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The effects of core workers rights on labour costs and foreign direct investment: Evaluating the "conventional wisdom"

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Abstract

This paper addresses what has been referred to as the "conventional wisdom" that foreign investors favour countries with lower labour standards. The paper uses new country-level measures of worker rights (constructed from coding textual information and emphasizing *de facto* considerations) in econometric models of foreign direct investment (FDI) inflows and manufacturing wages in samples of up to 127 countries. The wage model is used to address a key hypothesized mediating link between worker rights and FDI, but also considered are other possible causal channels through which worker rights might influence FDI, such as through enhancing political and social stability and human capital development. Worker rights addressed are in regard to freedom of association and collective bargaining, child labour, and gender discrimination and inequality. Consistent with prior studies, no solid evidence is found in support of the "conventional wisdom," with all evidence of statistical significance pointing in the opposite direction.

1. Introduction

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

> Neither the Rodrik nor the OECD study is definitive. The effect of labor 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: 103).

The need for more studies seems plain enough (including at the firm level, Freeman goes on to write), but not many have been forthcoming. The bottleneck is that few alternative measures of labour standards are available, and that, as Martin and Maskus of the World Bank Development Research Group put it, "Available measures of labor standards are questionable indicators of actual worker rights and could be improved" (Martin and Maskus 1999: 20). The present study attempts to make some headway in these regards by using newly constructed indicators of labour standards that focus on actual worker rights and employing them, in samples of up to 127 countries, in cross-country econometric models of FDI inflows and also manufacturing wages – the latter to address a key hypothesized mediating link between worker rights and FDI location.

There has been a rapid expansion of FDI in recent decades, in both an absolute and relative sense. Regarding the latter, 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 less developed countries, 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. (As of 1998, less developed countries held 30.9 percent of world FDI inward stock, up from 24.5 percent in 1980, and received 26.4 percent of world FDI inflows (UNCTAD 2000).) Alongside the expansion of FDI have risen concerns regarding the effects of competition among 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" regarding FDI location (Wheeler and Mody 1992: 57). But 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 to investors ever greater tax breaks and ever weaker regulations has been referred to as a "race to the bottom."

A recent OECD study on competition among countries to attract FDI addresses whether there is indeed evidence of 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: 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. Thus a critical evaluation of the "conventional wisdom" regarding FDI and labour standards is of policy importance.

This study addresses what are commonly called *core* labour standards, consistent with the *ILO Declaration of Fundamental Principles and Rights at Work*, in which these "fundamental rights" are listed as follows (ILO 1998: 7):

(a) freedom of association and the effective recognition of the right to collective bargaining;
(b) the elimination of all forms of forced or compulsory labour;
(c) the effective abolition of child labour; and
(d) the elimination of discrimination in respect of employment and occupation.

In addressing these "fundamental rights," this study focuses less on labour standards as reflected in legislation and more on worker rights in practice. That is, the emphasis is more *de facto* than *de jure*. Evaluating the effect of these rights on FDI, 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. This evidence is not found to be consistently statistically significant, however, in sensitivity analysis regarding model specifications and country samples.

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 remains in manufacturing, particularly for LDCs (UNCTAD 1999). 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. Regarding wage model results, the lack of evidence for the "conventional wisdom" holds even though stronger rights of freedom of association and collective bargaining (FACB) are estimated to be associated with higher manufacturing wages, controlling for labour productivity, and that higher manufacturing wages are estimated to have a negative effect on FDI. The negative effect of FACB rights on FDI through wages is estimated to be offset by other positive non-wage effects of FACB rights on FDI, such that countries with stronger FACB rights are generally estimated to receive greater FDI inflows. The interpretation given is that stronger FACB rights are associated with greater political and social stability, which previous work indicates is an important positive determinant of FDI location (see below).

This paper contains seven sections. The next, section 2, addresses theoretical issues regarding the multiple channels through which worker rights might affect FDI – not just through labour costs but also through facilitating human capital development and political and social stability -- and also how the effects of worker rights depends on the type of FDI, particularly vertical versus horizontal FDI. Section 3 surveys prior empirical studies of the effects on FDI of labour costs, unions, worker rights, and political and social instability. Section 4 describes the measures of worker rights used in this study, both those newly contracted from coding textual sources and others more readily available. Section 5 describes the wage model and then presents hypotheses of and modelling results for the effects of worker rights on wages. Section 6 follows the same format for FDI inflows as section 5, and section 7 concludes.

2. The "conventional wisdom": Some theoretical considerations

There are two lines of argument that taken together provide support for the "conventional wisdom" that foreign investors favour countries with lower labour standards. First is that lower labour standards lead to lower labour costs. There is reason in this view. It should not surprise, for instance, if severe and persistent violations of basic freedom of association and collective bargaining rights were to lead to lower labour costs, nor, regarding discrimination, if some groups of workers are paid less than others for similarly productive work. The second line of argument is also credible, that

foreign investors prefer to locate where labour costs are lower, other things equal, most importantly accounting for differences in labour productivity. For once one accounts for differences in labour productivity, labour costs (wages and salaries plus benefits) represent labour's share of income, and from the remaining share come profits. Supporting this line of argument are two studies finding evidence that FDI tends to be greater where labour costs are lower, controlling for differences in labour productivity (Culem 1988; Friedman, Gerlowski and Silberman 1992).

If labour costs were the sole mediating link between labour standards and FDI location, then the case for the "conventional wisdom" would be more clearcut. But there are multiple channels through which labour standards might influence FDI location and global competitiveness more generally. For starters is evidence that higher standards, or stronger rights, might lead to more rapid economic growth, and several studies provide evidence that economic growth is a plus for attracting FDI (summarized in Billington 1999: 66). Regarding gender inequality in education, for instance, a study by Klasen finds that greater inequality is associated with slower economic growth (Klasen 1999).[1] Klasen argues that this results from a "selection distortion factor," through which greater inequality translates into lower average human capital. Regarding child labour, a recent survey on its economic effects identifies several channels through which reductions of child labour might lead to more rapid economic growth, such as by facilitating human capital development (Galli 2001). Stronger rights might also be associated with greater political and social stability - particularly rights of freedom of association and collective bargaining that are in essence civil rights for workers - and a number of studies find that greater political and social stability are associated with more rapid economic growth (summarized in Bénabou 1996: 51).

These are examples of possible indirect positive effects of worker rights on FDI location, mediated by economic growth. There is also the possibility of direct positive effects of worker rights on FDI based on the same human capital and political and social stability factors contributing to economic growth, factors that might 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 percent of respondents] and international experts around the world [33 percent of respondents]," who provided scores of 0 to 5, not important to very important, for thirteen FDI location criteria (Hatem 1997: 14, 47, 55-56). These location criteria are ranked in order of importance, most to least, as follows, with the score given in parentheses:[2]

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 top two ranked criteria, "growth of market" and "size of market," relate to market potential; "political and social stability" ranks fourth; "cost of labour" is well down the list,

[1] Such a broad view of "discrimination in respect of employment and occupation" is motivated by ILO Convention 111, as is discussed in the opening of section 4 of this paper.

[2] These rankings are based on assessments of the five years prior to the survey, but rankings based 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."

ranked ninth. 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" (Schneider and Frey 1985: 162).

Ranked fifth in the survey is "quality of labour." Already noted was how greater gender equality in educational attainment and reductions in child labour might contribute to economic growth by facilitating human capital development. This survey 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 might lead to greater FDI inflows. This survey finding is consistent with prior studies comparing the characteristics of multinational versus 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 labor*, and intellectual property, are more profitable, and are more likely to export (Hanson 2000: 21-22, emphasis added).

Some considerations on child labour are worth a mention as regards "quality of labour." Child labour is unskilled labour, and therefore even if more child labour does result in lower average labour costs (whether by increasing the supply of unskilled labour or through wage discrimination against children), this holds only for the market for unskilled labour. Moreover, if reducing child labour facilitates human capital development, such as 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 unskilled labour. As the above survey results and the quote from Hanson suggest, the market for unskilled labour is less relevant for multinational firms and FDI location than the market for skilled labour. In this sense, the causal channel through which reducing child labour might 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 might 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 more multifaceted than suggested by the "conventional wisdom".

Evaluating the "conventional wisdom" and the determinants of FDI location more generally is complicated by the fact that FDI takes different forms and is undertaken for different reasons. Because of data unavailability, these differences are almost invariably lumped together in empirical analyses of FDI location (including the present study). Regarding forms of FDI, particularly important has been the rapid growth of cross-border mergers and acquisitions (M & As), the value of which rose rapidly in recent years relative to total FDI inflows. M & As are distinguished most importantly from so-called "greenfield investment," meaning investment in new plant and equipment. For less developed countries, the value of M & As in relation to total FDI inflows increased from about 15 to 30 percent from 1993 to 1999; for developed countries, this measure increased from about 50 to just over 100 percent over these years (M & As are financed not only from FDI but also from international capital markets, and so can exceed FDI inflows in value) (UNCTAD 2000). It is argued that M & As are determined by "strategic considerations" rather than the "location factors" determining other forms of FDI (Billington 1999: 68). It may be the case, then, that the effect of worker rights on FDI depends on whether FDI takes the form of greenfield investment or M & As.

As regards worker rights and labour costs as determinants of FDI location, perhaps more important than these different forms of FDI are the different reasons for undertaking FDI. Most basic is the distinction between vertical and horizontal FDI. Vertical FDI is argued to result from multinationals taking advantage of differences in factor costs among countries, 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" (Brainard 1997: 520). For vertical FDI, goods are produced not for sale to but for export from countries receiving FDI. Export processing zones provide a classic example of vertical FDI, for which restrictions are typically imposed on multinationals selling in the domestic market (Hanson 2000: 42).

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. At the same time, horizontal FDI can also increase imports into the recipient country insofar as multinationals rely on imports of intermediate goods in the production of more downstream goods. The extent to which firms rely on horizontal FDI versus exporting is argued to depend 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 from being farther from customers trade off against the scale benefits to firms resulting from the concentration of production (*ibid*.: 520).[3]

Since patterns of vertical but not horizontal FDI are argued to be determined by differences in factor costs, differences in labour costs – such as from stronger worker rights – matter differently for vertical and horizontal FDI. Specifically, an increase in labour costs, all else 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 equal, are less clearcut, 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 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 are rather 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 versus horizontal FDI. It is useful in this regard to return to the survey of executives of multinationals and international experts noted above, which asks additional questions about the relative importance of horizontal FDI (referred to in the report as

[3] Perhaps worth noting in this regard is that since trade occurs among countries having very different factor costs and since horizontal FDI is a substitute for trade, it follows that horizontal FDI will occur among countries having very different factor costs. In this sense, one cannot necessarily know *a priori* whether FDI from, say, a high labour cost to a low labour cost country is vertical or horizontal, for this depends on the nature of goods produced by a particular firm and the demand for these goods in the market of the low labour cost country. This contrasts somewhat with an aspect of FDI location theory as described by Hanson, who writes: "Theory also predicts that firms will penetrate foreign markets through vertical FDI when factor-cost differences between countries are large and through horizontal FDI when countries are similar in terms of market size and factor cost" (Hanson 2000: 17-18). Nonetheless, since factor cost differences are a key determinant of vertical but not horizontal FDI, a greater share of total FDI from high labour cost to low labour cost countries is likely to be vertical than horizontal FDI as compared with the share of total FDI from high labour cost to other high labour cost countries.

"production abroad for the local market") and vertical FDI (referred to in the report as "production abroad for reexports" or "relocation" FDI), with breakdowns by respondents from service and manufacturing sector firms. For the thirteen FDI location criteria noted above are also breakdowns by respondents from firms headquartered in North America, Western Europe, Japan, and Asian NIEs (newly industrialized economies). These additional and disaggregated results are summarized in the survey report as follows:

> On average, the respondents in the survey place twice as much weight on production for the local market than on relocation in their internationalization strategy. This preference is more marked for the services sector, where exports are often technically impossible, thus making location close to the end market a necessity. But it can also be observed, to a lesser extent, in manufacturing. In other words, most investment flows are not aimed at shifting production away from the home country, but at expanding a firm's world-market share.... However, Asian businesses, particularly Japanese companies, make access to resources a more important consideration in selecting locations than their United States and European counterparts. For manufacturing companies based in Asian newly industrializing economies, for instance, the search for lowest labour costs has been a main reason for the relocation of light industry from their home countries toward developing Asian economies, and particularly towards China, that began in the late 1980s (Hatem 1997: 13, 15).

In sum, the survey results suggest that horizontal FDI is more important overall than vertical FDI, that horizontal FDI is more important in the service than manufacturing sector, and that horizontal FDI is more important and labour costs less important for respondents from Western European and North American than Japanese and Asian NIE firms. That said, respondents from Japanese (though not Asian NIE) firms gave as much importance to "political and social stability" as did Western European and North American firms; and though they gave more importance to "cost of labour" than did respondents from Western European and North American firms, they nonetheless gave "cost of labour" less importance than "political and social stability" (based on the 0 to 5 scoring system) (*ibid*: 55-56).

Regarding the greater importance of vertical FDI for Japanese than North American firms, these survey finding are consistent with an econometric study of outward FDI from the U.S. and Japan into Southeast Asia and Latin America and the relationship of this FDI with trade patterns (Goldberg and Klein 1997). Evaluating the period from the late-1970s to the mid-1990s, the contrasting FDI-trade dynamic between the U.S. and Japan is clearest with respect to Southeast Asia, of which the authors write, "Japanese direct investment expands both the export and import linkages of Southeast Asia. United States FDI plays a different role in the region: it substitutes for Southeast Asian imports from the United States" (ibid: 2).

Empirical analyses of FDI location generally combine vertical and horizontal FDI, which clearly differ in their determinants. This means that the results of such studies hold only for average FDI, not necessarily for FDI undertaken in different sectors and regions and for different strategic reasons. These cautions should be borne in mind when evaluating empirical evidence on the determinants of FDI location.

3. The "conventional wisdom": Prior empirical evidence

The section summarizes empirical studies (all but one using econometric modelling) of the effects on FDI of labour costs, unions, worker rights, and political and social instability. These studies variously evaluate total FDI inflows by country, outward U.S. FDI by country and region, and manufacturing FDI into the states of the U.S.

3.1 The effects of labour costs on FDI

Econometric models of the effects of labour costs on FDI location can be divided into those that do not directly control for labour productivity and those that do. These former may capture, though, a sizeable share of labour productivity variation insofar as they include measures of per capita income (a common measure of market potential), education, or other variables that proxy for labour productivity. First considered are six studies that do not directly control for labour productivity and then two that do.

Schneider and Frey evaluate total FDI inflows in per capita terms for fifty-four less developed countries for three years, 1976, 1979, and 1980, in separate cross-sectional regressions (1985). The authors find that FDI inflows are significantly less in countries with higher wages. Though their models do not include direct measures of labour productivity, they do include GNP per capita and secondary education enrollment rates.

Jun and Singh analyse total FDI inflows relative to host country GDP for thirty-one less developed countries from 1970 to 1993, pooling data across countries and over time (1996). Similarly with Schneider and Frey, the authors find a negative relationship between wages and FDI, statistically significant in most cases, in models that include GDP per capita.

Wheeler and Mody analyze outward U.S. FDI in forty-two developed and less developed countries from 1982 to 1988, pooling data across countries and over time, with fixed effects for time and separate regressions for investments in manufacturing as a whole and in the manufacture of electronics (1992). In contrast with the two prior studies, the authors estimate that there is more FDI in countries with higher manufacturing wages, a statistically significant relationship for the electronics industry but not for manufacturing as a whole. But neither measures of nor clearcut proxies for labour productivity are included in their regressions.

