to men of the average years of educational attainment for those aged 15 years+; and the female-to-male ratio of literacy rates.

Percentage of females in industry: the female percentage of industrial employment.

Percentage of female administrators and managers/percentage of female labour force: this measure of women's representation in administrative and managerial occupations as well as the following measure are intended to provide a rough indication of occupational segregation by sex, notably as regards the existence of a "glass ceiling" preventing women from rising into top managerial positions. Dividing this measure by the female percentage of the labour force abstracts from cross-country differences in female labour supply.

Percentage of female professionals and technicians/percentage of female labour force: a measure of women's representation in professional and technical occupations.

Female/male educational attainment: the female-to-male ratio of the average years of educational attainment for those aged 15 years+. The measure is included in the FDI model with either male educational

attainment as a control (letting total educational attainment vary) or total educational attainment as a control (with an increase in the ratio implying a decline in male educational attainment).

Female-to-male ratio of literacy rates: as with the ratio of educational attainment, this ratio is included in the FDI model with either male or total literacy rates as controls.

Female-to-male wage ratios were also constructed, but were not used as they were available for relatively few countries.

Shown in appendix table A1 are descriptive statistics for these same variables, showing mean values by region; and mean values, standard deviations, coefficients of variation, and maximum and minimum values for the largest sample of countries evaluated in the FDI models. The regional breakdowns for mean values are useful in evaluating differences between results of models with and without regional dummy variables.

Shown in appendix table A2 are correlation coefficients between, respectively, GDP per capita, the dependent variable of the FDI model, and measures of worker rights. The shaded columns show the correlation coefficients between the GDP per capita and worker rights measures. With the exception of the female percentage of industrial employment, a consistent pattern emerges: worker rights by these measures are consistently stronger where GDP per capita is higher. That is, where GDP per capita is higher, there are stronger FACB rights, less child labour, and greater gender equality. Taking GDP per capita as an indicator of development, these correlations are consistent with the view that there is a developmental aspect to worker rights. In the case of child labour, this point seems obvious, since underdevelopment and poverty are key causes of child labour. Consistent with this, correlation coefficients with GDP per capita are highest in absolute value with labour force participation rates for 10 to 14-year-olds and with secondary education non-enrolment rates, ranging between -0.72 and -0.86. But correlation coefficients also exceed 0.50 in absolute value for the ratios of female-to-male educational attainment and literacy and for the Freedom House indices. A useful area of future study would therefore be to try to reach a deeper understanding of the various developmental determinants of different worker rights.

Worker rights and FDI: Empirical results

These worker rights indicators were incorporated into cross-country econometric models of FDI inflows, providing estimates of the average aggregate effects of labour standards on FDI. The basic logic of the models is that they attempt to account for the effects of labour standards on FDI while at the same time accounting for other determi-

nants of FDI. So whenever evidence is found of labour standards having an effect on FDI, this is while accounting for these other determinants of FDI.

Estimates of the effect of labour standards can vary, depending on model structure, the way indicators are constructed, and estimation methods. Therefore, it is important to estimate the effect of labour standards on the basis of a range of reasonable assumptions, in order to test the robustness of results. To meet these concerns, results are based on: several variations of the labour standards indicators; estimation methods accounting for simultaneous reverse causality (the effects of FDI inflows on labour standards); and models with and without statistical controls for general regional characteristics – that is, with and without regional dummy variables. [10] In addition, results are derived for all countries for which data are available and for LDCs only, based on World Bank criteria, with the sample for LDCs excluding countries classified as "high-income economies" as of 1995. One of the reasons for this split is the expectation that a disproportionate share of the FDI flowing into LDCs (compared with all countries) is vertical rather than horizontal. This expectation is based on differences in labour costs being a key determinant of vertical but not of horizontal FDI, that there are large differences in labour costs between LDCs and richer countries, and that most FDI originates in richer countries. Through the use of multiple measures of worker rights, different country samples, and the presentation of results with and without regional dummy variables, a fair amount of sensitivity analysis is built into the presentation of results.

Main FDI model results are shown in tables 2 and 3, respectively without and with regional dummy variables, with the upper panels of the tables showing the results from benchmark models and the lower panels showing the results of each measure of worker rights entered singly into benchmark models. Results reported are coefficient estimates and associated *t* statistics, significance symbols (two-tailed, with *, **, and *** indicating significance at 10, 5, and 1 per cent levels, respectively), and – for benchmark regressions only – the number of observations ("N" in tables), adjusted R^2s, and F-statistics.

[10] With 1 indicating that a country is part of a region and 0 indicating that it is not. The regions considered are East Asia/Pacific, South Asia, Latin America/Caribbean, Sub-Saharan Africa, Middle East/North Africa, Eastern Europe, and non-East Asia/Pacific older OECD member countries -– that is, excluding Australia, Japan and New Zealand and including Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. For samples of all countries, the excluded region is for the 21 older non-East Asia/Pacific OECD countries. For samples of LDCs, the excluded region is for the Middle East/North Africa. Coefficient estimates on the included regional dummies should be interpreted relative to the excluded region.

The equation for the benchmark FDI model is:

Log (FDI inflows/World FDI inflows) = c + Log (wages/VA) in manuf. + Log population + Log (GDP/capita) + Trade % GDP + SD log growth exchange rate (US$) + Urbanization rate + Literacy rate + e,

where *c* is a constant, *e* an error term, and the definitions and motivations for inclusion of the remaining variables are as follows.[11]

Log (FDI inflows/World FDI inflows): the log of a country's FDI inflows as a share of world FDI inflows.

Log (wages/VA) in manuf: the log of wages as a share of value-added in manufacturing. Manufacturing wages provide a useful measure of labour costs as regards FDI. In spite of a compositional shift of FDI towards the service sector in recent decades, a large share of FDI

