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**The Political Economy Of FDI Location:  
Why Don't Political Checks and Balances  
and Treaty Constraints Matter?**

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## ABSTRACT

Although the risk of expropriation for foreign direct investment (FDI) has fallen substantially since the 1970s, political risk continues to be of concern to MNCs in many countries. I ask whether domestic political checks and balances and international legal instruments that aim to protect FDI enable governments to commit credibly to avoid future policies that diminish the value of sunk FDI. Utilizing a dataset on the level of foreign activity by majority-owned US manufacturing affiliates by country and industry over 1982-98, I find no evidence that either mechanism encourages inward FDI. Socio-political stability and centrist/technocratic governments do, however, provide positive signals to foreign investors, as may efficient domestic legal systems. Generally, MNCs also pursue various coping strategies that mitigate political and policy risk even in countries with few checks and balances and without investment treaty commitments.

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# THE POLITICAL ECONOMY OF FDI LOCATION: WHY DON'T POLITICAL CHECKS AND BALANCES AND TREATY CONSTRAINTS MATTER?

## 1. Introduction

The risk for foreign direct investment (FDI) of expropriation is widely seen to have fallen in recent years from the levels of the 1970s. Perhaps reflecting this, some recent studies of the factors affecting FDI location have omitted political factors altogether.<sup>1</sup> Contemporary students of political science and international relations, however, might see this as reflecting the *deformation professionnelle* of economists rather than appropriate research design. Surveys of multinational firms continue to confirm that political risk is an important factor in location decisions (MIGA 2002). Furthermore, recent work by political scientists, building on North and Weingast (1989), suggests that political checks and balances may play a central role in enabling governments to commit credibly to avoid future policies that diminish the value of sunk private investment.<sup>2</sup> Given the longstanding concern in the literature on FDI with the 'obsolescing bargain,' in which host governments engage in just such opportunistic *ex post* policy reversals, it would seem natural to extend this argument to the FDI case.<sup>3</sup>

Academic and corporate lawyers have also given increased attention in recent years to the role that international treaties aimed at protecting the value of foreign investments may play in deterring opportunistic policies by host governments. This issue was raised in the OECD negotiations over 1995-98 concerning the proposed Multilateral Agreement on Investment (MAI), in current discussions within the World Trade Organization (WTO), and in a number of recent bilateral investment treaties (BITs) and regional agreements with investment chapters (such as NAFTA). In the case of many recent BITs and NAFTA, investors may have the right to challenge in international courts

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<sup>1</sup> For example, Billington 1999; Shatz and Venables 2000. This omission contrasts with some earlier empirical work by economists, such as Wheeler and Mody 1992.

<sup>2</sup> E.g. Henisz 2000 and Stasavage 2002.

<sup>3</sup> The obsolescing bargain argument has usually been applied to the natural resources and infrastructure sectors. See Moran (1974).

policies that have the effect (if not the intention) of substantially diminishing the value of their assets in signatory countries (Waelde and Kolo 2001).

In view of the above, we might predict that multinational companies (MNCs) will prefer to invest in countries with more checks and balances upon political executives, and in those with international treaty commitments providing external legal checks upon host government opportunism. Utilizing a dataset on the level of foreign activity by majority-owned US manufacturing affiliates by country and industry over 1982-98, I investigate both of these propositions. Perhaps surprisingly, the empirical results support neither. This raises an interesting puzzle, which the rest of the paper tries to answer.

I argue that the countries that attract most FDI have been able to commit credibly to provide relatively good treatment to MNC affiliates through mechanisms other than political checks and balances and signing international treaties. Socio-political stability and centrist/technocratic governments appear to provide one kind of positive signal to foreign investors, since they may reduce the risk of large policy swings. Strong domestic legal systems are another, perhaps especially ones that are based upon common law. For many MNCs, however, coping strategies appear to be necessary. Some buy political risk insurance and undertake joint ventures with local partners to reduce political risk. Many more MNCs appear to retain bargaining power over time by holding out the prospect of further investment in the future and by retaining control over the flow of knowledge and technology to affiliates. Most also appear to seek safety in numbers in given jurisdictions: ‘herding’ may be rational.

The rest of this paper is organized as follows. The next section first discusses the relevant economic literature on the subject, and the main economic variables thought to affect location decisions. I then turn to consider which political and legal variables should matter for FDI location decisions, based upon the policy constraint argument. Section 3 discusses the data utilized and the definitions of the variables chosen for the analysis. Section 4 discusses the results of the regression analysis. Section 5 asks why domestic political and international legal checks do not appear to play an important role in affecting foreign affiliate activity. A final section concludes, and considers how various factors affecting FDI location decisions may be evolving over time.

## **2. Relevant Literature and Hypotheses**

### *2.1 Economic Approaches to FDI Location*

The economic theory of multinational production is eclectic and considerably less formalized than that of international trade. As Shatz and Venables (2000: 5) explain, there are two main – and quite distinct – reasons why a firm should go multinational. One is to better serve a local market, and the other is to get lower-cost inputs. The literature refers to the former variety as horizontal or market-seeking FDI, and to the latter as vertical or cost-seeking FDI (see also Caves 1982).

Horizontal FDI involves the substantive duplication of the home base production process in one or more foreign locations. As such, it substitutes for home base exports from the parent firm. The logic of such substitution may derive from high trade costs (due to high tariff, non-tariff or transport costs), the benefits of customer proximity, strategic advantages, and so on. Overall, the net benefits of foreign production compared to exports must outweigh the extra costs the MNC incurs in establishing foreign production facilities.

Vertical FDI involves the geographic separation of different parts of the production process so as to minimize overall production costs. For example, low-skill assembly operations in the electronics industry may be located in low-wage countries like China, while high-end R&D operations may be based in California, and chip production in Singapore. Essentially, this is an extension to multinational production of the standard theory of comparative advantage. As such, vertical FDI is assumed to be much more sensitive than horizontal FDI to cost variables such as net taxes, wages, tariffs and so on.

Although in practice foreign affiliates may perform both horizontal and vertical integrative functions, empirical evidence suggests that most FDI is market-seeking, i.e. horizontal (Shatz and Venables 2000; Lim 2001). However, vertical FDI may have been growing more rapidly in the last decade, when flows to developing countries grew more quickly than flows to developed countries. This also implies that some of the recent

concerns about a race to the bottom in wages, environmental protection, taxes and so on may have some basis in reality.<sup>4</sup>

## 2.2 *The Institutional Environment: Political and Legal Constraints on Host Governments*

It would be wrong to suggest that all economists working in this area have ignored political variables. However, when these are included, they have typically been of the catch-all ‘political risk’ variety (e.g. Wheeler and Mody 1992). This has made it difficult to understand precisely what is being measured, and what the results tell us. Furthermore, most political risk indices are usually produced by commercial political risk consultancies, making them difficult and costly to obtain, and they are usually based upon subjective criteria.