Billington evaluates total FDI inflows for the U.S., Japan, Germany, France, the U.K., Canada and Australia from 1986 to 1993, pooling data across countries and over time, and finds no relationship between FDI and manufacturing wages for males (1999). As with Wheeler and Mody, neither measures of nor proxies for labour productivity are included in the analysis.

Cooke and Noble evaluate outward U.S. FDI in nine industries (seven of them manufacturing) in thirty-three developed and less developed countries in cross-sectional regressions for 1993, with separate regressions measuring FDI in terms of accumulated assets and employment (1998). Included in these regressions are GDP per capita and average years of schooling by country. Similar to Wheeler and Mody, the authors find a positive relationship between FDI and labour costs (average hourly wage and benefit costs for production workers by country), statistically significant for FDI assets. The authors do not take this finding at face value, however, and argue it may result from labour costs proxying for labour productivity. They make their argument on the grounds that labour productivity is not adequately captured in their regressions, is a key determinant of labour costs, and is a positive determinant of FDI. The concern that labour costs might be proxying for labour productivity holds all the more strongly for models that do not include proxies for labour productivity (other than labour costs themselves), such as in the studies by Wheeler and Mody and by Billington.

Head, Ries and Swenson evaluate the location choice of Japanese multinationals for the fifty-states of the U.S. (1999). In particular, the authors evaluate the "760 new Japanese-owned manufacturing plants that began operations in the US between 1980 and 1992," using a conditional logit model and pooling data across states and years (ibid.: 198). In fuller specifications of their FDI model that include measures for regional and agglomeration effects, the authors find a significant positive relationship between manufacturing wages and location choice. However, their model includes neither measures of nor proxies for labour productivity and, as with Cooke and Noble, the authors argue that the positive sign may result from wages proxying for labour productivity.

Culem looks at total bilateral FDI flows, normalized relative to the GDP of the source country, among the U.S., Germany, France, the United Kingdom, the Netherlands, and Belgium

for the years 1969 to 1982, pooling data across countries and over time and with regional breakdowns (1988). Labour productivity is controlled for directly, in that the two measures of labour costs are, in separate regressions, the *unit* labour costs of the host country and the *unit* labour costs of the host country minus the *unit* labour costs of source country. For all bilateral flows among the six countries, FDI is estimated to be significantly less in countries with higher unit labour costs, for both measures of labour costs. These results are consistent with Schneider and Frey, Jun and Singh, and the "conventional wisdom" more generally. Results are less clearcut for regional breakdowns. For both FDI within Europe and from the U.S. into Europe, for instance, a negative relationship is found between FDI and the unit labour costs of the host country and a positive relationship is found between FDI and the unit labour cost differential, with results statistically significant for FDI within Europe; for FDI from Europe into the U.S., a positive though not statistically significant relationship is found between FDI and both measures of labour costs.

Friedman, Gerlowski and Silberman evaluate announced decisions of foreign multinationals to establish new manufacturing plants in the forty-eight contiguous states of the U.S., using a conditional logit model and pooling data across states and three sub-periods between 1977 and 1988 (1992). Controlling for labour productivity in manufacturing by state, the authors estimate that the decision to undertake FDI in a state is negatively affected by higher manufacturing wages, a statistically significant result. Evaluating FDI decisions for only Japanese or only European multinationals also yield negative relationships, though statistically significant only for Japanese multinationals.

3.2 The effects of unions on FDI

Friedman, Gerlowski and Silberman find that the likelihood of FDI being undertaken is significantly greater in U.S. states with higher unionization rates, including FDI undertaken only by Japanese multinationals (*ibid*.). However, this result is from a model that includes manufacturing wages and labour productivity and so abstracts from possible union wage effects. In contrast, Head, Ries and Swenson find the opposite, that the likelihood of FDI being undertaken by Japanese multinationals is less, sometimes significantly so, in U.S. states with higher unionization rates (in model specifications with measures for regional and agglomeration effects, though the coefficient estimate on the unionization rate is positive but not statistically significant in specifications without these measures) (*ibid*.). Similar to Head, Ries and Swenson, Cooke and Noble find that outward U.S. FDI is significantly less in developed and less developed countries with higher unionization rates, in models that include labour costs but not labour productivity (*ibid*.). For both these studies, though, labour costs may proxy for labour productivity and so the implications regarding union wage effects are ambiguous. Cooke and Noble authors also estimate FDI to be significantly less in countries with more centralized wage setting, with centralization measured by a dummy variable that "Equals Yes (1) if parties generally negotiate contracts beyond company-wide level; equals No (0) otherwise" (Cooke and Noble 1998: 583). In an earlier study, Cooke came to the same conclusions for outward U.S. FDI in nineteen OECD countries (1997).

Karier looks at outward U.S. FDI in thirty-two manufacturing industries in ten developed and less developed regions of the world in cross-sectional regressions for 1982 (1995). FDI is measured variously as the ratios of foreign to domestic value-added, foreign to domestic sales, and foreign to domestic employment. The author's models include variables for both unionization rates in the U.S. for the thirty-two industries and unionization rates abroad for the ten regions. As the models do not include measures of labour costs, results on unionization rates include possible union effects on labour costs. For domestic unionization rates, coefficients estimates are sometimes positive and sometimes negative, depending on the model specification, but never statistically significant. For foreign unionization rates, coefficient estimates are consistently positive but generally insignificant. Summarizing his findings, Karier

writes that "these results suggest that unionization in the United States and abroad are not particularly important in determining which U.S. firms invest abroad or where they invest" (*ibid*.: 117).

3.3 The effects of worker rights on FDI

In addition to labour costs, unions, and the centralization of wage setting, Cooke and Noble also evaluate the effects of worker rights on outward U.S. FDI, using the total number of ILO conventions ratified by a country as a measure of worker rights (*ibid*.). The authors find that FDI is significantly greater in countries with more ratifications.

An OECD study evaluates the correlation between annual average total FDI inflows from 1995 to 1998 and a measure of freedom of association and collective bargaining rights, for seventy-five developed and less developed countries (OECD 2000). The OECD measure is constructed by compiling up to a paragraph of text for each of three categories: restrictions on the right to establish free unions; restrictions on the right to strike; and protection of union members and collective bargaining rights. Based on this text, a panel of evaluators gives each country an overall score of 1, 2, 3 or 4, with 1 indicating weakest rights and 4 indicating strongest rights. The correlation coefficient between FDI and this measure is small but positive, at 0.20. Measuring FDI inflows in per capita terms, the coefficient is 0.41. That is, FDI tends to be greater in countries with better worker rights scores, absent controls for other determinants of FDI.

Rodrik evaluates outward U.S. manufacturing FDI in forty countries, measuring FDI as the value of such investment from 1982 to 1989 relative to the stock of such investment in 1982 (1996). Rodrik's measures of worker rights include the number of total ILO conventions ratified, the number of ILO conventions ratified that pertain to core worker rights, the Freedom House democracy index (which addresses worker rights of freedom of association and collective bargaining), scaled to range in value from 0 for least democratic to 1 for most, and an index of child labour. Rodrik's child labour index is constructed by coding text from ILO sources and the U.S. State Department's *Country Reports on Human Rights Practices*. Two sorts of problems are coded, problems with child labour legislation and problems with enforcement of child labour legislation. A country gets a score of 0 for no problems observed, 1 for either problem observed, and 2 for both problems observed.

Rodrik finds no relationship between U.S. manufacturing FDI and the number of ILO conventions ratified. He finds a significantly positive relationship with the democracy index and a significantly negative relationship with the child labour index. That is, FDI is estimated to be greater in countries with stronger worker rights, as indicated by these measures. In the same study, Rodrik also constructs a model of manufacturing labour costs and again finds a significantly positive relationship with the democracy index and a significantly negative relationship with the child labour index. That is, manufacturing labour costs are estimated to be higher in countries with stronger democracy and less child labour by these measures. Rodrik later more fully explored the relationship between manufacturing wages and the democracy index and came to the same conclusion (1999). Rodrik's FDI model does not control for labour costs, and so the result of more FDI in countries with stronger worker rights includes the effect of worker rights on labour costs. The differences between Rodrik's results on FDI and labour costs might seem contrary, given the empirical evidence and theoretical expectation that higher labour costs can negatively effect FDI, controlling for labour productivity. Such a reading is given to these results by Freeman, who refers to them as "inconsistent" (Freeman 1996: 103). However, there would be inconsistency only if labour costs were the sole channel through which worker rights affect FDI. The labour cost effects of worker rights on FDI might be more than offset by other positive effects of worker rights, such as through facilitating human capital development and political and social stability.

3.4 The effects of political and social instability on FDI

Schneider and Frey use as a measure of political instability the number of political strikes and riots in a country and find that FDI is significantly less where political instability is greater (*ibid*.). Also tested in their regressions were the Institutional Investor country credit rating index, constructed from surveys of international bankers and based on a number of economic and political factors: "economic outlook," "debt service," "financial reserves/current account," "fiscal policy," "political outlook," "access to capital markets," "trade balance," "inflow of portfolio investment," and "foreign direct investment" (Erb, Harvey and Viskanta 1996: 30)). The authors find that FDI is significantly greater where country risk by this measure is lower.

Wheeler and Mody construct a principal component measure of country risk that incorporates a wide range of variables related to political and social stability (*ibid*.). Though not a statistically significant relationship, the authors estimate FDI to be somewhat greater where country risk is lower.

Jun and Singh use three measures of political and social instability in their analysis (*ibid*.). Two are from Business Environment Risk Intelligence (BERI), constructed from surveys of international experts. The BERI operational risk index addresses a similar range of business risk factors as the Institutional Investor index while the BERI political risk index addresses political and cultural fractionalization and "societal conflict involving demonstrations and street violence" (*ibid*.: 81). The authors find FDI to be greater, significantly so for most model specifications, where country risk by both these measures is lower. The authors also use "the number of workdays lost due to industrial or civil strife" in their regressions and find that FDI is generally estimated to be less in countries having more workdays lost, with borderline (10 percent) statistical significance in some specifications (*ibid*.: 87).

Summing up, the evidence of the effects of labour costs on FDI is mixed, but leans toward suggesting that higher labour costs negatively affect FDI. This is more clearly so for the two studies that directly control for labour productivity (Culem 1988; Friedman, Gerlowski and Silberman 1992). Regarding the effects of unions, the evidence is inconclusive. Regarding worker rights, all three studies surveyed suggest that FDI tends to be greater in countries with stronger worker rights, contrary to the "conventional wisdom." Similarly with worker rights, the studies on political and social instability suggest that greater instability negatively affects FDI. The findings of these prior studies are consistent overall with the findings of the present study.

4. Measures of worker rights

Measures of worker rights were constructed largely along the lines of the ILO's four "fundamental rights at work," for freedom of association and collective bargaining, child labour, forced labour (not used in this study, for reasons noted below), and gender inequality.

The general approach is to employ multiple measures for each of the four "fundamental rights," rather than fewer composite measures. There are two reasons for this. The use of multiple measures enables one to more adequately address causal specificity -- the ways in which, for instance, different aspects of FACB rights or different kinds of inequality might differently affect labour costs and FDI location. The use of multiple measures also provides a test of robustness, for instance as regards the different types of measurement error to which different measures are prone.

This paper restricts the definition of "discrimination in respect of employment and occupation" and solely addresses gender inequality (ILO 1998: 7). There are several reasons for this. The focus on gender rather than other forms of inequality is both because data with gender breakdowns are far more available and because of the pervasive nature of gender inequality, whatever the cultural or demographic makeup of a country (World Bank 2001). As for the focus

on inequality rather than discrimination, the latter is generally defined in economics as residual inequality after accounting for other determinants of a given employment outcome, such as earnings (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 that the ILO uses a very broad definition of discrimination, in essence equating discrimination with not only inequality in employment outcomes but with inequality in the determinants of employment outcomes. This is apparent from Convention 111, titled "Discrimination (Employment and Occupation)," one of the key conventions undergirding "fundamental rights at work." Convention 111 states:

> For the purpose of this Convention the term *discrimination* includes...any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation...For the purpose of this Convention the terms *employment* and *occupation* include access to vocational training, access to employment and particular occupations, and terms and conditions of employment [italics in original].

The reference to "equality of opportunity" and "access to vocational training" motivates evaluating gender inequality in educational attainment and literacy, not employment outcomes, strictly speaking, but rather determinants of employment outcomes.

Measures of worker rights and variables in the wage and FDI models are generally for the mid-1990s, with all models cross-sectional in form and with countries as units of observation. This cross-sectional approach results from information constraints for years prior to the mid-1990s for the newly constructed measures of worker rights constructed from coding textual sources. In short, the quality of the textual information used to construct these measures is considerably poorer for earlier years, when existent at all. (It also seems doubtful that such measures for future periods will do well in capturing changes within countries, given that there is at present no coordination between the collection and publication of textual information and the construction of indices and thus no assurance of consistency over time in the textual sources.)

When data are available annually, five-year averages for the 1993 to 1997 period are constructed. The exceptions are: variables in the wage model, which are six-year averages for the 1992 to 1997 period (to obtain several more observations, particularly regarding wages and value-added); and the dependent variable in the FDI model, which is a seven-year average for the 1993 to 1999 period (accounting for a somewhat lagged response to explanatory variables for the 1993 to 1997 period and yielding a slightly better modelling fit).[4] In a number of cases, data are not available annually, in which case data for 1995 or the nearest available year was used.

For 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 here. What follows are brief descriptions of the measures constructed from coding textual information along with descriptions of other more generally available measures of worker rights that are used here. Fuller descriptions of the newly constructed indices are available elsewhere (Kucera 2000, 2001). Additional information on data sources is provided in an appendix.

[4] In the FDI model, the variable on wages/value-added is also for the 1992 to 1997 period, again to increase the number of observations but also to facilitate comparison of results from wage and FDI models.

4.1 Freedom of association and collective bargaining measures

Seven measures related to freedom of association and collective bargaining (FACB) are used.

Unionisation rate. This is defined as 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 thirty-seven evaluation criteria that address *de jure* as well as *de facto* problems, leaning in emphasis toward the latter. This contrasts with prior work using the number of ratified ILO Conventions as an indicator of worker rights, which is not only purely *de jure* but does not necessarily correspond with actual legislation within a country (Rodrik 1996; Cooke and Noble 1998).

The thirty-seven evaluation criteria are based on ILO Conventions 87 ("Freedom of Association and Protection of the Right to Organise") and 98 ("Right to Organise and Collective Bargaining") and related ILO jurisprudence, as well as problems noted in textual sources. The measures are constructed in unweighted (that is, equally weighted) and weighted form, scaled from 0 to10, with 0 indicating the best possible score (least violations observed) and 10 indicating the worst (most violations observed) possible score.

The method of construction consists of the following steps. First, three textual sources are examined, the International Confederation of Free Trade Unions' (ICFTU) *Annual Survey of Violations of Trade Union Rights*, the U.S. State Department's *Country Reports on Human Rights Practices*, and the ILO's *Reports of the Committee on Freedom of Association*. Textual sources are comparatively rich for FACB rights, with all three sources covering a wide range of countries, published with at least annual frequency, and using definitions of FACB rights that are by and large consistent with ILO Conventions and jurisprudence. Partly because of the better quality of textual information, lessening a key source of mismeasurement error, more confidence is placed in the FACB measures and derived results than in the other indices constructed from textual sources (for child labour and forced labour).