[11] Econometric results are based on ordinary least squares and two-stage least squares regressions, as noted. White corrections are used to yield heteroscedasticity-consistent covariance matrices. Problematic collinearity was tested by the construction of variance inflation factors and model specifications were tested with Ramsey RESET tests. Benchmark models pass these tests at conventional thresholds. In constructing benchmarks models, a *t* statistic of 1 on a coefficient estimate is taken as a threshold for inclusion of the associated variable. A number of other variables used in prior studies were tested and not included in benchmark models on the grounds of their low *t* statistics, below the threshold of 1. The theoretical motivations for the inclusion in FDI models of most of these variables are well described in Schneider and Frey (1985) and Billington (1999). It should be noted that in a number of cases the weak results on these measures do not indicate their unimportance as determinants of FDI, but rather that their cross-country variation is captured by other variables in the model, particularly GDP per capita. These measures include the percentage of paved roads and electric power consumption per capita (both indicators of infrastructure quality), the unemployment rate (an indicator of the available workforce), the lending interest rate (an indicator of borrowing costs), industry value-added as a percentage of GDP and manufacturing value-added as a percentage of GDP (both indicators of the degree of industrialization), taxes on international trade as a percentage of current government revenues (an indicator of government trade policy), taxes on income, profits and capital gains, both as a percentage of current revenues and of total taxes (indicating a cost of doing business in a country), fuel exports as a percentage of GDP (an indicator of FDI being attracted by a country's fuel resources), and foreign aid as a percentage of GNP (an indicator of the closeness of political relationships to wealthier countries, which are the main sources of FDI). Also tested in the FDI models was the Institutional Investor country credit rating index, a measure of economic and political country risk. Adding the Institutional Investor index to the benchmark FDI model, the coefficient estimate is of opposite sign than expected, though not statistically significant. This results from a conflating effect of the index with GDP per capita, with a correlation coefficient between the measures of –0.87, indicating lower risk in richer countries (with the index rescaled such that higher values mean greater risk). That is, variation in country risk by this measure is largely captured by GDP per capita. Leaving GDP per capita out of the FDI model, the coefficient estimate on the Institutional Investor index becomes of the expected sign (greater FDI in countries with lower country risk) and highly statistically significant. This provides evidence, additional to that of prior studies, that political and social stability is a positive determinant of FDI location. That FACB rights might represent an aspect of economically beneficial stability is suggested by the positive correlations between representative measures. That is, correlation coefficients with the Institutional Investor index are 0.61, 0.41, and 0.37 for the Freedom House civil liberties index and the weighted and unweighted FACB indices, respectively, for the full sample of countries for which data are available.

Table 2. FDI model results, *without* regional dummies: Mid-1990s average (dependent variable: Log FDI inflows as a share of World, 1993-99)

	A	B	C	D	E	F
	All countries			LDCs		
		Reduced form, sample as col. A	Reduced form, full sample		Reduced form, sample as col. D	Reduced form, full sample
	From benchmark equations			From benchmark equations		
Constant	-32.199 ***	-31.290 ***	-31.014 ***	-35.300 ***	-34.402 ***	-32.108 ***
	-16.122	-17.776	-22.811	-14.136	-12.788	-18.722
Log (wages/VA) in manuf.	-0.584 *	na	na	-0.852 ***	na	na
	1.765	na	na	-2.687	na	na
Log population	0.944 ***	0.979 ***	0.986 ***	1.001 ***	1.066 ***	1.049 ***
	12.927	13.203	15.045	10.860	10.061	13.482
Log (GDP/capita)	0.925 ***	0.778 ***	0.704 ***	1.256 ***	1.067 ***	0.693 ***
	4.957	5.430	5.854	5.293	4.795	3.793
Trade % GDP	0.007 ***	0.008 ***	0.011 ***	0.009 **	0.010 **	0.015 ***
	3.704	3.878	5.041	2.090	2.034	4.484
SD log growth exchange rate (US$)	-1.145	-1.229	-0.321	-1.331 *	-1.494	-0.396
	-1.383	-1.330	-0.613	-1.719	-1.653	-0.751
Urbanization rate	0.011	0.013 *	0.006	0.012	0.018 **	0.011
	1.484	1.867	0.962	1.549	2.096	1.418
Literacy rate	0.014	0.016 **	0.020 ***	0.004	0.007	0.015 **
	1.655	2.068	3.197	0.489	0.905	2.406
N	85	85	127	60	60	100
Adj. R^2	0.788	0.780	0.787	0.751	0.723	0.714
F-Stat.	45.496	50.649	78.634	26.464	26.726	42.151
	From each variable singly in benchmark equations			From each variable singly in benchmark equations		
Civil liberties index	-0.185 **	-0.143 **	-0.078	-0.171 **	-0.109	-0.040
(0 = best, 10 = worst)	-2.604	-2.226	-1.409	-2.049	-1.457	-0.627
Political rights index	-0.128 *	-0.098	-0.047	-0.100	-0.069	-0.026
(0 = best, 10 = worst)	-1.899	-1.496	-1.044	-1.525	-1.039	-0.566
Democracy index	-0.166 **	-0.127 *	-0.063	-0.135 *	-0.090	-0.034
(0 = best, 10 = worst)	-2.218	-1.812	-1.231	-1.762	-1.218	-0.610
Unionization rate	0.003	-0.001	0.005	0.006	-0.008	0.003
	0.491	-0.103	0.710	0.614	-0.985	0.306
FACB index, unweighted	-0.057	-0.047	-0.020	-0.013	-0.009	0.013
(0 = best, 10 = worst)	-1.267	-1.056	-0.440	-0.262	-0.167	0.243

FACB index, weighted	-0.057	-0.049	-0.020	-0.011	-0.012	0.012
(0 = best, 10 = worst)	-1.158	-1.007	-0.416	-0.207	-0.209	0.196
FACB in EPZs	-0.154	-0.234	-0.236	-0.139	-0.266	-0.230
(dummy)	-0.533	-0.735	-0.859	-0.498	-0.862	-0.822
LFP rate, 10-14 years, total (1)	-0.025	-0.023	-0.020	-0.014	-0.006	-0.012
	-1.533	-1.294	-1.608	-0.838	-0.330	-0.853
LFP rate, 10-14 years, male (1)	-0.017	-0.015	-0.013	-0.007	0.001	-0.004
	-1.142	-0.909	-1.106	-0.441	0.059	-0.346
LFP rate, 10-14 years, female (1)	-0.033 *	-0.032 *	-0.027 **	-0.023	-0.015	-0.020
	-1.941	-1.688	-2.146	-1.285	-0.794	-1.450
2nd educ. NON-enrol. rate, total (1)	-0.001	0.0002	-0.006	0.006	0.009	0.001
	-0.150	0.019	-1.226	0.835	1.173	0.180
2nd educ. NON-enrol. rate, male (1)	0.002	0.004	-0.006	0.009	0.011	0.001
	0.245	0.426	-1.097	1.189	1.532	0.234
2nd educ. NON-enrol. rate, female (1)	-0.004	-0.003	-0.009 *	0.003	0.006	-0.003
	-0.503	-0.368	-1.791	0.475	0.779	-0.492
CL in tradeable sectors index (1)	0.067	0.068	0.004	0.052	0.058	-0.010
(0 = least, 5 = most)	0.498	0.472	0.048	0.371	0.363	-0.087
CL in tradeable sectors index + worst (1)	0.060	0.064	0.011	0.053	0.061	-0.001
(0 = least, 7 = most)	0.632	0.625	0.169	0.553	0.556	-0.011
CL in all sectors index (1)	0.080	0.078	0.016	0.069	0.062	0.017
(0 = least, 7 = most)	0.896	0.813	0.237	0.713	0.588	0.212
% female in industry	-0.002	-0.005	-0.015	0.006	0.002	-0.011
	-0.103	-0.278	-1.302	0.363	0.100	-0.942
% female admin.-managerial/	1.081 **	0.951 **	0.884 **	1.090 **	0.831 *	0.794 *
% female labour force (1)	2.503	2.107	2.258	2.602	1.863	1.963
% female profess.-tech./	0.745	0.800	0.529	1.063 **	0.970	0.574
% female labour force (1)	1.576	1.559	1.514	2.050	1.653	1.424
Female/male educ. Attainment (1)	2.287 ***	2.517 ***	1.743 **	1.144	1.379	1.314 *
(holding male constant)	3.232	3.374	2.631	1.327	1.566	1.909
Female/male educ. Attainment (1)	1.620 **	1.844 **	1.379 **	0.489	0.735	1.018
(holding total constant)	2.349	2.567	2.005	0.538	0.804	1.315
Female/male literacy (1)	3.866 ***	3.456 ***	0.865	4.166 ***	3.290 **	0.766
(holding male constant)	3.102	2.664	0.912	3.108	2.386	0.808
Female/male literacy	4.304 **	3.648 **	0.298	5.268 ***	3.900 **	0.406
(holding total constant)	2.591	2.198	0.240	3.177	2.229	0.332