As suggested above, there are good reasons why political and institutional variables might matter considerably for FDI location decisions.<sup>5</sup> The core argument is that most FDI, given the costliness and difficulty of reversal, is open to the threat of *ex post* policy changes by governments that reduce the value of the initial investment. It should not be enough for governments to attract MNCs via low tax rates, few environmental regulatory constraints, and anti-union legislation. Most MNCs have to be concerned about whether the *ex ante* bargain struck with the host government will last after the investment has been made. This is the key idea behind the obsolescing bargain problem in the FDI literature, and, more generally, the time inconsistency problem of government policy. This problem will be most acute for FDI projects that are costly, capital-intensive, at least in part irreversible, and with long break-even time horizons.

Given the long time horizon relevant to many FDI location decisions, partisan political factors are likely to have less relevance in this respect than institutional checks

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<sup>4</sup> For arguments that the growing dependence of governments upon MNCs to provide jobs and prosperity produce a race to the bottom in taxes and regulatory constraints, see Barnett and Müller 1974, Cerny 1995, and Strange 1996. Many environmental, developmental and labour groups echo this academic literature. Others have argued that there is no systematic empirical evidence for the race to the bottom thesis: Garrett 1998; Kahler n.d.; Lawrence 1996. For econometric studies of FDI location, see Billington 1999, Smarzynska and Wei 2001, and Wheeler and Mody 1992.

<sup>5</sup> Surveys of MNCs also suggest that political stability ranks highly in FDI location decisions, though market access is the main objective (see MIGA 2002: 16-19).

and balances.<sup>6</sup> Although some argue that MNCs prefer right wing governments, this may not be the case if such governments provoke a left-wing partisan backlash. Even a rightwing host government may be open to populist, anti-MNC pressures.<sup>7</sup>

One factor that may increase the probability of such policy swings is the size of a country's natural resource endowment. Governments built on political coalitions dependent upon a large natural resource base may believe they can afford to tax MNCs highly. Others have argued that countries in which ethno-linguistic fractionalisation is high are more prone to distributive political struggles and to political instability in general, both of which could deter FDI (Alesina et al. 1999; Easterly and Levine 1997).

Democratic polities may not provide an adequate check on opportunistic policy reversals, even if 'grabbing hand' policies are more likely in authoritarian countries (Olson 2000).<sup>8</sup> Indeed, because they may facilitate policy swings and channel populist anti-FDI sentiment, democracy may help to produce such policy opportunism. An elected government may be willing to incur the net economic costs (in terms of deterring future inward FDI) of rewriting past bargains with MNCs if its political time-horizon is short and if it can use the additional resources gained to redistribute income towards its core constituency.<sup>9</sup>

A further hypothesis, following North and Weingast (1989), is that political systems in which there are many checks and balances will help to prevent *ex post* policy reversals of the kind MNCs should seek to avoid. The higher the number of checks and

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<sup>6</sup> This contrasts with the approach and findings of researchers investigating the determinants of short term capital and trade flows, where we would expect partisan factors to be more important (Garrett 1998; Simmons 1994, 1999).

<sup>7</sup> A recent example in a country seen as one of the most strongly committed to the neoliberal project was the demand by the Argentinean government in January 2002, in the midst of economic crisis, that oil companies based in Argentina should make a large contribution to government resources as an alternative to a large increase in taxes on oil exports. (Argentina asks oil companies for \$1.2 bn in aid, *FT. com* [www.ft.com], 10 January 2002). Two of the three largest oil firms in Argentina are MNCs. Fiscal incentives to attract foreign investors may be particularly vulnerable to *ex post* renegotiation as they are usually highly non-transparent and case-specific, reducing the reputational costs for the host government.

<sup>8</sup> It is evident that some authoritarian governments, notably in sub-Saharan Africa, have been unable to commit to stable policy, while others, conspicuously in East Asia, have been among the most successful in attracting large FDI inflows.

<sup>9</sup> Persson and Tabellini (1994) show how higher *ex post* capital taxation can emerge in simple models of democratic polities, leaving all sides worse off. An extension of this concern, with perhaps more contemporary resonance, is the possibility that governments might adopt more stringent environmental standards in the future that have the effect of eroding the real value of the investment.



balances, the more likely that veto players will prevent myopic governments from raising taxes, reducing promised subsidies, reclassifying the environmental status of the investment site or introducing various performance requirements on the MNC affiliate once the operation is up and running. Relevant institutional checks and balances may include voting rules, such as the way in which proportional representation tends to favour coalition governments, parliamentary review committees, second chambers, and courts of appeal.

The checks and balances literature suggests that legal institutions may be one factor among many that allow veto players to block policy reversals. Some recent work suggests that some kinds of legal systems may be more effective than others in this regard (La Porta et al. 1998, 1999). In this view, the English common law tradition, deriving from the role of the Parliament and property owners in resisting expropriation by the sovereign, is especially conducive to strong private property rights and hence investment. By contrast, the French civil law tradition favours the control of the state over private property, and a relatively unconstrained bureaucracy. Socialist law is a more extreme version of this tendency, and least conducive to investment. German and Scandinavian legal traditions are seen as occupying intermediate positions, but their emphasis upon bureaucratic professionalism is seen as positive for investment. A core assumption of this literature is that legal institutions are path-dependent: legal origins matter and have powerful, ongoing consequences. Governments operating under common law systems may have less scope for opportunistic policies regarding FDI.

Of course, a country's legal tradition says little about whether its government and private sector agents respect the law. This consideration implies that legal tradition should be more important when such respect is evident. However, accounting for the latter is difficult. La Porta et al (1998) find that survey data suggests that enforcement is highest in German and Scandinavian countries, followed by common law countries. Even so, because common law countries give greatest priority to shareholder and creditor rights, this, they suggest, accounts for the highly developed capital markets in the Anglo-Saxon countries. In contrast, German legal origin countries, which include Japan, Taiwan and South Korea as well as the Germanic countries of Europe, have bank rather than capital market dominated financial systems (see Demirguc-Kunt and Levine 1999).

This points to another reason why legal structures may have powerful implications for inward FDI, though not as such because they create a legal constraint on governments. Highly developed capital markets are associated with active markets for corporate control. By contrast, corporate takeovers in countries like Germany, Austria, Switzerland, Korea and Japan are notoriously difficult due to the dominance of banks, limits on outsider voting rights, cross-shareholdings and pyramid structures in these countries. Since the majority of FDI flows continues to take the form of mergers and acquisitions, this form of FDI is likely to be strongly deterred by bank dominated financial systems (UNCTAD 2001: 1).