Problems found regarding the thirty-seven evaluation criteria are then coded with letters "a," "b," or "c," indicating each of the different information sources, respectively. Next, a dummy variable is constructed for each country in which an observation of a problem in any of the three information sources is given a value of 1 and no observations in any of the three sources is given a value of 0, 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, with greater weights indicating what are judged to be more severe problems (based in part on the qualitative language used in the *Reports of the Committee on Freedom of Association*). Dummy variables for each country are then multiplied by the weights, and then this product is summed across the evaluation criteria to yield, for each country, a non-scaled raw score. The non-scaled measures are then re-scaled to range from 0 to 10, with 10 equal to the maximum observed non-scaled score (not maximum *possible* non-scaled score).[5] The same procedure is used for the unweighted measures, aside from multiplying by the weights.

A hypothetical example of this method is illustrated in Table 1. Column A shows the thirty-seven evaluation criteria grouped by six categories: freedom of association and collective bargaining-related civil liberties; right to establish and join union and worker organizations; other union activities; right to collectively bargain; right to strike; and export processing zones. It should be emphasized that the descriptions of the thirty-seven evaluation criteria listed in column A are labels, not definitions. Each of the evaluation criteria are based on a detailed set of definitions and decision rules, indicating relevant ILO Convention articles and jurisprudence passages; how to classify the diverse range of problems noted in the information sources; and

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

how the various evaluation criteria relate to each other (in terms of mutual exclusivity, how a single problem might imply more than one evaluation criteria, and so on). The aim is to have a sufficiently detailed set of definitions and decision rules that different evaluators would arrive at the same (or at least very similar) results. That is, the aim is reproducibility.

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) is to avoid double counting, for the different sources are often describing the same problem in a country. Indeed, the U.S. State Dept. reports are based in part on the ICFTU reports and information from the ILO, and the ICFTU reports are in turn based in part on information from the ILO.

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.[6] In addition, any country for which there are general prohibitions of the right to establish and join union and worker organizations (row 6), general absence of the above resulting from socio-economic breakdown (row 7), or general prohibitions of the right to collectively bargain (row 24) receive a default score of 10. In spite of the differences in construction, the correlation coefficient between the unweighted and weighted measures is 0.99.[7] (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. This is a dummy variable for observations of FACB violations in export-processing zones, with 1 indicating violations found and 0 indicating otherwise, and is based on the thirty-seventh row of Table 1, taken by itself.

Complementary measures regarding FACB are:

Civil liberties index, Political rights index, and **Democracy index**. All three indices are constructed by Freedom House and provide useful indicators of the broader rights context within which worker rights are situated.[8] They also provide measures of important aspects of political and social stability within a country. The civil liberties index is partly based on a consideration of FACB rights. Of the fourteen sets of questions addressed in the construction of the index, one is: "Are there free trade unions and peasant organizations or equivalents, and is

[6] The thirty-seven evaluation criteria could also be aggregated with principal components or cluster analysis, giving more weight to more frequently observed violations. This was not thought to be particularly useful for this study, however, as some of the least frequently observed violations, such as those related to basic civil liberties, may well be of greater importance as regards the effects of FACB rights on labour costs and on FDI through labour costs and political and social stability.

[7] There is also a difference in construction between weighted and unweighted measures as regards the treatment of excluded sectors. It is assumed that there is a hierarchy of violations, such that the exclusion of a sector from union membership (rows 15 and 16) presupposes exclusion from collective bargaining (rows 29 and 30) which itself presupposes exclusion from the right to strike (rows 34 and 35). For the weighted measures, weights are therefore greater for lower-numbered rows and, for example, if problems are found in rows 29 and 34, only row 29 was coded, since the higher weights of lower-number rows addresses the assumed hierarchy of violations. (This holds even if the violations noted in rows 29 and 34 are for different tradeable sectors.) The unweighted measure also assumes this hierarchy of violations but in a different manner. Here, for instance, if a violation is only observed in row 29, both rows 29 and 34 are coded. In practical terms, these differences between weighted and unweighted measures come to little as regards cross-country statistical analysis, given that the correlation coefficient between the two measures is 0.99.

[8] Freedom House is a non-profit organization based in the U.S. that describes itself as follows: "Non-partisan and broad-based, Freedom House is led by a Board of Trustees composed of leading Democrats, Republicans, and independents; business and labor leaders; former senior government officials; scholars; writers; and journalists" (www.freedomhouse.org/aboutfh/index.htm).

there effective collective bargaining? Are there free professional and other private organizations?" (Freedom House 1999: 548). These questions come under the category of "association and organizational rights," and the other three categories considered in the construction of the civil liberties index are "freedom of expression and belief," "rule of law and human rights," and "personal autonomy and economic rights." The political rights index addresses questions relating to free and fair elections, the competitiveness of political parties, self-determination, and discrimination. The democracy index is the average of the civil liberties and political rights indices.

The Freedom House measures are rescaled to be directly comparable with FACB indices, from 0 to 10, with 0 indicating the best and 10 indicating the worst possible score. Correlation coefficients between the civil liberties index and the unweighted and weighted FACB indices are 0.54 and 0.57, respectively (0.50 and 0.54, respectively, for the political rights index). That is, there is a moderately strong positive correlation, by these measures, between FACB rights for workers and civil liberties and political rights at large.

4.2 Child labour measures

Five measures of child labour are used (nine counting breakdowns by sex).

LFP rate, 10-14 years, total, male and female. These are ILO estimates of the labour force participation rates of those in this age group, broken out by sex. Note that these and the following measures do not address the youngest child labourers**.**

2nd educ. NON-enroll rate, total, male and female. Defined as 100 minus gross secondary education enrollment rates, broken out by sex. This measure provides a useful complement to labour force participation rates, for which measurement error is "particularly problematic at the tails of the age distribution" (Mehran 2000: xi). The correlation between non-enrollment rates and labour force participation rates is quite high, with a correlation coefficient of 0.84 for the total category as of 1995. While non-enrollment 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 washes out in the analysis of cross-country variation (the standard result of mismeasurement error).

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

CL in tradeable sectors index. This index is based on summing dummy variables for evidence recorded in textual sources of child labour in four tradeable sectors plus construction (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 possible and actual value from 0 to 5, 0 for no evidence found in any sector, 5 for evidence found in all sectors.

CL in tradeable sectors index + worst. This index is based on the prior index but adds two additional dummies for evidence of the "worst forms of child labour" found in tradeable sectors, that is: 1. forced labour and 2. other harmful to health and safety (as defined in ILO Convention 182, titled "Worst Forms of Child Labour"). This index ranges in possible and actual value from 0 to 7.

CL in all sectors index. This variation adds two sectors to the four tradeable sectors plus construction: 1. subsistence (family-use) agriculture or fishing and 2. informal (or small-scale) service sector ("all" refers to all coded sectors, not all possible sectors of the economy). This index ranges in possible and actual value from 0 to 7.

These sectors and categories were not determined on *a priori* grounds but rather after having first read much of the textual information that was subsequently coded. These sources are various ILO publications and the U.S. 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 and otherwise dangerous child labour in these sectors.

Regarding the construction of worker rights measures, it should be mentioned that child labour is fundamentally different from rights of freedom of association and collective bargaining. FACB rights are inherently more qualitative in nature, whereas it is possible to develop reliable quantitative estimates of the number of children in different sectors of the economy (as indeed the ILO's IPEC/SIMPOC program is doing for a sizable number of countries). It is hoped that in the future the ILO's estimates of labour force participation rates for 10 to 14 year olds will be improved upon in terms of both the total numbers of economically active children and how these children are distributed among sectors and occupations. Such sectoral and occupational breakdowns are of vital importance, given the highly heterogenous nature of child labour. Even a two-way split between child labour in traded versus non-traded sectors (or some other split, such as wage versus non-wage), could improve the understanding of child labour. Since the number of child labourers can be counted, the child labour measures constructed by coding textual information should be understood as purely provisional in nature.

4.3 Forced labour measures

Forced labour indices. Textual sources were coded for evidence of forced labour in four sectors, similar to the five sectors for child labour but combining sectors 1 and 2 as a single manufacturing sector, for each of six forms of forced labour.

1. Chattel slavery on behalf of private agents
2. Bonded labour or serfdom on behalf of private agents
3. Other or not specified on behalf of private agents
4. In private prisons or state-run prisons on behalf of private agents
5. In state-run prisons other or not specified
6. Resulting from state policy other than prison labour and "grey areas"[9]

That is, evidence of forced labour was coded into twenty-four columns -- four sectors within each of the six forms. Forced labour exists in other sectors and other forms, but the above were thought most relevant to the debates on worker rights and global competitiveness. From these columns, several forced labour index variations were constructed based on all six forms and on just the first three forms, which exclude prison labour and that resulting from state policy. These indices ranged from a 0 to 24 (possible) value variation (counting all forms and sectors individually) to a simple dummy variable, 0 for no evidence found of forced labour, 1 for evidence found.

The textual sources used to construct the forced labour indices are various ILO publications and the U.S. State Department's *Country Reports on Human Rights Practices*. In constructing

[9] "Grey areas" are those for which there is contention whether they should be considered forced labour. These relate to compulsory community, national or military service, restrictions on government employees quitting their jobs, compulsory work by students and faculty in agriculture, compulsory overtime work, and non-payment of wages.

the indices and based on additional reading, it became fairly evident that connections between forced labour and the formal manufacturing sector (for which the wage data apply) as well as with FDI inflows appear tenuous at best. It does not seem credible to believe that any observed correlation at the country level between the forced labour indices and manufacturing wages or FDI could be considered causal. It was also found that econometric results on the indices are highly sensitive to sample bias. In the FDI models, for instance, changing the sample by just three countries leads to large swings in coefficient estimates, of opposite signs for some model specifications.[10] And unlike the constructed measures of FACB and child labour, there are no alternative measures of forced labour that one might use to compare results. For all these reasons, the forced labour indices are not used in this study.

4.4 Gender inequality measures

Five measures of gender inequality are used.

% female in industry. The female percentage of industrial employment.

% female admin.-managerial /% female labour force. This measure of women's representation in administrative and managerial occupations as well as the following measure is intended to provide a rough sense of occupational segregation, particularly as regards "glass ceiling" hypotheses. Dividing by the female percentage of the labour force abstracts from cross-country differences in female labour supply.

% female profess.-tech/% female labour force. A measure of women's representation in professional and technical occupations. In contrast with the prior measure, women in many regions of the world are disproportionately represented in these occupations. That is, the measure in these regions is greater than 1 on average (table A.1).

Female/male educ. attainment. The female-to-male ratio of the average years of educational attainment for those 15 years of age or older. 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/male literacy. The female-to-male ratio of literacy rates. As with the ratio of educational attainment, these are included in the FDI model with either male or total literacy rates as controls.

Female-to-male wage ratios were also constructed, but these were available for relatively few countries and so were not used.

Shown in appendix table A.1 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.[11] 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 A.2 are correlation coefficients between, respectively, GDP per capita (converted both by U.S. dollar exchange rates and purchasing power parity conversion rates), the dependent variables of the wage and FDI models, and measures of worker rights. The shaded columns show the correlation coefficients between the GDP per capita and worker rights

[10] Whether because of mismeasurement error or the nature of those forms of forced labour considered here, the forced labour indices consist of 0's for 80 percent of the 170 countries coded. Of the 20 percent of countries for which there are observations of forced labour, a disproportionate number drop out of the sample in the wage and FDI models as a result of missing wage, FDI, and other data. This highly skewed distribution provides a sense of the sensitivity to sample bias.

[11] FDI inflows are shown in table A.1 as the log of a country's percentage of world inflows, but the FDI models use as a dependent variable FDI inflows as the log of a country's share of world inflows.

measures. With the exception of the female percentage of industrial employment, a very 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. Taken GDP per capita as an indicator of development, these correlations are consistent with the view that there is a developmental aspect to worker rights. For the case of child labour, this point seems obvious, as underdevelopment and poverty are key causes of child labour. Consistent with this, correlation coefficients with GDP per capita are highest with labour force participation rates for 10 to 14 year olds and with secondary education non-enrollment rates, ranging between -0.70 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 be to try to come to a deeper understanding of the different developmental determinants of different worker rights.

5. Worker rights and labour costs: Empirical results

Debates about the effects of worker rights on global competitiveness – as regards both FDI location and trade competitiveness – tend to focus on whether worker rights hinder competitiveness by raising labour costs. This thinking underlies the "conventional wisdom." As such, it seemed worthwhile to directly explore this hypothesized mediating link between worker rights and FDI location. This analysis also sheds light on the debates on trade competitiveness, for if no relationship is found between certain worker rights and labour costs, then these worker rights will not affect trade competitiveness through labour costs.[12]

Manufacturing wages are used as a measure of labour costs, for data on these are available for a good number of countries and provide a useful proxy for labour costs in the sectors receiving FDI. In LDCs, the manufacturing sector continues to receive the largest share of FDI inflows, though this has been declining largely as a result of a compositional shift toward services. As of 1997, 50.1 percent of FDI flows into LDCs went to manufacturing (down from 66.8 percent in 1988), compared with 41.3 percent to services (defined to include utilities and construction and with transport/communications and utilities receiving the largest shares, 7.5 and 6.9 percent, respectively) and 4.6 percent to the primary sector. For developed countries, the shares in 1997 were 35.4 percent to manufacturing (down somewhat from 37.5 percent in 1988), 53.0 percent to services (with finance and trade receiving the largest shares, 19.6 and 12.2 percent, respectively), and 4.3 percent to the primary sector (not summing to 100 percent as a result of "unspecified" FDI) (UNCTAD 1999). Given the higher share of FDI going into manufacturing in LDCs than developed countries, results for effects of worker rights on manufacturing wages might be more relevant in explaining FDI in LDCs than developed countries (depending on how well manufacturing wages proxy for wages in all the sectors receiving FDI).

This section describes general characteristics of the wage and FDI models, the specification and theoretical motivation of the wage model, and then hypotheses regarding the effects of worker rights on wages and main econometric results.

For both wage and FDI models, econometric results are based on ordinary least squares and two-stage least 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. Both

[12] With the caveat that comparative (but not absolute) trade advantage plays out not at the country level but at the industry level, and so country level relationships may mask the industry level relationships that drive comparative trade advantage.

wage and FDI benchmark models pass these tests at conventional thresholds. Benchmark regressions generally make use of conventional independent variables with results similar to those found in prior cross-country econometric studies of wages and FDI. Results on measures of worker rights do not depend therefore on idiosyncratic model specifications.

For both wage and FDI models, results are shown 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 to all countries is vertical rather than horizontal. This expectation is based on differences in labour costs being a key determinant of vertical but not horizontal FDI, that there are large differences in labour costs between LDCs and richer countries, and that most FDI originates from richer countries. For both all countries and LDCs, results are shown with and without conventional regional dummy variables: East Asia/Pacific, South Asia, Latin America/Caribbean, Sub-Saharan Africa, Middle East/North Africa, and Eastern Europe. For samples of all countries, the excluded region is for the twenty-one older non-East Asia/Pacific OECD countries.[13] For samples of LDCs, the excluded region is for the Middle East/North Africa. (It is necessary to exclude one region to avoid perfect collinearity, and coefficient estimates on the included regional dummies should be interpreted relative to the excluded region.) 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.