Notes: Numbers in bold indicate regression coefficient estimates, below which are associated *t* statistics; *, ** and *** indicate two-tailed significance at 10-, 5- and 1-per cent levels, respectively; underlined variables are those newly constructed; na = not applicable; (1) the literacy rate is excluded from the model.

Table 3. FDI model results, *with* regional dummies: Mid-1990s average (dependent variable: Log FDI inflows as a share of World, 1993-99)

	A	B	C	D	E	F
	All countries			LDCs		
		Reduced form, sample as col. A	Reduced form, full sample		Reduced form, sample as col. D	Reduced form, full sample
	From benchmark equations			From benchmark equations		
Constant	-32.191 ***	-31.657 ***	-29.733 ***	-37.891 ***	-37.533 ***	-33.410 ***
	-14.027	-14.819	-14.740	-13.851	-13.047	-16.338
Log (wages/VA) in manuf.	-0.432	na	na	-0.659 **	na	na
	-1.440	na	na	-2.292	na	na
Log population	1.040 ***	1.073 ***	1.014 ***	1.191 ***	1.261 ***	1.126 ***
	12.534	12.614	12.997	9.228	9.025	12.330
Log (GDP/capita)	0.950 ***	0.856 ***	0.613 ***	1.230 ***	1.080 ***	0.711 ***
	3.972	4.149	3.441	5.961	5.572	3.927
Trade % GDP	0.011 ***	0.012 ***	0.014 ***	0.018 ***	0.019 ***	0.019 ***
	3.125	3.286	4.668	2.875	2.846	4.743
SD log growth exchange rate (US$)	-1.276 *	-1.338 *	-0.292	-1.399 **	-1.515 **	-0.354
	-1.847	-1.787	-0.567	-2.367	-2.260	-0.737
Urbanization rate	0.004	0.006	0.005	0.009	0.012	0.010
	0.487	0.623	0.682	0.839	1.246	0.986
Literacy rate	-0.00006	0.001	0.013	-0.013	-0.011	0.003
	-0.007	0.090	1.305	-1.227	-1.000	0.323
East Asia/Pacific	-0.752	-0.699	-0.638	0.582	0.640	0.845
(dummy)	-1.081	-1.044	-1.241	1.057	1.205	1.372
South Asia	-1.286 *	-1.361 *	-1.481 **	-0.100	-0.179	-0.312
(dummy)	-1.769	-1.864	-2.222	-0.161	-0.271	-0.465
Latin America/Caribbean	0.392	0.487	-0.016	1.603 ***	1.755 ***	1.171 **
(dummy)	0.859	1.059	-0.377	3.939	4.023	2.548
Sub-Saharan Africa	-0.851	-0.839	-1.002	0.388	0.431	0.316
(dummy)	-1.227	-1.223	-1.635	0.703	0.771	0.575
Middle-East/North Africa	-0.927 *	-0.917 *	-0.994 **	na	na	na
(dummy)	-1.900	-1.984	-2.088	na	na	na
Eastern Europe	-0.231	-0.248	-0.752	1.033 **	0.996 *	0.600
(dummy)	-0.420	-0.466	-1.589	2.056	1.954	1.055
N	85	85	127	60	60	100
Adj. R^2	0.810	0.807	0.796	0.783	0.768	0.731
F-Stat.	28.511	30.222	41.945	18.775	18.730	25.459
	From each variable singly in benchmark equations			From each variable singly in benchmark equations		
Civil liberties index	-0.162 **	-0.117 *	-0.063	-0.113	-0.033	-0.010
(0 = best, 10 = worst)	-2.330	-1.919	-0.959	-1.173	-0.411	-0.125
Political rights index	-0.115	-0.082	-0.037	-0.070	-0.028	-0.009
(0 = best, 10 = worst)	-1.648	-1.314	-0.767	-0.883	-0.394	-0.164