Finally, international legal constraints may also limit the potential for policy reversal. Evidence for this argument is provided by the trend in recent years for business lobbies to demand a more general legal interpretation of expropriation in international treaties, to include not just traditional outright nationalization, but also to include ‘near-expropriation’ or regulatory ‘takings’, and to allow for MNCs to demand compensation from host governments for such takings (see Waelde and Kolo 2001). The latter is seen by corporate lawyers as necessary to deter governments from making regulatory changes (such as in the area of environmental policy) that have the *effect* of substantially reducing the value of the investors assets. As Waelde and Kolo discuss, a number of prominent and controversial recent legal cases, mostly associated with the provisions of chapter 11 of the NAFTA treaty, have demonstrated the growing importance of such concerns. International treaties that contain such takings clauses may therefore reduce the risk of *ex post* regulatory policy reversals by host governments for MNCs.

### **3. Data and Variables**

#### *3.1 The Dependent Variable: Foreign Affiliate Activity*

Although a number of studies use FDI flows or stocks as dependent variables, there are considerable drawbacks in doing so. The basic problem is that ‘FDI’ does not actually measure real investment. It is a balance of payments accounting concept that measures the flow of funds between countries that may occur when firms based in one country obtain a level of ownership said to constitute control (typically, the threshold of control is defined as 10% or more of shareholder equity, though this can vary from

country to country). This means, for example, that real capital expenditure may take place (factories may be built, new workers employed) but if the investment is funded through local or third-country borrowing, it will not be counted as an FDI outflow from the home country. In addition, FDI stocks are measured at historical cost, which reduces their value as a measure of current affiliate activity. Data on total assets suffer from similar problems.

As alternatives to these, I employ various measures of real MNC affiliate activity in host countries as the dependent variable. The Bureau of Economic Analysis of the US Department of Commerce provides useful data on such activities, and I utilize the databases available for majority-owned non-bank foreign affiliates of non-bank US parent firms (MOFA) in manufacturing industries.<sup>10</sup> These are available for the 17 years of the 1982-98 period and for 56 countries.<sup>11</sup> Data are broken down into seven broad industry groupings, which substantially increase the number of observations for each year-country (to a maximum possible of 6,664).<sup>12</sup> The measures of current affiliate activity available include affiliate total sales, local sales, exports, employment, gross product and capital expenditure. These Bureau of Economic Analysis (BEA) data are in current US dollars; to facilitate comparison over time, I obtained estimates of real activity by deflating each by the US GDP deflator. Finally, I normalized the real data for cross-country comparison by transforming each into per capita terms.<sup>13</sup>

There are wide variations in data availability; in some panels the BEA suppresses data for commercial reasons.<sup>14</sup> In addition, for the smallest countries such as the Bahamas

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<sup>10</sup> Majority-owned means those affiliates of which parent companies own 50% or more of the stock. The Comprehensive Financial and Operating Data of US MNCs are available at: <http://www.bea.doc.gov/bea/ai/iidguide.htm>.

<sup>11</sup> The countries in the database are: Argentina, Australia, Austria, Bahamas, Barbados, Belgium, Brazil, Canada, Chile, China, Colombia, Costa Rica, Denmark, Dominican Republic, Ecuador, Egypt, Finland, France, Germany, Greece, Guatemala, Honduras, Hong Kong, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, Nigeria, Norway, Panama, Peru, Philippines, Portugal, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Trinidad & Tobago, Turkey, U.K., United Arab Emirates, and Venezuela. In practice, some (such as Taiwan) are dropped from the analysis because of lack of data for the independent variables.

<sup>12</sup> It has the disadvantage, as discussed later, of making the panel-corrected error (PCSE) routine unavailable, except of course separately for each industry grouping.

<sup>13</sup> Standardizing FDI data by dividing by host GDP is another option employed in the literature. In the regressions below, it makes no substantive difference to the results which method is used.

<sup>14</sup> This could potentially bias the regression results, as data suppression may be more likely for smaller countries with small numbers of US affiliates in particular industries. However, an analysis of the missing data by independent variables (available from the author) showed that there were no substantial biases.

and Barbados, a large number of the data on the dependent variables are zeros, representing zero investment in particular sectors. In the regression analysis below, I use logs of the dependent variables to normalize the data and to facilitate the interpretation of the results, which means that these zero observations drop out. This has some theoretical costs, but in practice the results are completely unchanged by doing so, due to gaps in the data on the *independent* variables for precisely these countries. The dependent variables are summarized in [Appendix 1](#).

It is impossible to distinguish easily between horizontal and vertical forms of FDI in this database. Indeed, even if it is true that horizontal forms of FDI dominate vertical forms, it is also evident that MNC affiliates are, on average, highly export-oriented. Total sales and employment data clearly blur the distinction between horizontal and vertical FDI. Local sales perhaps measure best the horizontal aspect of affiliate activity, while exports measure the vertical aspect. As [Appendix 2](#) shows, higher affiliate export to local sales ratios suggest there is a greater preponderance of vertical forms in the electronics, transportation equipment and industrial machinery sectors. Horizontal FDI appears to dominate in food and in primary and fabricated metals. Later in the analysis, I use the panel data for the electronics and food sectors to explore differences between vertical and horizontal FDI forms respectively.

### *3.2 Economic explanatory variables*

As argued below, the different motivations for horizontal and vertical FDI render a number of the economic explanatory variables ambiguous in their impact. Thus, not surprisingly, econometric studies have produced conflicting results. This is less true for market size, however. Horizontal FDI should be positively related with market size and income per capita, perhaps the core determining variables of market-seeking FDI.<sup>15</sup> A larger and wealthier market, in addition to providing more opportunities to sell output, will provide for greater economies of scale and lower per unit output cost, though of course for vertical FDI this effect is much less important. Higher average host country economic growth rates ought also to attract horizontal FDI. I also include the variability of inflation, on the argument that higher levels should deter both horizontal and vertical FDI, since it

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<sup>15</sup> I use purchasing power parity measures of GDP and GDP per capita in the analysis.

makes strategic analysis more difficult and it may reflect volatile macroeconomic management.

The theory outlined above suggests that high transport costs should be positively related with horizontal FDI, and negatively related to vertical FDI. In our analysis, as in many others, distance proxies for transport costs. Higher host country tariff and non-tariff barrier levels should also encourage horizontal FDI, since they raise the relative cost of servicing the host market by exporting. For vertical FDI, trade barriers should have a deterrent effect, given the high trade intensity of such operations. However, trade barriers plausibly have some negative effects upon the levels of horizontal FDI if inputs are imported and if some production is exported.<sup>16</sup> Finally, although it is possible to obtain broad measures of trade taxes (as employed below), data on non-tariff barriers (NTBs) are more problematic. In sum, the overall effect of trade barriers on FDI is likely to be ambiguous.<sup>17</sup> Another consideration is that restrictions on inward FDI may be higher in countries with high tariff and NTB protection. If so, there may be a stronger negative relationship than the theory suggests.