In constructing benchmarks models, a *t*-statistic of 1 on a coefficient estimate is taken as a threshold for inclusion of the associated variable. Results reported are coefficient estimates and associated *t*-statistics, significance symbols (two-tailed, with *, **, and *** indicating significance at 10, 5, and 1 percent levels, respectively), and -- for benchmark regressions only -- the number of observations ("N" in tables), adjusted R^2s, and *F*-statistics.

Largely following Rodrik's study (1999), the equation for the benchmark wage model is:

Log (wages/emp. in manuf.) = c + Log (VA/emp. in manuf.) + Log (GDP/capita) + Manufacturing output % GDP + Urbanization rate + __

where c is a constant, _ an error term, and the definitions and motivations for inclusion of the remaining variables are as follows.

Log (wages/emp. in manuf.). The log of wages per employee in manufacturing.

Log (VA/emp. in manuf.). The log of value-added per employee in manufacturing.

Log (GDP/capita). The log of GDP per capita, with this and the two prior variables in current U.S. dollars.

These two prior independent variables account for most of the variation in manufacturing wages and can be considered the core economic model in that they represent labour productivity and levels of economic development. Rodrik motivates the inclusion of GDP per capita in wage models as "a handy proxy for other structural determinants correlated with levels of income.... It is also possible that GDP per capita enters [as positively significant] for reasons having to do with measurement error: if not all changes in productivity are captured in MVA [manufacturing value-added], some will show up in the estimated coefficient on aggregate GDP" (Rodrik 1999: 714, 717). For both variables, positive signs are expected and found.

[13] 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. Turkey is the one LDC among these countries, and the Middle East/North Africa dummy was excluded from samples of LDCs on the grounds of regional proximity with Turkey.

Two other variables were included in the model in an attempt to capture other structural aspects of the economy. These are:

Manufacturing output % GDP. Manufacturing output as a percentage of GDP. The manufacturing sector might represent a relatively privileged, better-paid enclave in less developed countries with small manufacturing sectors. This might represent the large gap between workers in the formal and informal sectors for countries in which the formal sector is small. This notion is based both on anecdotal evidence and on examining the residuals of sparser versions of the model, which showed higher wages for sub-Saharan African countries than predicted by the model. Consistent with these observations, the sign is negative for regressions without regional dummy variables.

Urbanization rate. Urban population as a percentage of total population. Urbanization may reflect other structural aspects of the economy that might affect wages, such as the concentration of labour markets (Billington 1999: 66). Rodrik (1999) tests for the significance of this variable and finds a negative though not close to significant coefficient estimate. This study finds a negative and significant coefficient estimate for the sample of all countries without regional dummies. The variable provides a useful control for evaluating the direct relationship between measures of child labour and wages, abstracting from whatever effects urbanization may have on wages, for there is evidence of urbanization being an important negative determinant of aggregate child labour.[14]

Also included in all wage regressions but not shown in tables are three dummy variables to capture the four different classifications of wages in the dataset. The four classifications are wages and salaries, wages and salaries plus pension or insurance benefits, wages and salaries plus severance or termination pay, and wages and salaries plus pension or insurance benefits and plus severance or termination pay. The excluded classification is the first.

Among the other variables tested but not included as a result of their low *t*-statistics, two seem worth mentioning. Rodrik (1999) and the current study test for the effect on wages of trade openness, the sum of exports and imports relative to GDP. This addresses the question of whether greater openness might have a depressing effect on wages as a result of competitive cost-cutting pressures. However in neither study are coefficient estimates on the measure of openness close to significant. Also tested was a country's relative price level, measured as the log of the ratio of the purchasing power parity index for GDP to the exchange rate relative to the U.S. dollar. Though positive, as expected, the *t*-statistic on the variable is less than 1. Most cross-country variation in the relative price level is captured by GDP per capita, suggested by a strongly significant positive coefficient estimate on the relative price level measure excluding GDP per capita from the model. The result on the relative price level depends too on whether one converts GDP per capita to common currency terms via purchasing power parity or exchange rates. This study converts GDP per capita with U.S. dollar exchange rates, in order to facilitate internal consistency with measures of wages and value-added per employee and so that the effect of differences in purchasing power parity are squarely captured by the measure of relative price level. Converting GDP per capita with purchasing power parity, the coefficient estimate on the measure of the relative price level becomes significantly positive.[15]

Main results of the wage model regressions are shown in table 2. Columns A and C show results for all 88 countries in the sample and columns B and D show results restricting the sample to 65 LDCs. Columns A and B do not include regional dummies, and columns C and D

[14] For instance, the correlation coefficient between the urbanization rate and the total labour force participation rates of 10 to 14 year olds is −0.74. This is consistent with the result of a cross-country model of child labour, which shows a significant positive coefficient estimate on agricultural output as a share of GDP, controlling for per capita national income and other determinants of child labour (Ahmed 2000)

[15] This is consistent with Rodrik's results using the log of the ratio of the purchasing power parity index for consumption goods (rather than GDP) to the exchange rate relative to the U.S. dollar and converting GDP per capita via purchasing power parity conversion rates.

do. Regional dummies are included in Rodrik's wage model, though it is not quite clear from a theoretical viewpoint why they should be -- that is, what these dummies purport to represent. Moreover, there are strong regional patterns in measures of worker rights, and thus there is the potential problem of conflation between these measures and regional dummies (table A.1). The inclusion of regional dummies seems more clearly warranted for FDI models. For one thing, the vast bulk of FDI originates from just a few regions (the U.S., Canada, Western Europe and East Asia) and also flows
back predominately into these same regions (Hatem 1998: 73, 97). These patterns largely reflect the greater market potential of these regions, which FDI models must address directly. But they may also result to some extent from regional proximity and historical ties, which are partly captured by regional dummy variables.[16]

Regarding the wage model, an attempt was made to address structural variation among countries directly, through the variables on manufacturing share of output and the urbanization rate. (Worth noting in this regard is that the coefficient estimates on these variables often change considerably with the inclusion of regional dummies.) That this approach is reasonable is suggested by the models without regional dummies passing tests for underspecification (Ramsey RESET) and that adjusted R^2s increase but slightly and *F*-statistics decline considerably upon inclusion of the regional dummies. Nonetheless results are presented throughout both with and without regional dummies. This is to facilitate comparison with Rodrik's study as well as comparison between results of the wage and FDI models. When results vary considerably with and without regional dummies (as they do especially for FDI models), it is determined which regional dummies account for the difference, in an effort to shed light on which result may be more definitive.

Looking at the benchmark model results in the upper panel of table 2, note that aside from the estimate on the constant, coefficient estimates between all and less developed countries are very similar, though statistical significance varies more (columns A and B). The lower panel shows results (coefficient estimates and *t*-statistics) for each of the measures of worker rights entered singly into benchmark equations (the same structure of presentation holds for tables 4 to 6 for other wage and FDI modelling results). Here too, the coefficient estimates between all and less developed countries are often similar, though less regularly so than for estimates for benchmark model variables.

5.1 Freedom of association, collective bargaining and labour costs

Consistent with Rodrik's study titled "Democracies Pay Higher Wages," coefficient estimates on all three Freedom House indices are negative. They are significantly negative for the model specification closest to Rodrik's, evaluating all countries and including regional dummies (column C). This specification suggests that a one-unit decrease in the democracy index would result in a 4.8 percent increase in wages, somewhat less than the 6 percent estimated by Rodrik based on average annual data for 1985 to 1989 (compared to 1992 to 1997 for this study). Using a model specification nearly identical to Rodrik's suggests that a one-unit decrease in the democracy index would result in a smaller yet increase in wages, 2.8 percent, significant at the 10 percent level.[17] Given the similarity in specification, sample and data sources, the estimated

[16] The evidence on the importance of geographical distance is somewhat mixed, though, as suggested by a study evaluating the determinants of bilateral FDI flows from the U.S., Japan and Germany (Hufbauer, Lakdawalla, and Malani 1994).

[17] The specification differed from Rodrik mainly in that the relative prices used the PPP of GDP rather than consumption goods. As with Rodrik, GDP per capita was converted with the PPP index, rather than with the U.S. dollar exchange rate as the present study does elsewhere.

decline in the effect of democracy on wages appears to result largely from the different periods considered.

Coefficient estimates and *t*-statistics are consistently somewhat larger for the civil liberties than political rights index, opposite to Rodrik's tentative conclusion regarding the greater importance of the latter. Rodrik's conclusion is based though on simultaneous inclusion of these two indices in the model, which as he notes may be problematic given the high degree of correlation between them. (For mid-1990s period, simultaneous inclusion of the two indices yields variance inflation factors that fall just outside of acceptable thresholds.)[18]

For all countries, the significance of coefficient estimates on the Freedom House indices depends on whether one includes regional dummies. These differences can be traced to the Latin America/Caribbean and Middle-East/North Africa dummies, the former region having Freedom House indices somewhat lower and the latter higher than average for the sample of countries considered (that is, civil liberties and political rights by these measures are stronger than average in the Latin America/Caribbean region and weaker than average in the Middle-East/North Africa region) (table A.1). In a regression for all countries including the democracy index and only these two regional dummies, the coefficient estimate is negative on the Latin America/Caribbean dummy and positive on the Middle-East/North Africa dummy (-0.173 and 0.109 respectively). Deciding whether results with or without regional dummies are more definitive depends on a clearer understanding of the regional determinants of wages, but it is clear at any rate that the statistical significance of the result that wages are higher in democracies is not altogether robust for the mid-1990s, both as regards the exclusion of these two regional dummies and reducing the sample to just LDCs.

Turning to the unionization rate, prior research based on microdata for individuals in a number of developed countries indicates that wages are higher for union members, controlling for other determinants of wages (Freeman 1994). At odds with the expectation of a positive union wage effect, the coefficient estimates on the unionization rate are negative, though statistically insignificant in three of four specifications. However, the unionization rate is for the economy as a whole and may not proxy well for union membership in manufacturing.

As with the Freedom House indices, coefficient estimates on the constructed FACB indices were expected to be negative. For one ought to expect that violations of basic rights of freedom of association and collective bargaining, including violence against and imprisonment and firing of union members, would have a negative effect on wages. Consistent with this, all coefficient estimates on these measures are negative, though statistical significance is uneven, with no estimates for the sample of LDCs being significant. A persistent result throughout regarding the two main FACB indices, unweighted and weighted, is that coefficient estimates for LDCs are smaller than for all countries. Coefficient estimates suggest that a one-unit decrease in the indices of FACB rights would lead to between a 2.4 to 3.6 percent increase in manufacturing wages, depending on country samples and the inclusion of regional dummies. Opposite to the Freedom House indices, coefficient estimates on the two main FACB indices are somewhat smaller including regional dummies. Coefficient estimates on the measures of FACB rights in EPZs are also negative, though not close to significant.

Table 3 shows miscellaneous wage model results, selectively combining pairs of measures of fundamental rights at work for which estimates are fairly strong (to address robustness), interacting measures, and using instrumental variables in two-stage least squares regressions to address simultaneous causality. Panel I in table 3 combines the Freedom House civil liberties index with each of the two main FACB indices into benchmark equations. Without regional

[18] These findings are relevant to Rodrik's "tentative conclusions" that "the data seem to suggest that this paper's central finding on the relationship between democracy and wages is a consequence of political competition and political participation at large, rather than the rule of law, political stability, civil liberties, or specific labor rights" (Rodrik 1999: 733). Important to note is that Rodrik's tentative conclusions are based on more evidence than just the comparison of the civil liberties and political rights indices.

dummies, these show larger coefficient estimates and *t*-statistics for the FACB measures than the civil liberties index but with regional dummies the opposite, with estimates on all measures stably negative but statistically insignificant in all but one case. Panel II combines the two main FACB indices with selected child labour measures. Looking at results without regional dummies, coefficient estimates on the FACB indices range in value between -0.23 and −0.40, with three of four estimates significant at the 10 percent level or higher for all countries and one of four estimates for LDCs. As in table 2, coefficient estimates fall off in value with the inclusion of regional dummies but remain consistently negative.

Compared with the Freedom House indices, the constructed FACB indices are based more on observed violations than on a broader assessment of the less readily observable latent rights context within which these violations occur. It may be however that fewer violations against workers occur because activities related to freedom of association and collective bargaining are largely forestalled by workers' fear of reprisal. In addition, negative effects of violations of worker rights on wages are likely to be moderated where workers are able to effectively seek redress. It is on these grounds that the measures of FACB were interacted with the measures of civil liberties, with results shown in panel III (dividing the product of the civil liberties and FACB indices by 10 to maintain the value range of 0 to 10). While coefficient estimates on the interacted variable are sometimes larger than for either the FACB or civil liberties indices variable taken singly, none are statistically significant.

It might be the case that higher wages facilitate stronger rights of freedom of association and collective bargaining, with causality running from the former to the latter. To address the possibility of simultaneous causality, panel IV of table 3 shows results of two-stage least squares regressions using the political rights index and regional dummies as instruments for the two main FACB indices (along with 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 strong and between it and the error terms from ordinary least squares regressions are near zero. Without regional dummies in the model specification, coefficient estimates on both FACB indices are now more strongly negative, significant at the 5 percent level for all countries but not significant for LDCs. For regressions including regional dummies in the main equation, coefficient estimates become yet more strongly negative, though statistically significant only for all countries, at the 10 percent level. Taking these coefficient estimates for all countries at face value suggests that a one-unit decrease in the FACB indices would result in a 6.4 to 10.2 increase in wages. Rodrik's study also uses instrumental variables in two-stage least squares regressions, and his main conclusion, regarding the positive effect of democracy on wages, holds up through these tests for simultaneity bias.

5.2 Child labour and labour costs

There are two reasons to think that more child labour would result in lower wages, one related to wage discrimination against children and the other related to the aggregate supply of unskilled labour. Regarding the first, child labourers are commonly paid less than adults. Since this lower pay may not simply reflect lower productivity, it is expected that more child labour in manufacturing would lead to lower wages relative to labor productivity for the manufacturing sector as a whole.[19] But here one must consider compositional effects, for only a very small

[19] In a book evaluating child labour in India, Anker writes that "Researchers often use the crude assumption that children earn 50 per cent as much as adults [in terms of daily wages, whereas they are often paid the same when paid piece rates]. In the chapter on mosaic chips and limestone kilns, for example, children are said to earn about one-half as much as adult men and about three-fourths as much as adult women. While it is possible that there is some difference in the productivity of children and adults, *there does appear to be straightforward discrimination against child labourers in these circumstances*" (Anker 1998: 17, italics in original).

minority of child labourers are employed in the manufacturing and tradeable sectors, especially in the formal manufacturing sector for the wage data pertains. As Bachman writes, "Estimates of child laborers in export-related jobs hover around 5 percent of the total child-labor population" (Bachman 2000: 547). As such, the compositional relationship between measures of child labour in the economy as a whole and manufacturing wages is very loose, and so wage discrimination against children might occur at the enterprise level without appearing substantively in country level data. Child labour might 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-enrollment rates) are more relevant.