Democracy index	-0.151 *	-0.108	-0.051	-0.096	-0.034	-0.010
(0 = best, 10 = worst)	-1.974	-1.599	-0.878	-1.030	-0.420	-0.153
Unionization rate	0.007	0.010	0.012 *	0.014	0.013	0.021 **
	0.920	1.204	1.819	1.141	0.845	2.083
FACB index, unweighted	-0.087 *	-0.086 *	-0.023	-0.054	-0.063	-0.002
(0 = best, 10 = worst)	-1.737	-1.740	-0.445	-0.917	-0.971	-0.041
FACB index, weighted	-0.089	-0.091 *	-0.024	-0.049	-0.065	-0.005
(0 = best, 10 = worst)	-1.627	-1.685	-0.419	-0.809	-0.957	-0.073
FACB in EPZs	-0.431	-0.511	-0.426	-0.254	-0.400	-0.385
(dummy)	-1.208	-1.369	-1.330	-0.747	-1.085	-1.249
LFP rate, 10-14 years, total (1)	-0.024	-0.021	-0.019	-0.015	-0.009	-0.005
	-1.628	-1.279	-1.168	-0.915	-0.492	-0.303
LFP rate, 10-14 years, male (1)	-0.018	-0.016	-0.010	-0.010	-0.006	0.001
	-1.378	-1.071	-0.743	-0.715	-0.342	0.091
LFP rate, 10-14 years, female (1)	-0.028 *	-0.025	-0.025	-0.019	-0.013	-0.012
	-1.766	-1.373	-1.525	-1.082	-0.609	-0.708
2nd educ. NON-enrol. rate, total (1)	-0.006	-0.006	-0.007	0.004	0.004	0.002
	-0.644	-0.636	-1.081	0.486	0.465	0.250
2nd educ. NON-enrol. rate, male (1)	-0.005	-0.005	-0.008	0.004	0.004	-0.001
	-0.465	-0.487	-1.198	0.465	0.389	-0.150
2nd educ. NON-enrol. rate, female (1)	-0.006	-0.006	-0.007	0.005	0.005	0.002
	-0.747	-0.718	-1.165	0.533	0.550	0.246
CL in tradeable sectors index (1)	0.115	0.113	0.047	0.088	0.080	0.017
(0 = least, 5 = most)	0.870	0.849	0.476	0.648	0.563	0.151
CL in tradeable sectors index + worst (1)	0.099	0.100	0.044	0.083	0.083	0.019
(0 = least, 7 = most)	1.061	1.063	0.601	0.903	0.840	0.229
CL in all sectors index (1)	0.083	0.076	0.028	0.094	0.071	0.021
(0 = least, 7 = most)	0.904	0.818	0.378	1.011	0.719	0.254
% female in industry	0.002	-0.001	-0.014	0.004	0.001	-0.014
	0.147	-0.038	-1.144	0.246	0.078	-1.044
% female admin.-managerial/	0.405	0.102	0.381	0.302	-0.278	0.315
% female labour force (1)	0.847	0.219	0.884	0.615	-0.617	0.719
% female profess.-tech./	0.484	0.436	0.433	0.860	0.524	0.145
% female labour force (1)	1.012	0.887	1.107	1.410	0.788	0.304
Female/male educ. Attainment (1)	1.012	1.035	0.957	-0.281	-0.385	0.232
(holding male constant)	1.200	1.123	1.039	-0.327	-0.351	0.222
Female/male educ. Attainment (1)	0.144	0.167	0.587	-0.856	-0.956	0.144
(holding total constant)	0.167	0.176	0.605	-0.902	-0.808	0.127
Female/male literacy (1)	1.657	0.788	-0.340	1.376	-0.469	-0.755
(holding male constant)	0.801	0.436	-0.310	0.630	-0.248	-0.642
Female/male literacy	1.857	0.682	-0.897	2.180	-0.270	-0.975
(holding total constant)	0.681	0.295	-0.633	0.784	-0.117	-0.658

Notes: Numbers in bold indicate regression coefficient estimates, below which are associated *t* statistics; *, ** and *** indicate two-tailed significance at 10-, 5- and 1-per cent levels, respectively; underlined variables are those newly constructed; na = not applicable; (1) the literacy rate is excluded from the model.

remains in manufacturing, particularly for LDCs (UNCTAD, 1999).[12] In addition, data on manufacturing wages are available for more countries than are other measures of labour costs and also provide a useful proxy for labour costs in the formal sector at large, where FDI is concentrated.

When this variable is included in the FDI models, coefficients on measures of worker rights provide estimates of their non-wage share effects on FDI. When this variable is dropped from the FDI models, yielding reduced form models, these coefficients provide estimates of the total – wage share plus non-wage share – effects of worker rights on FDI. The differences between the coefficient in models with and without the wage share variable thus yield estimates of the wage share effects of worker rights on FDI. On the understanding that we are looking throughout at wages relative to labour productivity, the wage share effect is hereafter referred to as the wage effect.

Log population: the log of population.

Log (GDP/capita): the log of GDP per capita, in constant 1995 US dollars. Taken together, population and GDP per capita provide measures of market potential. For the sales of mass consumption goods, one should expect population to be an important indicator of market potential in its own right, and GDP per capita provides a complementary income effect.[13] GDP per capita also captures a share of the cross-country variation of structural determinants that positively influence FDI location. For these reasons, the expected and found signs of coefficient estimates on both variables are positive, with 1 per cent statistical significance in all benchmark FDI regressions.[14]

[12] As of 1997, 50.1 per cent of FDI flows into LDCs went to manufacturing (down from 66.8 per cent in 1988), compared with 41.3 per cent to services (defined to include utilities and construction and with transport/communications and utilities receiving the largest shares, 7.5 and 6.9 per cent, respectively) and 4.6 per cent to the primary sector. For developed countries, the shares in 1997 were 35.4 per cent to manufacturing (down somewhat from 37.5 per cent in 1988), 53.0 per cent to services (with finance and trade receiving the largest shares, 19.6 and 12.2 per cent, respectively), and 4.3 per cent to the primary sector (not summing to 100 per cent as a result of "unspecified" FDI) (UNCTAD, 1999).

[13] Prior studies use as measures of market potential, singly or in pairs, GDP, GDP per capita, and population. There are, however, quite strong positive correlations between GDP and GDP per capita and between GDP and population, but essentially no correlation between GDP per capita and population (with correlation coefficients of 0.68, 0.72, and –0.02, respectively). Thus GDP per capita and population provide the pair of market potential variables with the most useful independent variation.

[14] The log growth rate of GDP from 1993 to 1997 was also tested as a measure of market potential and was found to be positive, as expected, but not statistically significant. Several studies find a significant positive effect of GDP growth on FDI, though this result depends on model specification, particularly the inclusion in FDI models of GDP per capita (Jun and Singh, 1996; Billington, 1999).

Trade % GDP: the sum of exports and imports as a percentage of GDP; this is a common measure of trade openness. Consistent with prior studies, greater openness is found to have a positive effect on FDI.[15] Trade openness along with the population and GDP per capita measures provide the most strongly and stably significant explanatory variables in the benchmark FDI models, with coefficient estimates on trade openness most often having 1 per cent statistical significance.

SD log growth exchange rate (US$): the standard deviation of the log growth of a country's exchange rate relative to the US dollar, which provides a measure of exchange rate volatility. The uncertainty created by exchange rate volatility is expected to discourage FDI, and the expected and found sign is negative.

Urbanization rate: the urbanization rate has been used in prior studies as an indicator of infrastructure quality. Billington also argues that greater urbanization means more concentrated consumer and labour markets (1999). These factors all point to a positive effect of urbanization on FDI, as is found.