The effects of trade openness are also likely to be ambiguous. Openness should be important for vertical FDI, but for horizontal FDI of the tariff-hopping variety, trade openness may discourage FDI relative to exports. Again, however, this negative relationship with horizontal FDI is uncertain for the same reasons as given above. In addition, it may be that trade openness is correlated with other variables we do not capture, including the treatment of inward FDI itself, as well as general business climate.

The treatment of FDI itself by the host country is expected, of course, also to be important. Obviously, restrictions on foreign ownership will have a deterrent effect on FDI. This is because such policies are usually aimed at protecting national ownership and control of key domestic industries. Countries that adopt such policies often at the same time attempt to attract export-oriented vertical FDI through the creation of export-processing zones (EPZs). In these EPZs, restrictions on foreign ownership and other

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<sup>16</sup> Indeed, the co-existence of rapid growth of FDI in the 1990s with a broad trend towards trade liberalization is at odds with the prediction that FDI and distance/trade costs should be positively related.

<sup>17</sup> Moreover, in the analysis below, since I do not specify affiliate local sales *compared to* US exports to the host country as a dependent variable, I do not specifically test for this effect.

controls may be waived, either generally or on a case-by-case basis. Often, performance requirements may be demanded in return for such waivers, typically the requirement to export a large proportion of total output. Generally, *ceteris paribus*, performance requirements such as export, local content and ownership requirements should deter FDI since they limit the flexibility of affiliate operations. However, available data in this area is very poor and unavailable for the 1982-98 period.<sup>18</sup> As indicated above, I expect that trade (tariff) restrictions in part proxies for such treatment.

Low factor costs, such as wage costs and rents, should be strongly positive for vertical FDI. For horizontal FDI, the impact should be less important. One can derive from the BEA dataset information on employment compensation per worker by country and industry (in real US dollars). However, since wage costs are highly correlated with income per capita ([Appendix 3](#)), there is a danger in including both. The basic problem is that *unit* wage costs (i.e. after adjusting for cross-country and cross-industry productivity differences), in principle a much better variable than wages, are unavailable over such a large cross-section. Educational variables (such as secondary school enrolment rates) might proxy for productivity, though again this variable is highly correlated with income per capita.

Similarly, low taxes and positive fiscal incentives (which reduce the effective tax rate) should be positive for cost-minimizing vertical FDI, but less important for horizontal FDI. However, foreign taxes may be less important than suggested in the globalisation literature because host countries, including the US, often allow parent firms to deduct foreign taxes paid to host countries from their taxable income (at least where bilateral taxation agreements exist). This should reduce MNCs sensitivity to local taxation levels in host countries when making investment location decisions. Some studies – though not all – have in fact found taxes to be insignificant (Wheeler and Mody 1992). I use effective tax rates from the BEA database, given the various disadvantages of using headline corporate tax rates.

Finally, a number of studies point to the importance of agglomeration effects, though the reasons given are various (Shatz and Venables 2000: 9). It appears that the

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<sup>18</sup> The IMF's annual data on *Exchange Arrangements and Restrictions* indicates if restrictions on inward FDI are present, but these are measured on a simple either-or basis.

positive externalities generated by a higher level of industrialization and host country infrastructure may be important for both horizontal and vertical FDI. I proxy for these effects with GDP per capita (see Appendix 3 for correlations between the explanatory variables considered).

Appendix 4 summarizes the economic explanatory variables discussed and their expected effects upon FDI. In practice, I use log transformations of most of these variables, to normalize the data, reduce heteroskedasticity, and to facilitate the interpretation of effects on the dependent variables (as elasticities). The exception is GDP growth, which is left as a percentage.

### *3.3 Political and Legal Explanatory Variables*

Although I argued that broad regime type (authoritarian vs. democratic) is likely to be a poor predictor of the level of affiliate activity, I include this variable to see if this prediction is borne out. I use the POLITY variable from the Polity IV dataset, which ranks countries subjectively over time on a scale of -10 (strongly authoritarian) to +10 (strongly democratic) (Marshall and Jaggers 2000). I also use XRREG from the Polity IV database, or regulation of executive recruitment, as a measure of the extent to which transfers of executive power are regulated.<sup>19</sup> I expect this variable to be weakly but positively related with affiliate activity, after taking other variables (such as GDP per capita) into account. From the same database I also use DURATION, which measures the number of years in which the current political system in each country has endured. One might expect duration to indicate political stability, and hence to encourage FDI. However, the general trend of broad regime change in developing countries since the 1980s towards both economic and political liberalization may produce the opposite effect, with MNCs shifting the share of their total investment towards newly liberalizing countries.

I also include a measure of the political orientation of the incumbent government from the Beck et al (1999) database, EXECRLC, which ranks the party of the chief executive as left, centre, right, or not applicable. I expect left wing governments to deter

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<sup>19</sup> This variable ranges from 1-3, with 1 designating self-recruitment (coups are common), 2 recruitment by designation, and 3 regulated.

affiliate activity relative to other political orientations at best very weakly, and not at all in the presence of high checks and balances.

The variables employed to assess the alternative political economy theories outlined above are as follows. For the level of natural resource rents available, I use hectares of agricultural land per worker, available from the World Bank's World Development Indicators (WDI) database.<sup>20</sup> My expectation is that treatment of manufacturing FDI will improve as the natural resource base decreases. For ethnic divisions, I use the (static) index of the degree of ethno-linguistic fractionalisation for each country developed by Easterly and Levine (1997). I expect higher values to deter MNC affiliate activity. For checks and balances, I use the Check2A variable from the Beck et al (1999) database, which counts checks and balances for most countries from 1982-97. A higher score should be positively related with affiliate activity on the North and Weingast (1989) argument. Since it is reasonable to suppose that after a certain point there will be diminishing returns to additional checks and balances, I use lnCheck2A in the regression.

As noted earlier, accounting for host country FDI policy is problematic. One possibility, standard in the political economy literature, would be to assume that the strong presence of pro-FDI interest groups produces a liberal FDI policy stance. The kinds of groups that might favour inward FDI in the manufacturing sector may be service providers of various kinds, users of capital goods, consumers, and exporters who benefit from lower cost inputs. Correspondingly, importers and uncompetitive domestic firms might oppose horizontal inward FDI. If so, trade openness in general (and low tariffs) might serve as a proxy for FDI policy, and might produce a positive relationship with FDI even if horizontal forms dominate. I also include a dummy for English as a host country native language, since this may facilitate the entry and operations of American affiliates.