Returning to table 2, coefficient estimates on labour force participation rates for 10 to 14 years olds are all positive and consistently larger for females than males. Coefficient estimates on totals and females for both samples of countries without regional dummies are statistically significant at the 10 percent level or higher but are not significant with the inclusion of regional dummies. The change in both the size and significance of these coefficient estimates is traceable largely to the dummy variable for sub-Saharan Africa, the region for which child labour force participation rates are highest (table A.1) and for which coefficient estimates on the regional dummy are strongly positive. Coefficient estimates for secondary education non-enrollment rates are also all positive and consistently larger for females than males. For the sample of LDCs, all coefficient estimates on secondary education non-enrollment rates are statistically significant at the 10 percent level or higher, with or without regional dummies. Taking these estimates simply at face value suggests that a 10-percentage point increase in secondary education non-enrollment rates (that is, an increase in aggregate child labour by this measure) would result in a 7 to 8 percent increase in manufacturing wages in LDCs. This result on secondary education non-enrollment rates for LDCs is robust as regards the simultaneous inclusion of the two main FACB indices (table 3, panel II), and also upon dropping the urbanization rate and manufacturing share of output variables from the model (but not, we will see, with a model using as a dependent variable wages as a share of value-added). These positive estimates suggest, unexpectedly, that more child labour is associated with higher manufacturing wages, not lower as suggested by the wage discrimination and unskilled labour supply hypotheses. This result is at odds with Rodrik's indicating that more child labour -- using a 0, 1, 2, measure for the economy as a whole -- is associated with significantly lower manufacturing labour costs (Rodrik 1996). Whatever the measurement errors associated with the labour force participation rates for 10 to 14 years olds and secondary education non-enrollment rates, these errors are almost certainly less than for child labour index employed by Rodrik, and as such the results of the present study seem more definitive in this regard.

For the measures of child labour in tradeable sectors, coefficient estimates are generally negative, consistent with the view that more child labour in these sectors is associated with lower wages. However, none of these estimates are close to being statistically significant, with all *t*-statistics less than one in absolute value. Note too the negative signs for the estimates on child labour in all sectors index. This measure is compositionally closest to the labour force participation rate for 10 to 14 year olds, as both are aggregate measures. The contrasting result in terms of the signs of the coefficient estimates between these aggregate measures may well result from measurement error in the child labour in all sectors index, which would also likely affect the indices on child labour in tradeable sectors.[20]

[20] Regarding these negative signs, these may also result from reverse causality in that the payment of lower wages (relative to productivity and the other determinants of wages) might lead to more child labour, as families would have a more difficult time surviving being paid lower wages and so would be more reliant on the work of children. Such reverse causality is plausible and ought to apply as strongly regarding measures of child labour in the economy as a whole, where signs of coefficient estimates are positive, as on measures of child labour in tradeable sectors.

Taking all the evidence together and taking it at face value, the stronger and more robust estimates on the relationship between child labour and manufacturing wages suggest a positive rather than negative relationship, that more child labour leads to higher manufacturing wages. This requires a plausible explanation. One possibility is suggested by Galli regarding a causal channel through the supply of skilled labour (Galli 2001). That is, more child labour in the economy as a whole might tend to restrict the supply of skilled labour, thus driving up the wages of skilled labour in manufacturing. The strength of this effect would depend on the relative importance of skilled versus unskilled labour in manufacturing. It might be too that the findings result not for causal reasons but from the aggregate level measures of child labour proxying for some other determinants of wages that are not captured in the wage model. Until these issues are resolved, one ought not to take these results too literally. They are perhaps better interpreted as a non-result, as an absence of evidence for the view that more child labour leads to lower wages, at least at the country level. Given the small share of child labourers employed in the formal manufacturing sector, for which the wage data pertain, this conclusion should not surprise.

5.3 Gender inequality and labour costs

Women are nearly universally paid less than men, even after accounting for a range of other determinants of earnings, such as education, tenure, occupation and industry.[21] As such, the female percentage of industrial employment may proxy for gender earnings gaps. Consistent with this and also with prior industry level studies regarding the negative effect of female representation on earnings, the expected and found sign on the coefficient estimates for the female percentage of industrial employment are negative (Fields and Wolff 1997: 1). However only one of four estimates is statistically significant, at the 10 percent level, for the sample of LDCs without regional dummies. Other measures of gender inequality were not tested in the wage models, for no clear hypotheses motivate their inclusion.

Summarizing the effects of the different worker rights on labour costs, no strong evidence is found that more child labour or greater gender inequality by these measures are associated with lower labour costs. Put more broadly, no strong evidence is found that weaker worker rights by these measures are associated with lower labour costs and therefore with greater global competitiveness through lower labour costs. As regards FACB rights, however, a fair amount of evidence suggests that weaker rights are indeed associated with lower labour costs, in both this and Rodrik's study (1999). As regards the effects through labour costs of worker rights on global competitiveness – in terms of both FDI location and trade competitiveness – it is therefore FACB rights that warrant particular scrutiny.

Before moving on to the next section on worker rights and FDI location, a few additional considerations are worth noting regarding the relationship between the analysis of labour costs and FDI. The main reason for the analysis of labour costs is to evaluate the effects of worker rights on global competitiveness through labour costs. The analysis of FDI location complements this approach by comparing fuller and reduced form FDI models, the latter excluding measures of labour costs relative to labour productivity. For the fuller FDI models, coefficient estimates on worker rights thus provide estimates of the non-labour cost effects of worker rights on FDI, such as through facilitating political and social stability and human capital development. For the reduced form FDI models, coefficient estimates on worker rights provide estimates of the non-labour cost *plus* the labour cost effects of worker rights on FDI. As suggested by the above literature survey, there are two ways one can control for the effects on FDI of labour costs relative to labour productivity: the two-measure approach, using separate

[21] See the World Bank's *Engendering Development* for a summary of studies on gender earnings gaps that control for observed human capital differences (World Bank 2001).

measures for labour costs and labour productivity (Friedman, Gerlowski and Silberman 1992), and the single measure approach, using a measure such as labour cost per unit of output (Culem 1988). The FDI model used here includes GDP per capita. This effectively closes off the two-measure approach, for there is problematically high collinearity when simultaneously using GDP per capita, labour costs, and labour productivity as independent variables. This is implicit in the high adjusted R^2s of the wage models (table 2). As a result, the single measure approach is used, with wages as a share of value-added as the measure of labour costs relative to labour productivity.

For the sake of symmetry (and consistent with the logic of path analysis), the wage model results shown in table 2 were redone using the log of wages as a share of value-added as the dependent variable and dropping the log of value-added per employee as an independent variable (to eliminate simultaneity bias by construction). Results are shown in table 4. It is more difficult to model wage shares than wages, as suggested by the low adjusted R^2s of the models, especially for LDCs. On these grounds, the results in table 4 are less definitive on their own terms than those of table 2. One key difference between tables 2 and 4 is for the aggregate measures of child labour -- labour force participation rates of 10 to 14 year olds and secondary education non-enrollment rates. The coefficient estimates on these measures fall off considerably in value and none maintain their statistical significance.[22] As regards FACB rights, evidence remains that weaker rights have a negative effect on wages. This is particularly true of the Freedom House indices, for which coefficient estimates increase in both magnitude and significance. In contrast, coefficient estimates on the two main FACB indices fall off somewhat. There is also a change in sign on the coefficient estimates for unionization rates for regressions without regional dummies, from negative to positive, and a change in sign, from negative to positive, on the estimates for FACB rights in EPZs. This change in models, from wages to wage share, leads to the same general conclusion as before, that FACB rights merit particular attention as regards the effects of worker rights on global competitiveness through labour costs.

6. Worker rights and FDI: empirical results

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 + _,

where c is a constant, _ an error term, and the definitions and motivations for inclusion of the remaining variables are as follows.

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, the dependent variable for results shown in table 4. When this variable is included in the FDI

[22] This results not so much from the change in the dependent variable but from dropping the log of value-added per employee as an independent variable, and is consistent with the aggregate child labour measures proxying in the model for the log of value-added per employee and with the negative correlation between the measures. For instance, the correlation coefficient between the log of value-added per employee and total secondary education non-enrollment rates is −0.52. Consider the result shown on total secondary education non-enrollment rates for the sample of LDCs without regional dummies (table 4, column B, row 21). Including the log of value-added per employee as an independent variable in the model yields a coefficient estimate on total secondary education non-enrollment rates of 0.009, significant at the 5 percent level. This is substantively the same result as that using wages per employee as a dependent variable (table 2, column B, row 22).

models, coefficients on measures of worker rights provide estimates of their non-wage share effects on FDI, for instance through political and social stability and human capital development; when dropped from the FDI models, yielding reduced form models, these coefficients provide estimates of the wage share plus non-wage share effects of worker rights on FDI, with the difference between the coefficient estimates yielding 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 simply referred to as the wage effect hereafter.

Log population. The log of population.

Log (GDP/capita). The log of GDP per capita, in constant 1995 U.S. dollars.[23] 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. 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. Similar to the wage model, GDP per capita also captures a share of the cross-country variation of structural determinants that positively influence FDI location, as will be noted. For these reasons, the expected and found signs of coefficient estimates on both variables are positive, with 1 percent statistical significance in all benchmark FDI regressions. The population and GDP per capita variables do much of the explanatory work in the benchmark FDI models, providing evidence that market potential as well as the structural determinants of FDI captured by GDP per capita are among the most important determinants of FDI location. Worth noting too is that the inclusion of GDP per capita in FDI models enables one to control for possible developmental aspects of worker rights as suggested by table A.2; that is, the inclusion of GDP per capita enables one to evaluate the effects of worker rights on FDI for any given level of development.

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: 66).

Trade % GDP. The sum of exports and imports as a percentage of GDP, this is common measure of trade openness.[24] Consistent with prior studies, greater openness is found to have a positive effect on FDI. 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: 1). There is also evidence that the presence of multinationals facilitates access to global markets for domestic producers (Aitken, Hanson and Harrison 1997; Hanson 2000). 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, for instance based on Granger causality tests, that openness largely precedes FDI (Jun and Singh 1996). Trade openness along with the population and GDP per capita measures provide the most strongly and

[23] Expressed in real terms for the sake of consistency with the log growth rate of GDP, which is also tested in the model.

[24] It does not, incidentally, make any substantive difference in results if one focuses just on exports or imports rather than total trade, as some studies do (Jun and Singh 1996; Billington 1999). Consistent with this, coefficient estimates in benchmark FDI models on either exports or imports as a percentage of GDP are nearly identical.

stably significant explanatory variables in the benchmark FDI models, with coefficient estimates on trade openness most often having 1 percent 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 (Billington 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 skill (that is, human capital) levels, with the expected and found sign positive.[25]

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 does 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 indictor of the available workforce), the lending interest rate (an indicator of borrowing costs), industry value-added as a percent of GDP and manufacturing value-added as a percent of GDP (both indicators of the degree of industrialization), taxes on international trade as a percent 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 percent of GNP (an indicator of the closeness of political relationships to wealthier countries, which are the main sources of FDI). Consistent with Schneider and Frey (1985), a negative sign was expected on the rate of inflation. Instead, a significant positive sign was found, somewhat stronger for consumer prices than for the GDP deflator. This unexpected finding was traced to two outliers: Brazil with high inflation and large inflows of FDI, and Iran with modest inflation and small inflows of FDI. Dropping these observations from the model, *t*-statistics for inflation fall to near 0. The variable is not included in the model.

Also tested in the FDI models was the Institutional Investor country credit rating index, a measure of economic and political country risk described above regarding the Schneider and Frey study. Adding the Institutional Investor index to the benchmark FDI model, the coefficient estimate is of opposite sign than expected (suggesting greater FDI in countries with higher risk) though not statistically significant. This results from a conflating effect with GDP per capita, with a correlation coefficient between the measures of 0.87, indicating lower risk in richer countries. 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 surveyed above, that political and social stability is a direct positive determinant of FDI location, in addition to possible indirect effects through economic growth. That FACB rights

[25] The coefficient estimate on average years of education attainment for those 15 years of age or older 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.

might represent an aspect of economically beneficial stability is suggested by the correlations between representative measures, with greater FACB rights (moderately) and civil liberties (more strongly) associated with lower country risk. 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.

Main FDI model results are shown in tables 5 and 6, respectively with and without regional dummies. The upper panel of the tables show results from benchmark models, the lower panel the results of each measure of worker rights entered singly into benchmark models. 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 for both of 85 countries. 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 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. This reflects that wage and value-added data are available for a higher share of developed than less developed countries. 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 share plus and non-wage share, for the largest possible country group samples.

Coefficient estimates on the wage share variable are negative, significantly so at the 10 percent level or higher in three of four regressions. This is consistent with the two prior studies evaluating the effects of labour costs on FDI while controlling for labour productivity (Culem 1988; Friedman, Gerlowski and Silberman 1992). From this finding, it follows that those worker rights associated with higher wages, as observed in the wage model results, will have a negative effect on FDI through wages, which might be offset by positive non-wage effects of 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 developed countries. Taken at face value, these estimates suggest that a 10 percent increase in wage share would be associated with a 6.6 to 8.5 percent decline in FDI inflows in LDCs, compared with a 4.3 to 5.8 percent 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 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 developed countries, and thus from the closer compositional relationship between manufacturing wages and FDI in LDCs.

A look at coefficient estimates on population and GDP per capita shows similar estimates between all and less developed countries, hovering around unity elasticity for both variables. Indeed, the coefficient estimates are 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 plays more of a role in LDCs, giving coefficient estimates on GDP per capita somewhat different meanings between country group samples.

Analogous with wage model results, the statistical significance of coefficient estimates on urbanization and literacy rates falls off upon inclusion of regional dummy variables, consistent with the strong regional patterns of these rates.

6.1 Freedom of association, 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 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 LDCs (implying a stronger positive effect of these rights on FDI for developed countries than LDCs). The results on the democracy index are consistent with Rodrik's FDI study (1996). 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 wage model results, in this and Rodrik's 1999 study on democracy and wages, is that stronger rights by these measures are associated with higher wages – relative to labour productivity, as always. Taking these results together clearly indicates that the effect of worker rights on FDI is not only through wages and indeed that the positive non-wage effects of worker rights on FDI can be stronger and more than offset the negative wage effects of worker rights on FDI, as is the case here. These results alone indicate that one cannot correctly determine the effects of worker rights on FDI location solely by considering the labour cost-labour productivity nexus as a causal channel. A broader view and understanding of the economics of worker rights is a necessity.

Consider the civil liberties index, for which results are strongest. In the model for all countries without regional dummies, the coefficient estimates imply that the non-wage effect of a one-unit betterment (decrease) in the civil liberties index would be associated with 18.5 percent increase in FDI inflows and that the total, wage plus non-wage effect, of such a one-unit betterment would be associated with a 14.3 percent increase in FDI inflows (table 5, columns A and B). The difference of 4.2 percent indicates the negative effect through wages on FDI of a one-unit betterment in the civil liberties index. Comparing the 18.5 percent non-wage effect with the 4.2 percent wage effect suggests that the positive non-wage effects of civil liberties on FDI are over four times more important than the negative wage effects of civil liberties on FDI. These wage effect results are broadly similar with path analysis estimates derived from results of wage share models.[26] For LDCs, the comparable non-wage, wage plus non-wage, and wage effects on FDI inflows of a one-unit betterment in civil liberties are 17.1, 10.9, and 6.2 percent respectively, with the positive non-wage effects about 2.8 times more important than the negative wage effects. Because of sample differences, coefficient estimates for the full, unrestricted samples for all countries and LDCs do not allow one to readily 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 betterment in the civil liberties index is estimated to be associated with 6.3 to 7.8 percent greater FDI inflows, with the smaller value for regressions including regional dummies; for LDCs, the analogous figures are 1.0 to 4.0 percent, though none of the associated coefficient estimates are statistically significant.