Literacy rate: the literacy rate is used as a measure of workforce skill levels, with the expected and found sign positive.[16]

As regards the column structure of tables 2 and 3, columns A to C refer to the sample of all countries and columns D to F to LDCs only. Within columns A, B and C, column A shows model results including the wage share variable; column B shows the reduced form model without this variable and restricting the sample size to those countries for which there are wage and value-added data. Columns A and B differ only in whether they include the wage share variable, with a sample size of 85 countries for both. Column C is based on the same specification as column B but without sample restrictions, increasing the number of observations to 127. Columns D to F for LDCs follow this same structure. The number of observations between columns B and C increases

[15] There is no doubt some degree of simultaneous causality between FDI inflows and openness. The factors involved are described by Goldberg and Klein, who write that FDI "may set the stage for export promotion, import substitution, or greater trade in intermediate inputs, especially between parent and affiliate producers" (Goldberg and Klein, 1997, p. 1). There is also evidence that the presence of multinationals facilitates access to global markets for domestic producers (Hanson, 2001). With the exception of the import substitution factor, this suggests that the coefficient estimates on the openness variable may be biased upward. However, there is also evidence based, for instance, on Granger causality tests, that openness largely precedes FDI (Jun and Singh, 1996).

[16] The coefficient estimate on average years of education attainment for those aged 15 years+ is more significantly positive than on the literacy rate, but this measure was available for fewer countries and so substantially reduces the sample size, from 85 to 68 observations for countries having data for wages and value-added in manufacturing. The correlation coefficient between the literacy rate and years of educational attainment is 0.83, suggesting the former captures a good deal of the cross-country variation of the latter.

by 42, compared with 40 observations between columns E and F. This means that all but two of the observations added between columns B and C are for LDCs and thus the difference in results between the two columns derives partly from a compositional tilt toward LDCs. There is a sense in which the results in columns C and F are most definitive, as these provide estimates of the total effect of worker rights on FDI, wage plus non-wage, for the largest possible country group samples.

A key result from the benchmark regressions is that coefficient estimates on the wage share variable are negative, significantly so at the 10 per cent level or better in three of four regressions. This implies that stronger worker rights associated with higher wages will have a negative effect on FDI through wages, which may be offset by positive non-wage effects of stronger worker rights on FDI. Note, too, that coefficient estimates on the wage share variable are more strongly and significantly negative for LDCs than for all countries, suggesting that a given increase in wage share has a more negative effect on FDI inflows for LDCs than for developed countries. Taken at face value, these estimates suggest that a 10 per cent increase in wage share would be associated with a 6.6 to 8.5 per cent decline in FDI inflows in LDCs, compared with a 4.3 to 5.8 per cent decline for all countries (with the lower estimate for each country sample from regressions including regional dummies). The difference may reflect the higher share of vertical FDI in LDCs than in developed countries, with such FDI being more export-oriented, labour intensive and footloose. The difference may also result from the higher share of FDI in manufacturing in LDCs than in developed countries, and thus the closer compositional relationship between manufacturing wages and FDI in LDCs.

Another noteworthy result from the benchmark regressions is that coefficient estimates on population and GDP per capita are similar between all countries and LDCs, hovering around unity elasticity for both variables. The coefficient estimates are in fact most often somewhat larger for LDCs than for all countries. Thus market potential and also other structural determinants of FDI captured by GDP per capita matter as much for LDCs as for developed countries. As a determinant of FDI, it might be the case that the market potential aspect of GDP per capita plays more of a role in developed countries and the structural aspects of GDP per capita play more of a role in LDCs, giving coefficient estimates on GDP per capita somewhat different meanings between country group samples. One cannot therefore readily infer from coefficient estimates on GDP per capita the relative importance of vertical as opposed to horizontal FDI between country group samples. Note that the findings of these benchmark models are broadly similar with the above-noted survey results on FDI location criteria, most obviously as regards the importance of market potential (Hatem, 1997).

Freedom of association and collective bargaining and FDI

Coefficient estimates on all three Freedom House indices are negative for all FDI regressions considered – for samples of all countries and of LDCs, fuller and reduced form models, and with and without regional dummies. That is, stronger civil liberties, political rights, and democracy by these measures are associated with greater FDI inflows. Statistical significance is mixed, however, and stronger overall for all countries than for LDCs. It is worth bearing in mind that higher wages are estimated to have a negative effect on FDI inflows and that one of the most persistent results of two prior studies based on econometric wage models is that stronger rights by these same measures are associated with higher wages – relative to labour productivity, as always (Rodrik, 1999; Kucera, 2001a). All these results taken together suggest not only that the effect of stronger worker rights on FDI is through wages, but also that the positive non-wage effects of stronger worker rights on FDI can more than offset the negative wage effects.

Consider the civil liberties index, for which results are statistically strongest. In the model for all countries without regional dummies, the coefficient estimates imply that the non-wage effect of a one-unit decrease in the civil liberties index (i.e. an increase in civil liberties) would be associated with an 18.5 per cent increase in FDI inflows and that the total (wage plus non-wage) effect of such a one-unit decrease would be associated with a 14.3 per cent increase in FDI inflows (table 2, columns A and B). The difference of 4.2 per cent indicates the negative effect on FDI through wages of a one-unit decrease in the civil liberties index. A comparison of the 18.5 per cent non-wage effect with the 4.2 per cent wage effect suggests that the positive non-wage effects of stronger civil liberties on FDI are about four times as important as the negative wage effects. These wage effect estimates are broadly similar to those derived from path analysis (Kucera, 2001a). For LDCs, the comparable non-wage, wage plus non-wage, and wage effects on FDI inflows of a one-unit change in the civil liberties index are 17.1, 10.9, and 6.2 per cent, respectively, with the non-wage effects 2.8 times as important as the wage effects. Because of sample differences, coefficient estimates for the unrestricted samples of all countries and LDCs do not allow one readily to compare wage and non-wage effects. One can see, though, that the wage plus non-wage effects are smaller for these fuller samples. For all countries, a one-unit decrease in the civil liberties index (i.e. improved civil liberties) is estimated to be associated with 6.3 to 7.8 per cent greater FDI inflows, with the smaller value for regressions including regional dummies; for LDCs, the analogous figures are 1.0 to 4.0 per cent, though none of the associated coefficient estimates are statistically significant.

Regarding unionization rates, coefficient estimates in models without regional dummies are of mixed sign and not close to significant; in models with regional dummies, coefficient estimates on unionization rates are consistently positive and sometimes significantly positive. Consistent with prior studies, these results suggest that unions do not appear to be a strong factor determining FDI location, one way or another.

For the two main constructed FACB indices, unweighted and weighted, coefficient estimates are negative in 22 of 24 regressions considered. For regressions including regional dummy variables, all 12 coefficient estimates on these variables are negative and some, for samples of all countries, are statistically significant at the 10 per cent level. As with the Freedom House indices, negative signs mean that stronger FACB rights are associated with greater FDI inflows and, in the context of prior wage model results, that the positive non-wage effects of stronger FACB rights on FDI more than offset the negative wage effects (Kucera, 2001a). Note that coefficient estimates are consistently more strongly negative for all countries than for LDCs (as with the Freedom House indices) and for regressions including regional dummies (in contrast with the Freedom House indices). An additional result is that coefficient estimates on the measure of FACB rights in EPZs are negative in all cases, though never significantly so.