For legal origin, I use the categorization of La Porta et al (1999), which assigns countries English, Socialist, French, German or Scandinavian legal origins. Given the relatively small number of countries that appear in the regressions (44 or less in the political economy regressions), I collapse legal origin into a binary 'common law or not'

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<sup>20</sup> Agricultural, fuel and mineral exports per capita were also considered, but some very resource poor countries, such as Singapore, have exceptionally high levels of per capita natural resource exports because of their entrepôt roles.



variable. I expect affiliate activity to be higher for countries with common law origins. Since legal origin may be more important when respect for the law is greater, I use the World Bank's binary categorization of high income vs. low and middle-income countries as one measure of this, on the common (if unfortunate) assumption that respect for the law is greater in high-income countries.

As for international regime commitments, I expect BITs and regimes like NAFTA to encourage FDI, as indeed is their explicit intention. However, I would not expect a strong effect, since the US has no BITs with developed countries (though US FDI in Canada is covered under the NAFTA treaty).<sup>21</sup> I expect ratification of the International Court for the Settlement of Investment Disputes (ICSID) convention, to have very weak positive effects compared to US BITs, since enforcement pressure from the US government is more likely to be brought to bear on governments that ignore BIT obligations, and because ICSID ratification may be a hollow gesture (see Section 5).

[Appendix 5](#) summarizes the political explanatory variables used and the hypotheses to be investigated. It is apparent that data availability is much better than for the economic variables.

#### 4. Quantitative Analysis and Results

I estimate the following model over time (t), for observations at the industry (i) and country (j) level:

$$\begin{aligned} \text{Ln}(\text{AFFILIATE ACTIVITY}_{ijt}) = & b_0 + \text{ECONOMIC}_{ijt} + \text{POLITICAL}_{jt} + \text{D}(\text{Industry}_i) \\ & + \text{D}(\text{Year}_t) + \mu_{ijt} \end{aligned}$$

That is, different measures of US MNC affiliate activity by country and industry are modelled as a function of vectors of economic and political variables, with dummies for industries and years. The dependent variables used are affiliate employment, total sales, local sales and exports, for reasons of comparison and availability. Since the last

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<sup>21</sup> For regression purposes, Mexico and Canada are included in the list of countries with which the US has BITs (from 1994), since the provisions of US BITs and that of NAFTA's chapter 11 are similar.

three are measured in real dollar values, these may be problematic due to changing exchange rates and prices. Hence, the employment regressions provide a useful check.

Since I have a three-dimensional panel of 56 countries, 7 industries and 17 years, I use the Ordinary Least Squares (OLS) routine with robust estimates, clustered by country, on the assumption that the data will not be independent within countries. GLS may be inappropriate because of the small number of years compared to countries, while the panel-corrected standard errors (PCSE) approach is unusable for the whole dataset, except for individual industries (I employ this technique later for individual industries). Nevertheless, the OLS (cluster) method is more flexible than PCSE in terms of allowing for any type of correlation within panels. The strategy is first to estimate a basic model with only economic variables, then to extend the analysis to include the political and legal variables to test the hypotheses outlined above.

#### *4.1 Results: Economic Regression*

In the four economic regressions on the whole dataset, reported in [Appendix 6](#), I find the main market size variable, GDP, unexpectedly lacks significance. However, GDP per capita has a powerful and significant positive effect, perhaps capturing other effects such as infrastructure quality and omitted political variables. The coefficient for average growth consistently has the wrong sign and is insignificant (which is only consistent with expectations for affiliate export activity). The variability of inflation is consistently positive and borders on significance, which is also unexpected and may suggest heteroskedasticity in the whole dataset. Distance is consistently negative and significant, which may suggest that even if horizontal FDI dominates, vertical FDI is an important (and perhaps increasingly important) complement.

Duties (tariffs) have a small and largely insignificant effect, though in the export equation the coefficient is more strongly negative (though still insignificant), in line with expectations. Openness is generally positive and significant in all equations except for local sales, which is inconsistent with horizontal FDI theory, but arguably consistent with the broader considerations outlined above. As expected, wages are negative and important in the employment and exports equations, and otherwise insignificant. The coefficient on secondary schooling has an unexpected negative coefficient, except in the exports

regression, but only borders on significance in two equations. The high correlations between GDP per capita, wages and schooling suggests the latter should be dropped. Finally, the coefficient for the opposite of tax rates is consistently positive, as expected, but never significant. This is consistent with the view that firms choose where to locate and then instruct their accountants to minimize taxes, and/or that the deductibility of foreign income taxes renders MNCs largely indifferent to foreign tax rates.

I tested for the possibility of substantial differences between the developed and developing country subsets by running regressions for each subset. Due to the smaller datasets, F-tests for the regressions were not available. However, the size of the coefficients for some of the variables changed significantly, suggesting substantial differences between developed and developing countries. I explore these differences in the following section. In terms of those economic variables to be carried forward to the political economy analysis, I drop schooling, growth and taxes.

#### *4.2 Results: Combined Regression*

With the larger number of variables, the OLS (cluster) routine sometimes failed to produce significant F-scores. To proceed, I employed the PCSE routine, using two industries for comparison.<sup>22</sup> The first, Electronics, has a high degree of vertical FDI, while the second, Food, is dominated by horizontal FDI. The PCSE routine assumes heteroskedasticity and contemporaneous correlation across panels; I also specified a standard AR(1) form of autocorrelation in the regressions.<sup>23</sup>

The results for the electronics sector, inclusive of all the variables, are given in [Appendix 7](#). For comparison, [Appendices 7a](#) and [7b](#) also report results for developed and developing country subsets respectively.<sup>24</sup> First, there are a few changes to the economic variables worthwhile mentioning. The coefficient for GDP generally achieves greater

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<sup>22</sup> However, the OLS (cluster) routine produced results for individual coefficients that did not differ substantively from the PCSE routine.

<sup>23</sup> I also tried a lagged dependent variable in the regressions. This produced, not surprisingly, higher  $R^2$ s and smaller and often less significant coefficients for the independent variables (the significance of the political variables in particular was generally reduced). Given the objectives of this paper, this strategy was deemed less useful.

<sup>24</sup> [Appendix 8](#) summarizes the independent variables used for the separate developed and developing country datasets (for electronics).

importance, being strongly positive for local sales and, more surprisingly, exports. As the results in [Appendices 7a and 7b](#) suggest, however, GDP appears unimportant for the developing country subset, perhaps reflecting the greater amount of vertical FDI in developing countries. GDP per capita retains a positive and significant coefficient, but its importance is reduced. This is in line with expectations that it was proxying for political variables in the basic economic regression. [Appendix 7b](#) also suggests that US FDI is strongly biased towards middle income rather than low income countries, implying limits to race to the bottom effects.

The variability of inflation now drops out of contention, which is reassuring. Distance retains a negative effect but is considerably reduced in importance. Although duties remain insignificant, openness remains highly significant and much increased in importance, as I would expect for the electronics sector. Wages retain their negative significance for employment for both developed and developing countries, are positive for local sales in high income countries, but are generally less important than expected.<sup>25</sup> Again, this suggests strong limits to race to the bottom effects.