[26] Path analysis estimates are derived as follows. Take the coefficient estimate on the civil liberties index from the wage share model for all countries without regional dummies, which equals –0.046 (table 4, column A). Multiply this estimate by the coefficient estimate on the log of wages as a share of value-added from the comparable FDI model (table 5, column A), yielding a joint estimate of 0.027 (-0.584 times –0.046). The joint estimate suggests that the wage effect of a one-unit betterment of the civil liberties index would be associated with 2.7 percent less FDI inflows. This compares with the noted estimated wage effect 4.2 percent based on the difference between coefficient estimates for fuller and reduced form FDI models, maintaining nearly the same sample of countries as the wage share model. For all countries with regional dummies, the analogous figures are 3.3 percent (derived from path analysis) and 4.5 percent (derived from fuller and reduced form FDI models).

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, with a positive estimate meaning greater FDI inflows in countries with higher unionization rates. These mixed results are consistent with prior studies and suggest, if nothing else, that unions are not 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 twenty-two of twenty-four regressions considered. For regressions including regional dummy variables, all twelve coefficient estimates on these variables are negative and some, for samples of all countries, are statistically significant at the 10 percent 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 wage model results, that the positive non-wage effects of FACB rights on FDI more than offset the negative wage effects. Note that coefficient estimates are consistently more strongly negative for all countries than LDCs (as with the Freedom House indices) and for regressions including regional dummies (in contrast with the Freedom House indices). Note too that with the inclusion of regional dummies, comparing coefficient estimates in fuller and reduced form models for the same country samples does not generally yield negative wage effects of FACB rights on FDI, consistent with the weaker results including regional dummies in wage and, especially, wage share model results (for instance, the more strongly negative estimates in column E than column D, rows 19 and 20, implies a positive wage effect). The difference in estimates with and without regional dummies results from the dummy variable for the Latin American/Caribbean region, for which coefficient estimates indicate that the region does comparatively well in attracting FDI. Resolving which estimates are more definitive requires assessing whether the region does well in attracting FDI because of comparatively weak 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 U.S., Canada and Western Europe, the most important sources of world FDI ((in which case the model with regional dummies is more definitive) (Hatem 1998: 73). But one should not make overmuch of results with middling or no statistical significance, except to say that they provide no evidence in support of the "conventional wisdom." Neither do coefficient estimates on the measure of FACB rights in EPZs, which are negative in all cases though never significantly so.

Regarding the comparative importance of civil liberties versus FACB rights on FDI, the generally more strongly negative coefficient estimates on the civil liberties index suggest that civil liberties at large, not for workers only, might matter more in attracting FDI. This pattern holds when simultaneously including the civil liberties and FACB indices in the FDI model. Results are shown in panel I of tables 7a and 7b, respectively with and without regional dummies (the exception is for LDCs using reduced form models that include regional dummies).[27]

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 might tend to have stronger FACB rights than workers otherwise employed, in which case the positive effects of stronger FACB rights on FDI might be overstated. In order to address such possibilities, two-stage least squares regressions were run using the political rights

[27] Given that the interaction of the civil liberties index with the two main FACB indices did not show a particularly strong wage effect (table 3, panel III), it was not thought worthwhile to present the interacted variable results for the FDI models. To summarize the results, all twenty-four coefficient estimates on the interacted variable are negative but none are statistically significant, and in most cases they fall in value between the comparable estimates on the civil liberties and FACB indices shown in tables 5 and 6.

index and regional dummy variables as instruments for the two main FACB indices (as well as all other independent variables from benchmark regressions). Results are shown in panel II of tables 7a and 7b. For all countries without regional dummies, coefficient estimates on the FACB indices are negative in four of six cases; with regional dummies, all six coefficient estimates on the FACB indices are negative. None of these twelve estimates are statistically significant. For LDCs without regional dummies, all six coefficient estimates on the FACB indices are positive, indicating less FDI inflows in countries with stronger FACB rights; with regional dummies, four of six coefficient estimates on the FACB indices are negative. As with samples of all countries, none of the twelve coefficient estimates are statistically significant. The difference in results with and without regional dummies can again be traced to the inclusion in the model specification of the dummy variable for Latin American/Caribbean region, and determining which estimates are more definitive requires assessing whether the region does well in attracting FDI because of comparatively weak FACB rights or for other region-specific reasons not directly captured by the model.

From these good many results for FACB rights, a fairly straightforward conclusion can be drawn. Here it is useful to focus on columns C and F of tables 5, 6, and 7, as these columns present the total -- wage plus non-wage -- effects of FACB rights on FDI for the fullest samples of all and less developed countries. With the exception of unionization rates, no coefficient estimates on these measures of worker rights are statistically significant. Rather than finding evidence in support of the "conventional wisdom," we find an accumulated lack of evidence, a sort of non-result. This non-result has its own importance, however, in light of wage model results suggesting that stronger FACB rights lead to higher wages and FDI model results suggesting that higher wages lead to less FDI inflows. That is, if the wage effects of FACB rights were all that mattered, one would not have expected to find such a lack of evidence in support of the "conventional wisdom." That one does find such a lack suggests that positive non-wage effects of FACB rights on FDI come into play with a strength sufficient to offset the negative wage effects of FACB rights on FDI.

6.2 Child labour and FDI

Child labour might affect FDI location both through labour costs and skill levels, measured here by the literacy rate. 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-enrollment rate.[28] These negative correlations indicate that less child labour is associated with higher skill levels. Since higher skills levels are a plus for FDI location, less child labour might also be associated with greater FDI inflows, depending on the effects of child labour on labour costs. Put in other words, the strong relationship between child labour and skill levels and the positive effect of skill levels on FDI location argue against any *a priori* expectation that more child labour would be associated with greater FDI, as suggested by the "conventional wisdom." To address this child labour-skills level causal link with FDI, the literacy rate is dropped from the FDI model for all regressions including child labour measures.

As regards the relationship between aggregate measures of child labour and labour costs, it was not found that more child labour by these measures is associated with lower labour costs, and indeed some statistically significant was evidence found of the opposite. Combining this

[28] These are very similar to the correlation coefficients with average years of educational attainment for those 15 years of age or older, of −0.75 and −0.82, respectively, for the total labour force participation rate of 10 to 14 year olds and the total secondary education non-enrollment rate (the latter of course being an education-based measure of child labour). This indicates that there is a strong negative relationship not only between child labour and basic skill levels, as measured by the literacy rate, but between child labour and skill levels more generally, as measured by years of educational attainment.

evidence with the logic of the child labour-skill levels causal link with FDI, one should not expect more child labour by these aggregate measures 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 (tables 5 and 6). For secondary education enrollment 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 percent level or higher, is for negative coefficient estimates (for female labour force participation rates and female secondary education non-enrollment 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. Taking all this evidence together suggests that child labour is not an important determinant of FDI location.

6.3 Gender inequality and FDI

In the analysis of labour costs, some evidence was found that higher female percentages of industrial employment are associated with lower manufacturing wages. This was hypothesized to result from lower wages being paid to women than men. Higher female percentages of industrial employment might 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, Stephan 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: 6).

This "selection-distortion factor" provides a sense of how a shift in educational attainment toward females (holding average educational attainment constant) can raise average levels of human capital. Such an increase in human capital is argued to raise the rate of return on investments and so to increase the rate of investment. This would hold for foreign as well as domestic investment. Greater gender equality in education might also lead to greater FDI inflows indirectly, through more rapid economic growth. 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 and managerial and professional and technical occupations, this suggests that the average level of ability for these occupations would be higher the more equally are women represented within them. The causal channel would operate in a similar way as for gender equality in education, through an increase in human capital to more rapid investment and growth. 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 coefficient estimates on women's representation in administrative and managerial occupations, which are

statistically significant at the 10 percent level or higher 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. Results are stronger for the sample of all countries than LDCs, with all coefficient estimates statistically significant at the 5 percent level or higher for all countries. Coefficient estimates are also consistently larger using male rather than total educational attainment as a control variable (comparing rows 28 and 29 in table 5), consistent with notion of human capital being a positive determinant of FDI and with the use of male educational attainment as a control variable enabling total educational attainment to increase with an increase in the female-to-male ratio of educational attainment. For female-to-male literacy rates in regressions without regional dummies, coefficient estimates are all positive and often significantly positive at the 5 percent level or higher. As regards statistical significance, the exceptions are the reduced form model regressions with full samples of all and less developed countries (columns C and F). In contrast with the female-to-male educational attainment variable, however, coefficient estimates are often smaller using the male rather than total literacy rate as a control variable (comparing rows 30 and 31 in table 5). Positive signs on these coefficient estimates are consistent with the "selection-distortion factor" hypothesis. Similarly 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.

As with measures of women's occupational representation, 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). Moreover, coefficient estimates on the dummy variable for the Latin American/Caribbean region indicate that region does comparatively well in attracting FDI. Evaluating which results are more definitive, with or without regional dummies, requires assessing 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, such as regional proximity and historical ties.

7. Concluding remarks

Though not without plot twists, this paper tells a fairly simple story. In short, no solid evidence is found in support of the "conventional wisdom" that foreign investors favour countries with weaker worker rights. These findings are consistent with prior studies, suggesting that the burden of proof ought to shift to those arguing the case in favour of the "conventional wisdom." In addition to empirical evidence are presented theoretical grounds for calling into question the logic of the "conventional wisdom." Along these lines, a broader view of the economics of worker rights is argued for, beyond the labour cost-labour productivity relationship. For while this relationship provides a two-sided, cost-benefit approach, there are more than two sides to the story, at least as regards 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 enhancing political and social stability (particularly regarding rights of freedom of

association and collective bargaining) and levels of human capital (particularly regarding child labour and gender inequality).

These things said, questions remain and more research clearly needs doing. For starters, it would be useful to more decisively address why FDI model results differ with and without regional dummy variables, 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 more directly address the effects of worker rights on different kinds of FDI -- particularly vertical versus horizontal FDI -- for which the analysis of FDI by industry and also firm and country case studies hold promise. Last, it seems important to more directly address the relationships among worker rights, political and social stability, and human capital, in addition to doing more work on the effects of these factors on economic outcomes, such as growth and trade competitiveness. To be useful, such research ought to take causal specificity seriously, addressing, for instance, the different causes and effects of different aspects of political and social stability and different kinds of child labour and gender inequality.

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Appendix: Data sources

Manufacturing wages, value-added and employment: *UNIDO Industrial Statistics Database* (3-digit ISIC, version 0.40), 2000.

FDI inflows: *IMF International Financial Statistics*, December 2000.

Freedom House indices: www.freedomhouse.org

Unionization rate: *ILO World Labour Report, 1997-98* (for Sri Lanka and Syrian Arab Republic constructed from *ILO Statistics of Trade Union Membership* and *ILO Yearbook of Labour Statistics, 1999).*

Labour force participation rates for 10 to 14 year olds: *ILO Economically Active Population 1950-2010*, fourth edition.

Gross secondary education enrollment rates: *UNESCO Statistical Yearbook*, 1998 and 1999.

Female percentage of industrial employment: Constructed from *World Bank World Development Indicators*, 2000 and *ILO Economically Active Population 1950-2010*, fourth edition.

Female percentage of administrative and managerial and professional and technical occupations: *UNDP Human Development Report*, 1998 and *ILO Yearbook of Labour Statistics*, 1999.

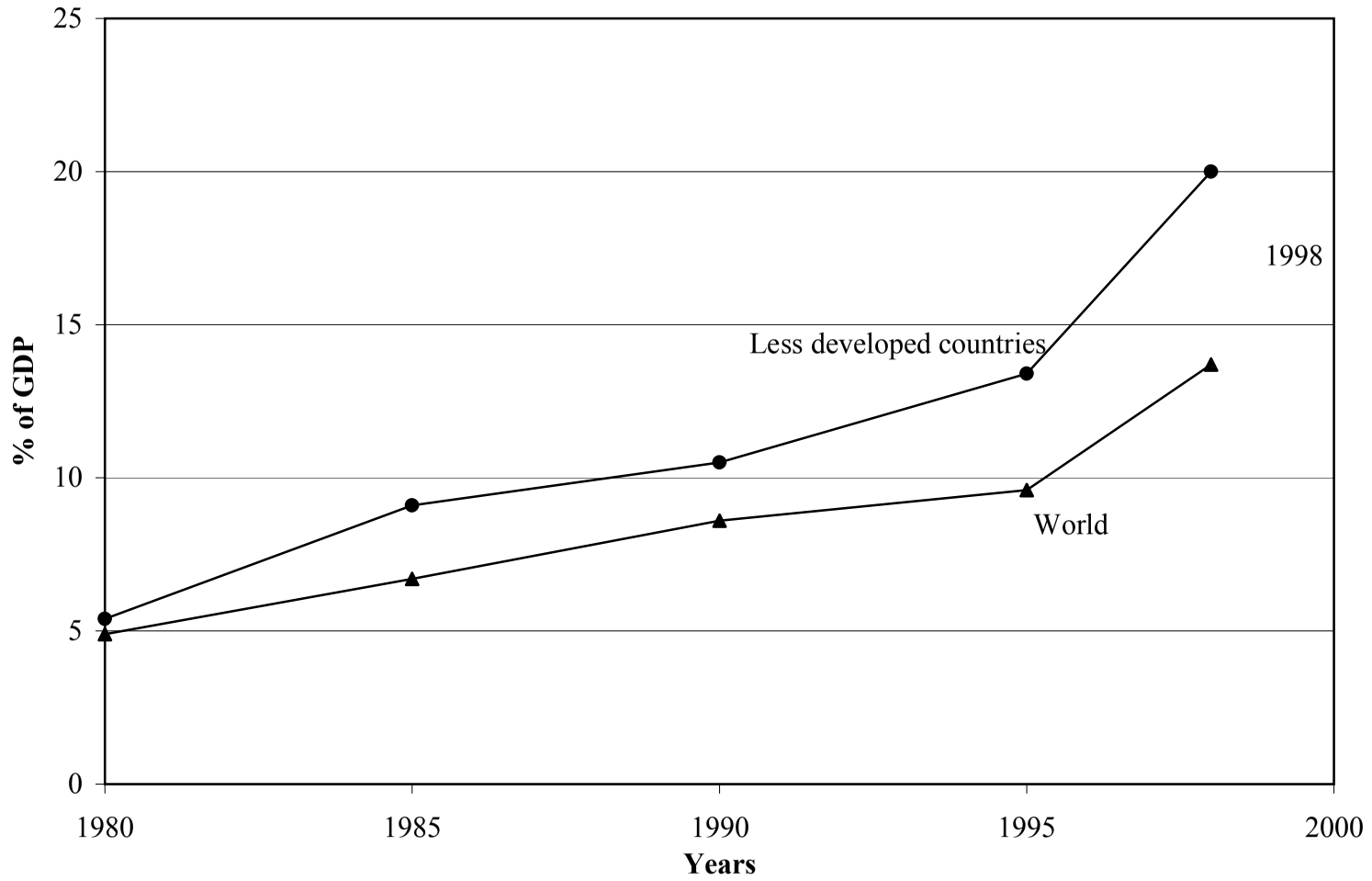
Average years of education attainment: *International Measures of Schooling Years and Schooling Quality* (www.worldbank.org/research/growth/ddbarle2.htm).

Literacy rates: *UNDP Human Development Report*, 1998 and *UNESCO Statistical Yearbook*, 1998 and 1999.

Institutional Investor Country Credit Ratings: *Institutional Investor*, various issues.

All other data: *World Bank World Development Indicators*, 2000.