The difference in the statistical significance of the estimates on the two main FACB indices with and without regional dummies results primarily from the dummy variable for the Latin American/Caribbean region. Coefficient estimates on this variable indicate that the region does comparatively well in attracting FDI. Resolving whether estimates on the FACB indices are more definitive with or without the Latin American/Caribbean regional dummy requires an assessment of whether the region does well in attracting FDI because of its comparative FACB rights (in which case the model without regional dummies is more definitive) or for other region-specific reasons not directly captured by the model, such as proximity or historical links with the United States, Canada and Western Europe, the most important sources of FDI (in which case the model with regional dummies is more definitive) (Hatem, 1998).

Regarding the comparative importance of the civil liberties index in relation to the FACB indices in the FDI model, the generally more strongly negative coefficient estimates on the former suggest that civil liberties at large, not for workers only, may matter more in attracting FDI. This pattern holds when simultaneously including the civil liberties and FACB indices in the FDI model. Simultaneous causality from FDI inflows to political rights and civil liberties at large in a country does not seem generally likely, and so no attempt was made to address this issue econometrically. However, it seems more reasonable to

hypothesize simultaneous causality from FDI inflows to more worker-specific FACB rights. For instance, workers employed by multinationals may tend to have stronger FACB rights than workers employed in other types of enterprise, in which case the positive effects of stronger FACB rights on FDI may be overstated. Using a method that addresses such simultaneous causality does not, however, substantively alter conclusions (Kucera, 2001a).[17]

From these several results for FACB rights, including those for the Freedom House indices, a fairly straightforward conclusion can be drawn. Here it is useful to focus on columns C and F of tables 2 and 3, as these columns present the total – wage plus non-wage – effects of FACB rights on FDI for the fullest samples of all countries and LDCs. With the exception of unionization rates, no coefficient estimates on these measures of worker rights are statistically significant. Rather than finding evidence that foreign investors tend to favour countries with lower labour standards, we find an accumulated lack of evidence, a sort of non-result. This non-result has its own importance, however, in light of FDI model results suggesting that higher wages lead to less FDI inflows, and prior wage model results suggesting that stronger FACB rights lead to higher wages. That is, if the wage effects of FACB rights on FDI were what mattered most, one would not have expected to find such a persistent non-result.

Child labour and FDI

Child labour may affect FDI location through both labour costs and skill levels, measured here by the literacy rate. To address the child labour-skills level causal link with FDI, the literacy rate is dropped from the FDI model for all regressions, including child labour measures. The relationships between the literacy rate and aggregate measures of child labour are quite strongly negative, with correlation coefficients of –0.80 and –0.82, respectively, for the total labour force participation rate of 10 to 14-year-olds and the total secondary education non-enrolment rate. These negative correlations indicate that less child labour is associated with higher skills levels. Since higher skills levels are a plus for FDI location, less child labour may also be associated with greater FDI inflows, depending on the effects of child labour on labour costs.

There are two reasons to think that more child labour would result in lower labour costs and in particular in lower manufacturing wages,

[17] The method was to run two-stage least squares regressions using the political rights index and regional dummy variables as instruments for the two main FACB indices (as well as all other independent variables from benchmark regressions). The political rights index provides a useful instrument, as correlations between it and the FACB indices are moderately positive and between it and the error terms from ordinary least squares regressions near zero.

the measure of labour costs used here. First, child labourers are commonly paid less than adults (Anker, 1998). Since this lower pay may reflect discrimination and not simply lower productivity, it is expected that more child labour in manufacturing would lead to lower wages relative to labour productivity for the manufacturing sector as a whole. But here one must be careful of compositional relationships, for only a very small minority of child labourers are employed in the manufacturing and tradeable sectors, with roughly 5 per cent a common estimate (Bachman, 2000). So, the compositional relationship between aggregate measures of child labour and manufacturing wages is very loose. Second, child labour may also reduce manufacturing wages by increasing the total supply of unskilled labour, in which case the aggregate-level measures of child labour (labour force participation rates for 10 to 14-years-olds and secondary education non-enrolment rates) are more relevant.

As regards the relationship between child labour and labour costs, it was not found that more child labour by these measures is associated with lower labour costs at the macroeconomic level (Kucera, 2001a). Combining this evidence with the logic of the child labour-skills levels causal link with FDI, one should not expect more child labour to be associated with greater FDI inflows. Consistent with this expectation, coefficient estimates on labour force participation rates are mostly negative, suggesting less FDI in countries with more child labour. For secondary education non-enrolment rates, signs on coefficient estimates are more mixed, mostly negative for all countries but mostly positive for LDCs. Looking at both measures together, though, the only evidence of statistical significance, at the 10 per cent level or better, is for the negative coefficient estimates (for female labour force participation rates and female secondary education non-enrolment rates in samples of all countries). As for coefficient estimates on the indices of child labour constructed from coding textual sources, these are most often positive but never close to statistically significant. All this evidence taken together suggests that child labour is not an important determinant of FDI location.

Gender inequality and FDI

There was some earlier evidence that higher female percentages of industrial employment are associated with lower manufacturing wages (Kucera, 2001a). This was hypothesized to result from the fact that women were paid lower wages than men. Higher female percentages of industrial employment may also reflect the importance of such typically female-intensive industries as textiles, apparel and electronics – industries that play a large role in export-oriented production, particularly relevant for vertical FDI. On these grounds, it might be expected

that higher female percentages of industrial employment would be associated with greater FDI inflows. However, coefficient estimates on this variable are of mixed sign and none are statistically significant.

In his study evaluating the effects of gender inequality in education and employment on investment and economic growth, Klasen concludes that greater gender inequality leads to lower rates of investment and slower growth (1999). One of the causal linkages he proposes is through a " selection-distortion factor," which he describes as follows regarding education:

> If one believes that boys and girls have a similar distribution of innate abilities, gender inequality in education must mean that less able boys than girls get the chance to be educated, and, more importantly, that the average innate ability of those who get educated is lower than it would be if boys and girls received equal educational opportunities (ibid., p. 6).

This "selection-distortion factor" provides a sense of how a shift in educational attainment toward women (holding average educational attainment constant) can raise average levels of human capital. It is argued that such an increase in human capital raises the rate of return on investments and so increases the rate of investment. This would hold for foreign as well as domestic investment. A similar "selection-distortion factor" is argued by Klasen to work for gender inequality in employment. As regards the measures of women's representation in administrative, managerial, professional and technical occupations, this suggests that the average level of ability for these occupations would be higher the more equally were women represented within them. Given the nature of these causal channels, operating through skill levels, the literacy rate is dropped from the FDI model for the measures of gender inequality considered below, except as noted.