As for the political and institutional variables, overall regime type (POLITY) was always insignificant for the electronics sector, consistent with the view outlined earlier that investors might be equally deterred by populist democracies as by autocracies. Duration, however, was significant and negative. Although the coefficients for duration were only slightly larger for developing countries, this is consistent with the view that US FDI sought out newly liberalizing developing countries over the period.

The results for EXECRLC, the political orientation of the government, are interesting. There is no support for the view that MNCs prefer right wing governments, as predicted.<sup>26</sup> However, there is consistent evidence that US MNCs prefer governments of an ambiguous political colour (“NA”). It may be that difficult-to-categorize governments are made up of different coalitions, and thus have high checks and balances. However, as discussed below, checks and balances are always insignificant in the regressions, including when EXECRLC is dropped. The result may therefore be interpreted more

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<sup>25</sup> I also included taxes in some regressions and these continued to be insignificant (not reported).

<sup>26</sup> I also tested whether right wing governments operating under authoritarian political systems were preferred. Again, the results (unreported) did not support this.

straightforwardly: investors may see non-politically extreme governments as consistent with greater political stability. This interpretation is consistent with the generally positive, if insignificant, coefficient for centrist (as opposed to right-wing) political regimes for developing countries.<sup>27</sup>

It is worthwhile noting that the ‘NA’ political category is almost entirely found in developing countries (with the exception of Switzerland: see [Appendix 9](#)), while centrist political regimes are rare in the developing world. A number of East Asian countries, which have a large share of global electronics FDI, also fall into this category, so this finding could simply reflect a particular regional concentration of FDI in this sector. However, this possibility is not consistent with the evidence. When I tested the hypothesis that EXECRLC should be less significant when checks and balances are high, I found no evidence of such an effect; indeed, the opposite was more often the case. Requiring checks to be high removes most of the East Asian countries from the dataset, with the (questionable) exception of Malaysia. Several of the above regressions in which the effect of EXECRLC was significant were re-run with the condition that Check2A were higher than average, with and without Malaysia. These suggested that the importance of non-extreme political orientation is reasonably robust to different political institutional arrangements and to geographic region.

Further evidence that political stability matters for FDI can be found in the results for ethno-linguistic fractionalisation, which are mostly significant and negative in the combined regression, though not in the separate developed and developing country regressions. The overall result is consistent with the Easterly and Levine (1997) argument that ethno-linguistic fractionalisation is a cause of political conflict and instability, and the under-production of public goods. It may capture at least some of the effect that other studies have included in the catch-all variable of political risk. As for XRREG, which measures the degree of regulation of executive election, the results are generally insignificant, except for exports, where there is an unexpected (and inexplicable) negative coefficient. As with ethno-linguistic fractionalisation, however, it is insignificant in [Appendices 7a and 7b](#). The results for agricultural land are also inconsistent: it has a positive effect on local sales and a negative effect on exports, and is insignificant in the

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<sup>27</sup> Nor is it the case that this derives from a greater durability of centrist/ambiguous political regimes: on the contrary, these turn out to be the least durable regimes.

developing country regressions. This may reflect the fact that it is a poor proxy for natural resource rents.

Surprisingly, as noted above, checks and balances are generally insignificant, and in the case of local sales, almost significant and negative. It is notably insignificant for developing countries. Since the POLITY variable contains as one of its sub-elements executive constraints, it is questionable if this should be included in the same regression as lnCheck2A. Even so, when this variable is dropped, checks and balances remain insignificant. Indeed, this result is robust to the removal of all of the other political variables in the regressions, and to the division into developing and developed countries (see [Appendix 7c](#)). Section 5 discusses why this might be so.

There is much stronger evidence in favour of the legal origin hypothesis. There is generally strong evidence of a powerful, negative impact of non-English common law regimes on FDI. There is also strong support for the hypothesis that the effect of legal origin should be more significant when countries have higher income, a proxy for respect for the law ([Appendices 7a and 7b](#)). Indeed, common law origin becomes insignificant (though remains positive) in the developing country dataset.

Despite this strong result that is consistent with La Porta et al (1998, 1999), it should be interpreted cautiously. It is unclear whether it demonstrates that common law systems better constrain opportunistic government policies on FDI, or whether they facilitate acquisitions-related FDI. There is good reason to suppose that, in contrast to portfolio investment where investor rights may matter more, the latter effect may dominate for FDI flows. It should be noted that common law origin and English language are of course correlated. When either the legal origin or the English language variables are dropped, the other's significance increases. This finding also helps to reconcile the evidence presented here with the findings of other studies that the English language has a strongly positive effect on inward FDI from the US.

As for the international legal constraints, the results strongly suggest these to be unimportant. Indeed, for the BITs dummy, the coefficients are consistently negative and sometimes significant. The powerful negative effect of BITs on total sales for all countries is interesting, considering that I included Canada and Mexico in the BITs

category from 1994. Indeed, the size and significance of the negative coefficients for BITs are even stronger if Canada and Mexico are excluded from the BITs category, as is strictly correct. This supports what I call the ‘desperation hypothesis’: countries that get the least FDI are the most likely (with the exception of Mexico and Canada) to negotiate and ratify BITs with the US, which generally insists on high standard treatment and protection of its firms. However, the BIT in itself is unlikely to be sufficient to offset the various reasons why little investment flowed to such countries in the first place.

Like BITs, ICSID ratification in itself also appears to do little to reassure MNCs that the host government will better protect the value of their assets. Furthermore, as the results in [Appendix 7a](#) show, there is no evidence for the argument that ICSID ratification should have a more positive effect in high-income countries. On the contrary, there is now some evidence of a negative effect. This is consistent with the argument that MNCs are sufficiently relaxed about investing in high income countries that ICSID ratification is superfluous; for developing countries, it appears simply to be irrelevant.

The PCSE regressions on the horizontal FDI-dominated food sector are shown in [Appendix 10](#).<sup>28</sup> The results are broadly in line with those for electronics, with some differences. Host country openness remains important for food affiliates, but much less so than for electronics, as expected. Wages, too, appears to be less of a deterrent, as expected for market-seeking FDI.

There are more differences for the political variables, though these do not substantially alter the results reported above. Regime type now verges on significance for employment and local sales, with democracy having a marginal positive effect on both. With the exception of food exports, where it has a strongly negative effect, ethnolinguistic fractionalisation is generally insignificant. This suggests that this variable may be more important for relatively mobile, vertical FDI, than for market-seeking FDI. Checks and balances are again insignificant, except for the anomalous and only marginally significant negative coefficient on local sales.

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<sup>28</sup> I also ran equivalent regressions to the above on average industries such as chemicals, and on the mean values of affiliate FDI activity for the whole dataset. These produced similar results to those already discussed.