Figure 1: Inward FDI stock as a percentage of GDP: 1980 to 1998



Source: UNCTAD: *World Investment Report 2000* .

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 (0=no evidence, 1=evidence)	D Weights (1, 1.25, 1.5, 1.75 or 2)	E Dummy*Weights
	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 & 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 above row		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
	Right to collectively bargain				
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 collectively bargain		0	1.75	0
30	Exclusion of other sectors or workers from right to collectively bargain		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 EPZ'S	a	1	2	2
			Non-scaled (raw) weighted score:		**22**

Sources

a: International Confederation of Free Trade Unions (ICFTU), *Annual Survey of Violations of Trade Union Rights* .

b: U.S. State Department, *Country Reports on Human Rights Practices.*

c: ILO, *Report of the Committee on Freedom of Association.*

Note: *na* indicates not applicable; *default* indicates a maximum scaled country score of 10.

Table 2: Wage model results: mid-1990s average
(Dependent variable: Log (wages/employee) in manufacturing)

		A	B	C	D
		Without regional dummies		With regional dummies	
		All countries	LDCs	All countries	LDCs
		From benchmark equations		From benchmark equations	
1	**Constant**	**-0.972** **	**-0.641**	**-0.563**	**-0.489**
		-2.184	-0.979	-0.700	-0.549
2	**Log (VA/emp.) in manuf.**	**0.726** ***	**0.726** ***	**0.600** ***	**0.611** ***
		9.412	8.508	4.429	4.138
3	**Log (GDP/capita)**	**0.371** ***	**0.309** ***	**0.414** ***	**0.398** ***
		5.987	3.656	4.773	3.772
4	**Manufacturing output % GDP**	**-0.007**	**-0.005**	**0.006**	**0.007**
		-1.164	-0.705	1.028	1.066
5	**Urbanization rate**	**-0.006** **	**-0.005**	**-0.001**	**-0.002**
		-2.044	-1.232	-0.217	-0.652
6	**East Asia/Pacific**	*na*	*na*	**-0.338** ***	**-0.541** ***
	(dummy)	*na*	*na*	-3.286	-3.402
7	**South Asia**	*na*	*na*	**-0.034**	**-0.086**
	(dummy)	*na*	*na*	-0.142	-0.383
8	**Latin America/Caribbean**	*na*	*na*	**-0.133**	**-0.104**
	(dummy)	*na*	*na*	-1.145	-0.809
9	**Sub-Saharan Africa**	*na*	*na*	**0.253** *	**0.224**
	(dummy)	*na*	*na*	1.708	1.312
10	**Middle-East/North Africa**	*na*	*na*	**-0.066**	*na*
	(dummy)	*na*	*na*	-0.441	*na*
11	**Eastern Europe**	*na*	*na*	**-0.423** **	**-0.403** *
	(dummy)	*na*	*na*	-2.123	-1.970
	N	88	65	88	65
	Adj. R^2	0.914	0.800	0.926	0.829
	F-Stat.	133.482	37.624	84.497	26.907
		From each variable singly in benchmark equations		From each variable singly in benchmark equations	
12	**Civil liberties index**	**-0.030**	**-0.025**	**-0.048** **	**-0.046**
	(0 = best, 10 = worst)	-1.519	-1.116	-2.198	-1.473
13	**Political rights index**	**-0.021**	**-0.013**	**-0.041** *	**-0.031**
	(0 = best, 10 = worst)	-1.101	-0.642	-1.983	-1.209
14	**Democracy index**	**-0.026**	**-0.019**	**-0.048** **	**-0.040**
	(0 = best, 10 = worst)	-1.320	-0.852	-2.177	-1.381
15	**Unionization rate**	**-0.001**	**-0.006**	**-0.003**	**-0.012** ***
		-0.570	-1.225	-1.550	-2.779
16	**FACB index, unweighted**	**-0.036** **	**-0.030**	**-0.034** *	**-0.028**
	(0 = best, 10 = worst)	-2.364	-1.520	-1.785	-1.054
17	**FACB index, weighted**	**-0.034** *	**-0.026**	**-0.032**	**-0.024**
	(0 = best, 10 = worst)	-1.939	-1.211	-1.414	-0.843
18	**FACB in EPZs**	**-0.018**	**-0.002**	**-0.018**	**-0.013**
	(dummy)	-0.179	-0.017	-0.199	-0.143
19	**LFP rate, 10-14 years, total**	**0.012** *	**0.012** *	**0.006**	**0.006**
		1.986	1.674	0.876	0.746
20	**LFP rate, 10-14 years, male**	**0.009**	**0.008**	**0.003**	**0.002**
		1.606	1.279	0.401	0.275
21	**LFP rate, 10-14 years, female**	**0.015** **	**0.015** *	**0.010**	**0.010**
		2.262	1.974	1.306	1.202
22	**2nd educ. NON-enroll rate, total**	**0.005**	**0.008** **	**0.002**	**0.008** **
		1.633	2.254	0.750	2.134
23	**2nd educ. NON-enroll rate, male**	**0.004**	**0.007** **	**0.001**	**0.007** *
		1.383	2.135	0.355	1.800
24	**2nd educ. NON-enroll rate, female**	**0.006** *	**0.008** **	**0.003**	**0.008** **
		1.885	2.321	1.143	2.401
25	**CL in tradeable sectors index**	**-0.029**	**-0.029**	**-0.008**	**0.001**
	(0 = least, 5 = most)	-0.835	-0.788	-0.233	0.033
26	**CL in tradeable sectors index + worst**	**-0.024**	**-0.023**	**-0.011**	**-0.003**
	(0 = least, 7 = most)	-0.993	-0.913	-0.450	-0.099
27	**CL in all sectors index**	**-0.019**	**-0.016**	**-0.016**	**-0.007**
	(0 = least, 7 = most)	-0.622	-0.485	-0.558	-0.191
28	**% female in industry**	**-0.008**	**-0.010** *	**-0.004**	**-0.005**
		-1.474	-1.741	-0.657	-0.817

Notes: Bolded numbers indicate regression coefficient estimates, below which are associated *t* -statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.
na indicates not applicable.

Table 3: Miscellaneous wage model results: mid-1990s average (Dependent variable: Log (wages/employee) in manufacturing)

		A	B	C	D
		Without regional dummies		With regional dummies	
		All countries	LDCs	All countries	LDCs
	I. Combining civil liberties and FACB indices				
1	**Civil liberties index**	**-0.015**	**-0.012**	**-0.031**	**-0.028**
	(0 = best, 10 = worst)	-0.707	-0.475	-1.323	-0.821
2	**FACB index, unweighted**	**-0.034** **	**-0.027**	**-0.028**	**-0.020**
	(0 = best, 10 = worst)	-2.017	-1.251	-1.311	-0.680
3	**Civil liberties index**	**-0.017**	**-0.014**	**-0.034**	**-0.032**
	(0 = best, 10 = worst)	-0.774	-0.553	-1.470	-0.940
4	**FACB index, weighted**	**-0.031**	**-0.023**	**-0.022**	**-0.014**
	(0 = best, 10 = worst)	-1.588	-0.942	-0.906	-0.426
	II. Combining FACB and child labor measures and indices				
5	**FACB index, unweighted**	**-0.040** **	**-0.035** *	**-0.038** *	**-0.031**
	(0 = best, 10 = worst)	-2.516	-1.697	-1.959	-1.194
6	**LFP rate, 10-14 years, total**	**0.013** **	**0.012**	**0.007**	**0.006**
		2.123	1.615	1.056	0.797
7	**FACB index, unweighted**	**-0.035** *	**-0.029**	**-0.023**	**-0.011**
	(0 = best, 10 = worst)	-1.960	-1.268	-1.196	-0.445
8	**2nd educ. NON-enroll rate, total**	**0.005** *	**0.008** **	**0.002**	**0.007** *
		1.692	2.045	0.736	1.820
9	**FACB index, weighted**	**-0.038** **	**-0.030**	**-0.035**	**-0.027**
	(0 = best, 10 = worst)	-2.041	-1.339	-1.559	-0.957
10	**LFP rate, 10-14 years, total**	**0.013** **	**0.011**	**0.007**	**0.006**
		2.065	1.557	1.001	0.734
11	**FACB index, weighted**	**-0.032**	**-0.023**	**-0.017**	**-0.004**
	(0 = best, 10 = worst)	-1.524	-0.906	-0.775	-0.158
12	**2nd educ. NON-enroll rate, total**	**0.005**	**0.008** *	**0.002**	**0.007** *
		1.586	1.953	0.659	1.802
	III. Interacting civil liberties and FACB indices				
13	**CL*FACB/10 (unweighted)**	**-0.043**	**-0.039**	**-0.048**	**-0.034**
	(0 = best, 10 = worst)	-1.627	-1.327	-1.426	-0.865
14	**CL*FACB/10 (weighted)**	**-0.039**	**-0.034**	**-0.044**	**-0.030**
	(0 = best, 10 = worst)	-1.366	-1.098	-1.215	-0.739
	IV. 2SLS with political rights index and regional dummies as instruments for FACB indices				
15	**FACB index, unweighted**	**-0.064** **	**-0.048**	**-0.098** *	**-0.069**
	(0 = best, 10 = worst)	-2.196	-1.667	-1.794	-1.032
16	**FACB index, weighted**	**-0.068** **	**-0.047**	**-0.102** *	**-0.068**
	(0 = best, 10 = worst)	-2.114	-1.488	-1.780	-1.023

Notes: Bolded numbers indicate regression coefficient estimates, below which are associated *t*-statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.

Table 4: Wage share model results: mid-1990s average
(Dependent variable: Log (wages/value added) in manufacturing)

		A	B	C	D
		Without regional dummies		With regional dummies	
		All countries	LDCs	All countries	LDCs
		From benchmark equations		From benchmark equations	
1	**Constant**	**-2.652** ***	**-2.627** ***	**-3.109** ***	**-3.012** ***
		-7.994	-5.008	-5.562	-5.273
2	**Log (GDP/capita)**	**0.266** ***	**0.254** ***	**0.288** ***	**0.300** ***
		5.405	2.997	4.772	3.492
3	**Manufacturing output % GDP**	**-0.006**	**-0.004**	**-0.0004**	**0.001**
		-0.862	-0.441	-0.052	0.112
4	**Urbanization rate**	**-0.009** **	**-0.009** *	**-0.006** *	**-0.008**
		-2.625	-1.963	-1.809	-1.571
5	**East Asia/Pacific**	*na*	*na*	**-0.177**	**-0.406**
	(dummy)	*na*	*na*	-1.227	-1.394
6	**South Asia**	*na*	*na*	**0.225**	**0.043**
	(dummy)	*na*	*na*	0.811	0.180
7	**Latin America/Caribbean**	*na*	*na*	**-0.043**	**-0.183**
	(dummy)	*na*	*na*	-0.289	-1.202
8	**Sub-Saharan Africa**	*na*	*na*	**0.227**	**0.062**
	(dummy)	*na*	*na*	1.247	0.343
9	**Middle-East/North Africa**	*na*	*na*	**0.119**	*na*
	(dummy)	*na*	*na*	0.698	*na*
10	**Eastern Europe**	*na*	*na*	**0.050**	**-0.110**
	(dummy)	*na*	*na*	0.268	0.551
	N	88	65	88	65
	Adj. R^2	0.300	0.090	0.290	0.070
	F-Stat.	7.205	2.049	3.955	0.436
		From each variable singly in benchmark equations		From each variable singly in benchmark equations	
11	**Civil liberties index**	**-0.046** **	**-0.047** *	**-0.076** ***	**-0.092** ***
	(0 = best, 10 = worst)	-2.186	-1.855	-3.264	-2.684
12	**Political rights index**	**-0.035** *	**-0.030**	**-0.063** ***	**-0.062** **
	(0 = best, 10 = worst)	-1.761	-1.380	-2.772	-2.225
13	**Democracy index**	**-0.042** **	**-0.039**	**-0.074** ***	**-0.080** **
	(0 = best, 10 = worst)	-2.011	-1.626	-3.154	-2.581
14	**Unionization rate**	**0.003**	**0.004**	**-0.002**	**-0.008**
		1.288	0.793	-0.607	-1.378
15	**FACB index, unweighted**	**-0.031** *	**-0.024**	**-0.022**	**-0.011**
	(0 = best, 10 = worst)	-1.763	-1.069	-1.082	-0.409
16	**FACB index, weighted**	**-0.028**	**-0.021**	**-0.018**	**-0.007**
	(0 = best, 10 = worst)	-1.392	-0.834	-0.779	-0.250
17	**FACB in EPZs**	**0.075**	**0.079**	**0.148**	**0.135**
	(dummy)	0.630	0.634	1.169	0.975
18	**LFP rate, 10-14 years, total**	**0.002**	**0.002**	**-0.0003**	**-0.001**
		0.369	0.323	-0.033	-0.064
19	**LFP rate, 10-14 years, male**	**0.001**	**0.0005**	**-0.002**	**-0.002**
		0.141	0.077	-0.241	-0.294
20	**LFP rate, 10-14 years, female**	**0.004**	**0.005**	**0.002**	**0.002**
		0.565	0.543	0.187	0.188
21	**2nd educ. NON-enroll rate, total**	**0.0002**	**0.001**	**0.001**	**0.003**
		0.060	0.180	0.356	0.791
22	**2nd educ. NON-enroll rate, male**	**0.0001**	**0.001**	**0.002**	**0.004**
		0.048	0.197	0.447	0.998
23	**2nd educ. NON-enroll rate, female**	**0.0003**	**0.001**	**0.001**	**0.002**
		0.110	0.189	0.291	0.587
24	**CL in tradeable sectors index**	**-0.033**	**-0.039**	**-0.032**	**-0.042**
	(0 = least, 5 = most)	-0.828	-0.892	-0.803	-0.863
25	**CL in tradeable sectors index + worst**	**-0.027**	**-0.029**	**-0.028**	**-0.033**
	(0 = least, 7 = most)	-0.997	-1.006	-1.003	-0.978
26	**CL in all sectors index**	**-0.024**	**-0.028**	**-0.023**	**-0.030**
	(0 = least, 7 = most)	-0.710	-0.740	-0.711	-0.720
27	**% female in industry**	**-0.001**	**-0.002**	**0.003**	**0.001**
		-0.089	-0.378	0.394	0.139

Notes: Bolded numbers indicate regression coefficient estimates, below which are associated *t*-statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.
na indicates not applicable.