In regressions without regional dummy variables, coefficient estimates on measures of women's occupational representation are all positive and often significantly so, with coefficient estimates fairly similar between all countries and LDCs. Results are stronger for measures of women's representation in administrative and managerial occupations than in professional and technical occupations, with coefficients on the former statistically significant at the 10 per cent level or better for all six regressions without regional dummies. These positive coefficient estimates are consistent with the "selection-distortion factor" hypothesis, meaning greater FDI in countries with greater gender equality by these measures. In regressions including regional dummies, coefficient estimates fall off considerably in value, one becoming negative, and none remain statistically significant. The difference in results with and without regional dummies derives primarily from the inclusion of the dummy for the Latin American/Caribbean region.

Looking again first at regressions without regional dummies, coefficient estimates on female-to-male ratios of years of educational

attainment are all positive, consistent with the "selection-distortion factor" hypothesis. Results are stronger for the sample of all countries than for LDCs, with all coefficient estimates statistically significant at the 5 per cent level or higher for all countries. Coefficient estimates are also consistently larger using male rather than total educational attainment as a control variable, consistent with the notions that human capital is a positive determinant of FDI and that total educational attainment will rise if there is an increase in the female-to-male ratio of educational attainment (comparing the two relevant rows in table 2). For female-to-male literacy rates in regressions without regional dummies, coefficient estimates are all positive and often significantly positive at the 5 per cent level or better. In contrast with the female-to-male educational attainment variable, however, coefficient estimates are often smaller using the male rather than the total literacy rate as a control variable (comparing the two relevant rows in table 2). As with the measures of women's occupational representation, however, no coefficient estimates on measures of gender inequality in educational attainment and literacy remain statistically significant with the inclusion of regional dummy variables, and a good number become negative.

The difference in coefficient estimates with and without regional dummy variables results mainly from the inclusion of the dummy for the Latin American/Caribbean region. As indicated by these measures of gender inequality, the Latin American/Caribbean region is relatively egalitarian by world standards (table A.1). Evaluating which results are more definitive, with or without regional dummies, requires an assessment of whether the region does well in attracting FDI because of the "selection distortion factor" and related human capital considerations or for other reasons not directly captured by the model.

Conclusion

This article reports on the use of a range of country-level measures of core labour standards to address the hypothesis that foreign investors favour countries with lower labour standards. Econometric models evaluating total FDI inflows for the 1990s yield no solid evidence in support of this conventional wisdom. This finding is consistent overall with prior studies, but is based on alternative measures of labour standards (some newly constructed from coding textual sources), as well as on comparatively large country samples.

One of the more noteworthy results relates to freedom of association and collective bargaining, as represented by the Freedom House indices and the FACB indices constructed from coding textual sources. The lack of evidence for the conventional wisdom holds, even though stronger worker rights by these measures are estimated to be associated with higher labour costs, controlling for labour productivity, and that

higher labour costs are estimated to have a negative effect on FDI. The negative effect of stronger FACB rights on FDI through wages is estimated to be offset by other positive non-wage effects of stronger FACB rights on FDI, such that countries with stronger FACB rights are generally estimated to receive greater FDI inflows. These results by themselves indicate that one cannot correctly determine the effects of labour standards on FDI location solely by considering the labour cost-labour productivity nexus as a causal channel. Moreover, no evidence is found that countries with more child labour and greater gender inequality have a comparative advantage in attracting FDI inflows, indeed all evidence of statistical significance suggests rather the opposite.

In addition to the empirical evidence, the theoretical grounds for addressing the relationships between core labour standards and FDI location are also presented. An argument is made for a view of the economics of labour standards and worker rights that is broader than the labour cost-labour productivity relationship. For while this relationship provides a two-sided, cost-benefit approach, there appear to be more than two sides to the story as regards both FDI location and economic growth. That is, the effects of worker rights may be transmitted not only through the labour cost-labour productivity nexus, but also through the enhancement of political and social stability (particularly through freedom of association and collective bargaining) and levels of human capital (particularly regarding child labour and gender inequality).

This having been said, questions remain and there is a clear need for further research. For a start, it would be useful to explore more decisively the difference between FDI model results with regional dummy variables and those without, that difference being particularly striking for measures of gender inequality in occupational representation, educational attainment and literacy. It would be useful to explore the time dimensions of the worker rights-FDI relationship, though this of course depends on the availability of data that adequately capture variation over time. It would also be useful to examine more directly the effects of worker rights on vertical as opposed to horizontal FDI, for which the analysis of FDI by industry seems the most obvious approach. Last, it seems important to consider the relationship between worker rights, political and social stability, and human capital. To be useful, such research ought to take causal specificity seriously, examining, for instance, the different kinds of child labour and gender inequality and the different aspects of freedom of association and collective bargaining rights and political and social stability.

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Appendix

Data sources

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   ILO. 1996. *Economically active population 1950-2010*. Fourth edition. Geneva.
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Table A1. Descriptive statistics for GDP per capita, FDI inflows, and measures of worker rights: Mid-1990s average (for sample of 127 countries evaluated in FDI models)