As for legal origin, common law has the same strong positive effect on affiliate sales; there is, however, an anomalous negative coefficient for employment (though the English language coefficient is now significant and positive). It might be explained by a large US MNC presence in the food industry in Latin American countries, which in the main have civil law legal systems. With the exception of exports, there is a strong and significant positive effect of land upon food FDI, as might have been predicted. Finally, international legal regimes are again found to have little effect.

## **5. Why Don't Political Checks and International Treaties Matter?**

In view of the theory outlined earlier, the results that both political checks and balances and international legal constraints turn out to have little positive effect on US foreign affiliate activity in the manufacturing sector are surprising. What might account for this puzzle?

It seems easier to explain why international treaties have (at least so far) had little effect on FDI location decisions by US MNCs. First, in practice, such treaties are few and far between, particularly ones that involve developing countries. With the conspicuous exception of NAFTA, which covers two of America's most important economic partners, US investment treaty coverage is poor, and especially weak amongst the more important emerging market countries (Author 2000). Notably, since it began its BITs program in 1982, the US has been unable to negotiate BITs with any important East Asian countries, and only has one (with Argentina) in South America. One key reason is that the US Model BIT prohibits the performance requirements that many developing countries wish to use to promote local developmental objectives. Most of America's 32 BITs in force are with poor Central Asian and African countries; for these countries, the desperation hypothesis would seem to apply. Second, the US government, along with other OECD governments, has always insisted on carving out taxation from the takings clauses they negotiate in investment treaties, reducing their usefulness for MNCs.

If the value of the US BITs network is rather limited for US MNCs, that of the ICSID convention is even less. Countries that ratify this convention, of which there are 149 at present, may be signalling to international investors that the risk of policy reversal is low. However, mere ratification of the convention does not guarantee that investors are



able to take host governments to court in the event of effective expropriation, since ratifying governments may place various limitations on the applicability of the convention (Muchlinski 1995). The ICSID convention allows governments to require local legal remedies to be exhausted before referring a dispute to ICSID for arbitration.

Does this mean that risk-sensitive foreign investors are able to rely on local courts to protect the value of their investments? This is plausible for many OECD countries, but not for some popular destinations for FDI, such as China, Indonesia and Thailand. Some foreign investors mitigate risk by purchasing public or private political risk insurance for particular investment projects, but this can be costly and of limited value in protecting against regulatory changes. Until the mid-1990s, private risk insurers provided insurance for only up to three years. Although the US government's Overseas Private Investment Corporation (OPIC) and the World Bank's Multilateral Investment Guarantee Agency (MIGA) fill some of the gaps in the private insurance market, they generally provide political risk insurance of a traditional kind (coverage in the event of war and political violence, expropriation, and currency inconvertibility). Regulatory risk remains very difficult to insure against, and most MNCs do not use either private or public political risk insurance when investing abroad (MIGA 2002: 30). The size of these public insurance programmes is also very limited. In 1998, MIGA insured only 3% of total FDI flows to developing countries, while in 2000 OPIC insured a mere \$318 million of US FDI projects (MIGA 1998; OPIC 2000: 21).

The finding that checks and balances do not matter could also have a number of interpretations. It may suggest that US MNCs are politically unsophisticated investors; they may take less account of political institutions than rational institutionalist theories imply they should. Possibly more plausibly, checks and balances may in practice be poor predictors of the degree of stability of treatment and protection of inward FDI. The case of the UK is illustrative. On most accounts, the UK political system has few checks and balances compared to other advanced democracies, with a powerful and relatively unconstrained executive branch. However, this has not prevented the UK from remaining one of the most important destinations for both US and global FDI flows for many years. MNCs clearly perceive the risk of serious policy reversal in the UK as remote, perhaps due to the strong local legal system, or the broad political consensus in favour of inward investment since the 1970s.

As Stasavage (2002) suggests, it is evident that governments can establish credibility through other mechanisms in the absence of checks and balances. He argues that one such mechanism is the loss that an incumbent government's political supporters would suffer from an opportunistic policy reversal. However, it is not clear why opportunistic reversals limited to *foreign* investment would negatively impact large numbers of government supporters in most countries. In risky countries, joint ventures with local partners may be one means of gaining domestic political leverage, though in the database used here, only majority-owned foreign affiliates (MOFAs) are included.<sup>29</sup>

One possible explanation is that MNCs may find safety in numbers. For important destination countries, governments are not involved in making one-off bargains, but more typically multiple bargains with many investors. Even in the case of bargains with single investors, MNCs may try to maintain host government cooperation by signalling the prospect of project expansion in the future. In such circumstances, the shadow of the future may be long and government incentives to reverse policy weak. This might help to explain why, for example, China remains such a popular destination for MNCs despite the grave weaknesses of its local legal framework and its political system. China's share of global FDI flows alone rose from 2.9% over the 1988-1992 period to 12.2% over the 1993-97 period (Shatz and Venables 2000: 4). At the same time, China's score on the checks and balances scale developed by Beck et al. (1999) is the lowest possible. Clearly, in this important case, something else is at work. Since my database only covers countries in which there are generally significant numbers of MNCs operating, it is possible that it omits the riskiest country cases.<sup>30</sup> Unfortunately, good FDI data for other countries is largely unavailable.

In good part, China's sheer economic size and potential may offset the policy risks that investing in China incurs. But Singapore, with a very small domestic market, cannot be explained in this way. It too has a low score on political checks and balances, but is

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<sup>29</sup> 90% of all US foreign affiliates in 1998 were MOFAs. Although this percentage was higher in Canada and Europe (94%), it was only marginally lower in the rest of the world (87%). It is difficult to tell if this is because joint ventures are used to reduce political risk in developing countries, or for other reasons (including legal restrictions on foreign ownership in many countries).

<sup>30</sup> There was some moderate but inconsistent support for the argument that checks and balances will be more important when total inward FDI is low in the data.

consistently rated near the top of international business surveys of general business environments. Advocates of the East Asian model might suggest this is due to strong leadership, but this poses more questions than it answers. In both the Chinese and Singaporean cases, investors evidently believe that government commitments to the principle of private property and to continued economic liberalization is credible. In the case of Singapore, an exceptionally heavy dependence upon FDI in services and electronics manufacturing means that serious policy reversals would be very costly to the wider population and therefore highly unlikely.

FDI is probably also more reversible than is suggested by the simple framework outlined in Section 2. As Markusen (1995) argues, FDI is especially knowledge-intensive investment and often involves a constant flow of knowledge between parts of a global corporate network. Thus, 'FDI' is not necessarily a one-off event and important aspects of the FDI package may be easily reversible, reducing the incentives for an opportunistic host government to expropriate wealth from MNCs. Only in extreme cases of political instability and economic collapse, such as that of Argentina in 2002, have liberalizing governments seriously reversed policies on FDI. Furthermore, to the extent that the manufacturing sector is generally less susceptible to *ex post* appropriation by host governments than is FDI in the natural resources and infrastructure sectors, the database may exclude the most risk-sensitive sectors.