Table 5: FDI model results, *without* regional dummies: mid-1990s average
(Dependent variable: Log FDI inflows as a share of World, 1993-1999)

		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		
1	**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
2	**Log (wages/VA) in manuf.**	**-0.584** *	*na*	*na*	**-0.852** ***	*na*	*na*
		-1.765	*na*	*na*	-2.687	*na*	*na*
3	**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
4	**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
5	**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
6	**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
7	**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
8	**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. R2	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		
9	**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
10	**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
11	**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
12	**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
13	**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
14	**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
15	**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
16	**LFP rate, 10-14 years, total**	**-0.025**	**-0.023**	**-0.020**	**-0.014**	**-0.006**	**-0.012**
		-1.533	-1.294	-1.608	-0.838	-0.330	-0.853
17	**LFP rate, 10-14 years, male**	**-0.017**	**-0.015**	**-0.013**	**-0.007**	**0.001**	**-0.004**
		-1.142	-0.909	-1.106	-0.441	0.059	-0.346
18	**LFP rate, 10-14 years, female**	**-0.033** *	**-0.032** *	**-0.027** **	**-0.023**	**-0.015**	**-0.020**
		-1.941	-1.688	-2.146	-1.285	-0.794	-1.450
19	**2nd educ. NON-enroll rate, total**	**-0.001**	**0.0002**	**-0.006**	**0.006**	**0.009**	**0.001**
		-0.150	0.019	-1.226	0.835	1.173	0.180
20	**2nd educ. NON-enroll rate, male**	**0.002**	**0.004**	**-0.006**	**0.009**	**0.011**	**0.001**
		0.245	0.426	-1.097	1.189	1.532	0.234
21	**2nd educ. NON-enroll rate, female**	**-0.004**	**-0.003**	**-0.009** *	**0.003**	**0.006**	**-0.003**
		-0.503	-0.368	-1.791	0.475	0.779	-0.492
22	**CL in tradeable sectors index**	**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
23	**CL in tradeable sectors index + worst**	**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
24	**CL in all sectors index**	**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
25	**% 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
26	**% female admin.-managerial/**	**1.081** **	**0.951** **	**0.884** **	**1.090** **	**0.831** *	**0.794** *
	% female labor force	2.503	2.107	2.258	2.602	1.863	1.963
27	**% female profess.-tech./**	**0.745**	**0.800**	**0.529**	**1.063** **	**0.970**	**0.574**
	% female labor force	1.576	1.559	1.514	2.050	1.653	1.424
28	**Female/male educ. attainment**	**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
29	**Female/male educ. attainment**	**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
30	**Female/male literacy**	**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
31	**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: Bolded numbers indicate regression coefficient estimates, below which are associated *t*-statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.
na indicates not applicable.
For rows 16 to 24 and 26 to 30, the literacy rate is excluded from the model.

Table 6: FDI model results, *with* regional dummies: mid-1990s average
(Dependent variable: Log FDI inflows as a share of World, 1993-1999)

		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		
1	**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
2	**Log (wages/VA) in manuf.**	**-0.432**	*na*	*na*	**-0.659** **	*na*	*na*
		-1.440	*na*	*na*	-2.292	*na*	*na*
3	**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
4	**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
5	**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
6	**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
7	**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
8	**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
9	**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
10	**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
11	**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
12	**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
13	**Middle-East/North Africa**	**-0.927** *	**-0.917** *	**-0.994** **	*na*	*na*	*na*
	(dummy)	-1.900	-1.984	-2.088	*na*	*na*	*na*
14	**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		
15	**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
16	**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
17	**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
18	**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
19	**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
20	**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
21	**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
22	**LFP rate, 10-14 years, total**	**-0.024**	**-0.021**	**-0.019**	**-0.015**	**-0.009**	**-0.005**
		-1.628	-1.279	-1.168	-0.915	-0.492	-0.303
23	**LFP rate, 10-14 years, male**	**-0.018**	**-0.016**	**-0.010**	**-0.010**	**-0.006**	**0.001**
		-1.378	-1.071	-0.743	-0.715	-0.342	0.091
24	**LFP rate, 10-14 years, female**	**-0.028** *	**-0.025**	**-0.025**	**-0.019**	**-0.013**	**-0.012**
		-1.766	-1.373	-1.525	-1.082	-0.609	-0.708
25	**2nd educ. NON-enroll rate, total**	**-0.006**	**-0.006**	**-0.007**	**0.004**	**0.004**	**0.002**
		-0.644	-0.636	-1.081	0.486	0.465	0.250
26	**2nd educ. NON-enroll rate, male**	**-0.005**	**-0.005**	**-0.008**	**0.004**	**0.004**	**-0.001**
		-0.465	-0.487	-1.198	0.465	0.389	-0.150
27	**2nd educ. NON-enroll rate, female**	**-0.006**	**-0.006**	**-0.007**	**0.005**	**0.005**	**0.002**
		-0.747	-0.718	-1.165	0.533	0.550	0.246
28	**CL in tradeable sectors index**	**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
29	**CL in tradeable sectors index + worst**	**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
30	**CL in all sectors index**	**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
31	**% 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
32	**% female admin.-managerial/**	**0.405**	**0.102**	**0.381**	**0.302**	**-0.278**	**0.315**
	% female labor force	0.847	0.219	0.884	0.615	-0.617	0.719
33	**% female profess.-tech./**	**0.484**	**0.436**	**0.433**	**0.860**	**0.524**	**0.145**
	% female labor force	1.012	0.887	1.107	1.410	0.788	0.304
34	**Female/male educ. attainment**	**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
35	**Female/male educ. attainment**	**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
36	**Female/male literacy**	**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
37	**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: Bolded numbers indicate regression coefficient estimates, below which are associated *t*-statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.
na indicates not applicable.
For rows 22 to 30 and 32 to 36, the literacy rate is excluded from the model.

Table 7a: Miscellaneous FDI model results, *without* regional dummies: mid-1990s average
(Dependent variable: Log FDI inflows as a share of World, 1993-1999)

		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
	I. Combining civil liberties and FACB indices						
1	**Civil liberties index**	**-0.174** **	**-0.133** **	**-0.075**	**-0.182** **	**-0.110**	**-0.045**
	(0 = best, 10 = worst)	-2.451	-2.057	-1.381	-2.179	-1.444	-0.758
2	**FACB index, unweighted**	**-0.012**	**-0.009**	**0.008**	**0.032**	**0.019**	**0.029**
	(0 = best, 10 = worst)	-0.291	-0.199	0.177	0.697	0.378	0.526
3	**Civil liberties index**	**-0.180** **	**-0.136** **	**-0.078**	**-0.187** **	**-0.111**	**-0.045**
	(0 = best, 10 = worst)	-2.486	-2.060	-1.402	-2.211	-1.421	-0.755
4	**FACB index, weighted**	**-0.001**	**-0.003**	**0.012**	**0.043**	**0.020**	**0.029**
	(0 = best, 10 = worst)	-0.016	-0.052	0.233	0.866	0.363	0.481
	II. 2SLS with political rights index and regional dummies as instruments for FACB indices						
5	**FACB index, unweighted**	**-0.041**	**0.020**	**-0.029**	**0.047**	**0.119**	**0.059**
	(0 = best, 10 = worst)	-0.492	0.245	-0.394	0.581	1.380	0.662
6	**FACB index, weighted**	**-0.050**	**0.014**	**-0.030**	**0.036**	**0.110**	**0.056**
	(0 = best, 10 = worst)	-0.570	0.159	-0.417	0.408	1.156	0.616

Table 7b: Miscellaneous FDI model results, *with* regional dummies: mid-1990s average
(Dependent variable: Log FDI inflows as a share of World, 1993-1999)

		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
	I. Combining civil liberties and FACB indices						
7	**Civil liberties index**	**-0.124** *	**-0.073**	**-0.048**	**-0.085**	**0.013**	**0.007**
	(0 = best, 10 = worst)	-1.848	-1.252	-0.736	-0.860	0.155	0.090
8	**FACB index, unweighted**	**-0.057**	**-0.066**	**-0.006**	**-0.037**	**-0.066**	**-0.004**
	(0 = best, 10 = worst)	-1.164	-1.319	-0.118	-0.623	-0.978	-0.072
9	**Civil liberties index**	**-0.128** *	**-0.073**	**-0.049**	**-0.091**	**0.010**	**0.009**
	(0 = best, 10 = worst)	-1.828	-1.226	-0.741	-0.900	0.127	0.112
10	**FACB index, weighted**	**-0.051**	**-0.067**	**-0.004**	**-0.028**	**-0.067**	**-0.008**
	(0 = best, 10 = worst)	-0.924	-1.191	-0.062	-0.454	-0.963	-0.114
	II. 2SLS with political rights index and regional dummies as instruments for FACB indices						
11	**FACB index, unweighted**	**-0.292**	**-0.206**	**-0.066**	**-0.238**	**-0.079**	**0.008**
	(0 = best, 10 = worst)	-1.436	-1.150	-0.524	-0.814	-0.276	0.053
12	**FACB index, weighted**	**-0.295**	**-0.216**	**-0.062**	**-0.261**	**-0.091**	**0.008**
	(0 = best, 10 = worst)	-1.415	-1.134	-0.524	-0.785	-0.273	0.053

Notes: Bolded numbers indicate regression coefficient estimates, below which are associated *t*-statistics.
*, ** and *** indicate two-tailed significance at 10-, 5-, and 1-percent levels, respectively.
Underlined variables are those newly constructed.

Table A.1: Descriptive statistics for GDP per capita, dependent variables, and measures of worker rights: mid-1990s average (for sample of 127 countries evaluated in FDI models)

		A	B	C	D	E	F	G	H	I	J	K	L	M
		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
1	Log (GDP/capita), $ 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
2	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
3	Log (wages/employee) in manufacturing	10.22	10.25	8.72	6.70	8.37	8.20	8.82	7.02	8.47	1.50	0.18	13.27	4.60
4	Log (wages/value added) in manufacturing	-0.79	-0.77	-1.22	-1.36	-1.33	-1.32	-1.07	-1.13	-1.14	0.47	-0.41	-0.34	-2.58
5	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
6	Civil liberties index	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
7	Political rights index	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
8	Democracy index	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
9	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
10	FACB index, unweighted	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
11	FACB index, weighted	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
12	FACB in EPZ's	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
13	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
14	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
15	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
16	2nd educ. NON-enroll 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
17	2nd educ. NON-enroll 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
18	2nd educ. NON-enroll 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
19	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
20	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
21	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
22	% 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
23	% 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
24	% 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
25	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
26	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 a dependent variable the log of a country's share (rather than %) of world FDI inflows.
For indices in rows 6 to 8 and 10 to 12, lower values indicate stronger worker rights.

Table A.2: Correlation coefficients between GDP per capita, dependent variables, and measures of worker rights: mid-1990s average (for sample of 127 countries evaluated in FDI models)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
		Log (GDP/capita) $ exchange rate	Log (GDP/capita) PPP	Log (wages/employee)	Log (wages/value added)	Log FDI inflows, % of World	Civil liberties index	Political rights index	Democracy index	Unionization rate	FACB index unweighted	FACB index weighted	FACB in EPZ's	LFP rate, 10-14 years, total	LFP rate, 10-14 years, male	LFP rate, 10-14 years, female	2nd educ. NON-enroll rate, total	2nd educ. NON-enroll rate, male	2nd educ. NON-enroll rate, female	CL in tradeable sectors index	CL in tradeable sectors index + worst	CL in all sectors index	% female in industry	% fem. admin.-managerial/ % fem. LF	% fem. Profess.-tech./% fem. LF	Female/male educ. attainment	Female/male literacy
1	Log (GDP/capita), $ exchange rate	1.00																									
2	Log (GDP/capita), PPP	0.98	1.00																								
3	Log (wages/employee) in manufacturing	0.79	0.74	1.00																							
4	Log (wages/value added) in manufacturing	0.54	0.57	0.55	1.00																						
5	Log FDI inflows, % of World	0.65	0.68	0.53	0.10	1.00																					
6	Civil liberties index	-0.65	-0.66	-0.43	-0.53	-0.35	1.00																				
7	Political rights index	-0.60	-0.61	-0.37	-0.49	-0.37	0.92	1.00																			
8	Democracy index	-0.64	-0.64	-0.41	-0.52	-0.37	0.98	0.98	1.00																		
9	Unionization rate	0.32	0.36	0.12	0.34	0.17	-0.30	-0.27	-0.29	1.00																	
10	FACB index, unweighted	-0.35	-0.30	-0.35	-0.42	-0.02	0.54	0.50	0.53	-0.39	1.00																
11	FACB index, weighted	-0.38	-0.32	-0.37	-0.41	-0.06	0.57	0.54	0.56	-0.39	0.99	1.00															
12	FACB in EPZ's	-0.23	-0.22	-0.22	-0.11	-0.08	0.15	0.10	0.12	-0.22	0.37	0.38	1.00														
13	LFP rate, 10-14 years, total	-0.72	-0.78	-0.29	-0.37	-0.55	0.51	0.47	0.50	-0.39	0.21	0.23	0.12	1.00													
14	LFP rate, 10-14 years, male	-0.72	-0.78	-0.31	-0.38	-0.54	0.50	0.46	0.49	-0.41	0.23	0.25	0.16	0.99	1.00												
15	LFP rate, 10-14 years, female	-0.70	-0.76	-0.26	-0.34	-0.55	0.51	0.48	0.50	-0.36	0.17	0.20	0.07	0.99	0.95	1.00											
16	2nd educ. NON-enroll rate, total	-0.80	-0.85	-0.43	-0.47	-0.60	0.61	0.56	0.59	-0.53	0.37	0.39	0.23	0.84	0.84	0.80	1.00										
17	2nd educ. NON-enroll rate, male	-0.79	-0.84	-0.54	-0.46	-0.60	0.57	0.51	0.55	-0.52	0.37	0.40	0.25	0.81	0.82	0.77	0.99	1.00									
18	2nd educ. NON-enroll rate, female	-0.80	-0.86	-0.52	-0.46	-0.60	0.62	0.57	0.60	-0.53	0.38	0.40	0.23	0.84	0.85	0.82	0.99	0.97	1.00								
19	CL in tradeable sectors index	-0.24	-0.24	-0.24	-0.27	0.11	0.21	0.14	0.18	-0.26	0.29	0.31	0.35	0.22	0.23	0.20	0.22	0.21	0.25	1.00							
20	CL in tradeable sectors index + worst	-0.25	-0.24	-0.25	-0.29	0.13	0.22	0.15	0.19	-0.25	0.32	0.33	0.37	0.22	0.23	0.19	0.22	0.21	0.25	0.98	1.00						
21	CL in all sectors index	-0.49	-0.48	-0.37	-0.34	-0.13	0.34	0.27	0.31	-0.39	0.35	0.37	0.43	0.42	0.44	0.38	0.46	0.45	0.47	0.87	0.87	1.00					
22	% female in industry	0.01	0.09	-0.37	0.04	0.03	-0.23	-0.24	-0.24	0.04	-0.19	-0.17	0.06	-0.22	-0.24	-0.19	-0.20	-0.18	-0.18	0.11	0.10	0.09	1.00				
23	% fem. admin.-managerial/% fem. LF	0.22	0.25	0.09	0.21	0.15	-0.46	-0.45	-0.47	-0.05	-0.07	-0.08	0.04	-0.30	-0.25	-0.35	-0.20	-0.15	-0.24	-0.07	-0.07	-0.11	0.11	1.00			
24	% fem. Profess.-tech./% fem. LF	0.25	0.27	0.06	0.05	0.09	-0.29	-0.26	-0.28	0.07	0.06	0.05	0.05	-0.45	-0.38	-0.52	-0.23	-0.17	-0.29	0.01	-0.01	-0.05	-0.01	0.34	1.00		
25	Female/male educ. attainment	0.54	0.57	0.42	0.22	0.43	-0.50	-0.48	-0.50	0.20	-0.08	-0.08	0.00	-0.60	-0.57	-0.63	-0.51	-0.42	-0.60	-0.11	-0.12	-0.24	0.01	0.41	0.58	1.00	
26	Female/male literacy	0.60	0.65	0.25	0.32	0.43	-0.59	-0.57	-0.59	0.40	-0.21	-0.25	-0.03	-0.72	-0.70	-0.73	-0.70	-0.63	-0.73	-0.25	-0.25	-0.38	0.23	0.48	0.56	0.74	1.00

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.
For indices in rows 6 to 8 and 10 to 12, lower values indicate stronger worker rights.