	OECD	OECD w/o East Asia/ Pacific	East Asia/ Pacific	South Asia	Latin America/ Caribbean	Sub-Saharan Africa	Middle East/North Africa	Eastern Europe	All regions				
	mean	mean	mean	mean	mean	mean	mean	mean	mean	std. dev.	coeff. of var.	maximum	minimum
Log (GDP/capita), US$ exchange rate	9.88	9.86	7.96	5.92	7.60	6.17	8.08	7.43	7.62	1.53	0.20	10.55	5.07
Log (GDP/capita), PPP	9.83	9.82	8.65	7.38	8.36	7.30	8.60	8.52	8.40	1.05	0.12	10.19	6.13
Log FDI inflows, % of World	0.17	0.22	-1.10	-3.04	-2.34	-4.63	-2.87	-2.50	-2.43	2.35	-0.97	3.21	-8.78
Civil liberties index (1)	0.95	1.01	4.81	5.67	3.37	6.09	6.52	3.75	4.31	2.87	0.66	10.00	0.00
Political rights index (1)	0.30	0.31	4.31	3.58	2.71	6.18	6.19	3.25	3.84	3.36	0.87	10.00	0.00
Democracy index (1)	0.63	0.66	4.56	4.63	3.04	6.14	6.35	3.50	4.08	3.05	0.75	10.00	0.00
Unionization rate	32.55	33.98	18.75	14.63	15.27	15.85	28.69	48.53	24.56	18.49	0.75	77.20	2.50
FACB index, unweig ted (1)	2.06	1.98	5.62	5.71	5.62	4.61	5.31	3.36	4.49	2.96	0.66	10.00	0.00
FACB index, weig ted (1)	1.80	1.71	5.24	5.53	5.35	4.44	5.00	3.14	4.24	2.81	0.66	10.00	0.00
FACB in EPZs (1)	0.05	0.05	0.19	0.80	0.46	0.21	0.07	0.00	0.20	0.41	1.98	1.00	0.00
LFP rate, 10-14 years, total	0.64	0.74	7.60	21.96	7.25	29.34	3.48	0.07	10.40	14.00	1.35	54.53	0.00
LFP rate, 10-14 years, male	0.63	0.73	7.92	24.01	10.00	31.73	3.77	0.09	11.62	15.12	1.30	56.87	0.00
LFP rate, 10-14 years, female	0.65	0.75	7.28	19.77	4.41	26.95	3.17	0.06	9.15	13.23	1.44	52.21	0.00
2nd educ. NON-enrol. rate, total	3.00	3.47	35.94	58.20	46.71	73.39	32.43	16.75	38.87	30.38	0.78	95.00	0.00
2nd educ. NON-enrol. rate, male	2.36	2.74	35.25	52.40	48.63	70.30	29.07	17.80	37.65	28.92	0.77	94.00	0.00
2nd educ. NON-enrol. rate, female	3.59	4.16	36.31	64.80	44.71	75.63	36.14	16.00	39.40	32.01	0.81	96.00	0.00
CL in tradeable sectors index	0.36	0.42	1.06	3.40	0.88	0.66	0.71	0.20	0.76	1.21	1.60	5.00	0.00
CL in tradeable sectors index + worst	0.50	0.58	1.56	5.20	1.25	0.93	0.86	0.25	1.07	1.76	1.64	7.00	0.00
CL in all sectors index	0.59	0.68	2.00	5.40	2.33	2.34	1.43	0.90	1.84	1.72	0.94	7.00	0.00
% female in industry	23.42	23.03	31.64	30.48	22.90	20.98	17.39	37.15	24.91	10.16	0.41	56.25	2.75
% fem. admin.-managerial/% fem. LF	0.69	0.69	0.54	0.34	0.90	0.42	0.34	0.69	0.62	0.33	0.53	1.78	0.12
% fem. profess.-tech./% fem. LF	1.12	1.13	1.15	0.70	1.53	0.92	1.33	1.28	1.21	0.37	0.30	1.93	0.41
Female/male educ. attainment	0.92	0.92	0.86	0.59	0.96	0.68	0.70	0.95	0.84	0.21	0.25	1.34	0.18
Female/male literacy	0.98	0.98	0.89	0.57	0.97	0.69	0.80	1.00	0.87	0.18	0.20	1.10	0.34

Notes: Underlined variables are those newly constructed; FDI models use as dependent variable the log of a country's share (rather than %) of world FDI inflows; (1) lower values indicate stronger worker rights.

Table A2. Correlation coefficients between GDP per capita, FDI inflows, and measures of worker rights: Mid-1990s average (for sample of 127 countries evaluated in FDI models)

	Log (GDP/ cap.) US$ ex. rate	Log (GDP/ cap.) PPP	Log FDI inflows, % of world	Civil liberties index	Political rights index	Democ-racy index	Union-ization rate	FACB index un-weighted
Log (GDP/cap.), US$ ex. rate	1.00							
Log (GDP/cap.), PPP	0.98	1.00						
Log FDI inflows, % of world	0.65	0.68	1.00					
Civil liberties index (1)	-0.65	-0.66	-0.35	1.00				
Political rights index (1)	-0.60	-0.61	-0.37	0.92	1.00			
Democracy index (1)	-0.64	-0.64	-0.37	0.98	0.98	1.00		
Unionization rate	0.32	0.36	0.17	-0.30	-0.27	-0.29	1.00	
FACB I, unweighted (1)	-0.35	-0.30	-0.02	0.54	0.50	0.53	-0.39	1.00
FACB I, weighted (1)	-0.38	-0.32	-0.06	0.57	0.54	0.56	-0.39	0.99
FACB in EPZs (1)	-0.23	-0.22	-0.08	0.15	0.10	0.12	-0.22	0.37
LFP rate, 10-14 years, total	-0.72	-0.78	-0.55	0.51	0.47	0.50	-0.39	0.21
LFP rate, 10-14 years, M	-0.72	-0.78	-0.54	0.50	0.46	0.49	-0.41	0.23
LFP rate, 10-14 years, F	-0.70	-0.76	-0.55	0.51	0.48	0.50	-0.36	0.17
2nd educ. NON-enrol. rate, F	-0.80	-0.86	-0.60	0.62	0.57	0.60	-0.53	0.38
CL in all sectors index	-0.49	-0.48	-0.13	0.34	0.27	0.31	-0.39	0.35
% F in industry	0.01	0.09	0.03	-0.23	-0.24	-0.24	0.04	-0.19
% F admin.-manag./% F LF	0.22	0.25	0.15	-0.46	-0.45	-0.47	-0.05	-0.07
% F profess.-tech./% F LF	0.25	0.27	0.09	-0.29	-0.26	-0.28	0.07	0.06
F/M educ. attainment	0.54	0.57	0.43	-0.50	-0.48	-0.50	0.20	-0.08
F/M literacy	0.60	0.65	0.43	-0.59	-0.57	-0.59	0.40	-0.21

Notes: Underlined variables are those newly constructed; FDI models use as a dependent variable the log of a country's share (rather than %) of world FDI inflows; (1) lower values indicate stronger worker rights.

FACB index weighted	FACB in EPZs	LFP rate, 10-14 years, total	LFP rate, 10-14 years, M	LFP rate, 10-14 years, F	2nd educ. NON-enrol. rate, F	CL in all sectors index	% F in industry	% F admin.-managerial/ % F LF	% F profess.-tech./ % F LF	F/M educ. attainment	F/M literacy
1.00											
0.38	1.00										
0.23	0.12	1.00									
0.25	0.16	0.99	1.00								
0.20	0.07	0.99	0.95	1.00							
0.40	0.23	0.84	0.85	0.82	1.00						
0.37	0.43	0.42	0.44	0.38	0.47	1.00					
-0.17	0.06	-0.22	-0.24	-0.19	-0.18	0.09	1.00				
-0.08	0.04	-0.30	-0.25	-0.35	-0.24	-0.11	0.11	1.00			
0.05	0.05	-0.45	-0.38	-0.52	-0.29	-0.05	-0.01	0.34	1.00		
-0.08	0.00	-0.60	-0.57	-0.63	-0.60	-0.24	0.01	0.41	0.58	1.00	
-0.25	-0.03	-0.72	-0.70	-0.73	-0.73	-0.38	0.23	0.48	0.56	0.74	1.00