## 6. Conclusion

To what extent have the factors identified here as important changed from the 1980s to the 1990s?<sup>31</sup> The importance of host country openness, even in sectors dominated by horizontal FDI, appears to have increased over time. Dividing the sample into the two decades covered, the coefficient on openness approximately doubled in the 1990s as compared with the 1980s for electronics; even for food, it increased by nearly three-quarters. Correspondingly, the importance of distance declined over time. This is consistent with the evidence presented in Hanson et al (2001) that vertical FDI is more important than the literature has generally suggested. But vertical and horizontal FDI forms are difficult to separate in practice. Also, the finding that openness is so important

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<sup>31</sup> Results are available from the author upon request.

may also reflect the possibility that trade openness is a good proxy for a pro-FDI policy on the part of the host government, a factor not captured directly in the above regressions.

This finding is also consistent with the argument that MNCs have become somewhat more sensitive to cost factors over time. However, in these regressions the importance of wage costs actually appears to have diminished slightly in the 1990s compared to the 1980s. Furthermore, I found little evidence in favour of the view that affiliate activity is very sensitive to host country taxes.<sup>32</sup> Since this may be because the bulk of foreign income taxes paid by affiliates are deductible for US parents, it does not mean that taxes are irrelevant; it could mean that changes in US levels of taxation could have powerful repercussions for the rest of the world.<sup>33</sup> Overall, it seems possible to say that although MNCs are sensitive to some costs such as tariffs and wages, the continued attractiveness of developed country and middle-income developing country markets as locations places powerful limits on race to the bottom effects, even in the electronics sector.

Although the evidence presented here suggests that political checks and balances, political regime type and international treaties are not important for FDI decisions, this does not mean that political factors are unimportant for investment location decisions. As survey data continue to show, and as the findings presented here also suggest, political stability matters considerably for MNCs investing abroad (MIGA 2002: 16-19). Ethno-linguistic fractionalisation and the political instability it may produce appear to deter FDI. In addition, I found evidence that MNCs favour investing in countries governed by apolitical or centrist governments, possibly because these are perceived as less susceptible to policy swings.

However, the risk appetite of US MNCs appears to have increased over time. The finding that the longevity of political regimes was negatively related to affiliate activity is strongest for developing countries in the 1990s, suggesting that US MNCs have favoured liberalization experiments, in both the economic and political sense, rather than political regimes with long track records. Even the negative coefficient on ethno-linguistic

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<sup>32</sup> That Hanson et al (2001) do find such evidence may be due to the fact that their dependent variable is the ratio of affiliate exports to local sales, a better test of the vertical vs. horizontal FDI decision.

<sup>33</sup> On the importance of home country tax treatment, see Morisset and Pirnia 2000.

fractionalization often became insignificant for the 1990s. If this interpretation is correct, it may imply that FDI may be becoming less stable over time.

There was strong evidence that domestic legal regimes matter for inducing FDI, but not international treaties. These results were also reasonably constant over time. As might be predicted by proponents of the legal origin hypothesis, common law countries attract much more FDI than countries with other legal systems. That legal origin appears to matter more as income per capita rises, may also suggest that MNCs take comfort in countries with legal systems that enforce creditor and private property rights. However, because countries with German and Scandinavian legal systems attracted even less FDI than French civil law countries, the results are more consistent with the argument that investors are more deterred by bank dominated financial systems.<sup>34</sup> The causal influence of the legal system on FDI may therefore be indirect, working its way through the financial structure rather than through the direct effect of law on investment decisions.<sup>35</sup> Interestingly, the evidence presented here also suggests that English as a language may be less important for US FDI than is commonly thought. The UK's status as the largest host of US foreign investment may owe more to its financial structure and the related openness of its market for corporate control.

The general finding that international treaties are unimportant is consistent with the view that formal rules on FDI treatment may have little effect on how governments treat investors on the ground (Haggard 1990: 214). It also supports the desperation hypothesis: countries most eager to sign BITs with the US government are some of the least attractive to US investors, and are therefore willing to try anything to induce inward investment flows. More time may need to elapse before we will be able to tell if these bilateral treaties, all post-1982, will have any significant positive effect on FDI flows.

The bulk of US FDI continues to go to other advanced industrial democracies, with whom there is no binding international investment regime (the EU and NAFTA are regional exceptions). Here, reciprocity seems to produce cooperation, given that most

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<sup>34</sup> The Common Law dummy employed here did not distinguish between civil law systems (because of a concern over the small number of observations). When a dummy for each legal system was used, the results fairly consistently showed German and Scandinavian legal systems to deter FDI most.

<sup>35</sup> For a general critique of the La Porta et al (1999) argument, see Berglöf and von Thadden (1999).

OECD countries are significant hosts as well as sources of FDI. This in turn raises questions about how necessary was the US effort to negotiate an MAI in the late 1990s. Even in the case of developing countries, trade liberalization seems much more important than investment treaties in attracting FDI. A free trade area for the Americas, a Bush administration objective, might therefore provide a much more powerful impetus to US FDI flows to the region than would a regional investor protection instrument by itself.<sup>36</sup>

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<sup>36</sup> However, since there is a NAFTA chapter 11-style investment promotion and protection clause being discussed in the FTAA negotiations, this would no doubt be an added bonus to MNCs.

**Appendix 1:** Dependent variables: measures of real affiliate activity per capita, log-transformed variables in italics

| <b>Dependent variable</b> | <b>mean</b> | <b>sd</b> | <b>min</b> | <b>max</b> | <b>N</b> |
|---------------------------|-------------|-----------|------------|------------|----------|
| <b>SALESrpc</b>           | 91.35       | 291.30    | 0          | 5969.81    | 4824     |
| <i>lnSALESrpc</i>         | 3.08        | 2.20      | -8.22      | 8.69       | 3773     |
| <b>LOCSALESrpc</b>        | 38.28       | 85.12     | 0          | 1210.72    | 4212     |
| <i>lnLOCSALESrpc</i>      | 2.55        | 2.13      | -8.22      | 7.10       | 3078     |
| <b>AFFEXPORTSrpc</b>      | 51.44       | 236.69    | 0          | 5191.78    | 4025     |
| <i>lnAFFEXPORTSrpc</i>    | 1.88        | 2.69      | -7.09      | 8.55       | 2631     |
| <b>GROSSPRODrpc</b>       | 33.09       | 117.97    | -67.47     | 1704.52    | 1743     |
| <i>lnGROSSPRODrpc</i>     | 1.96        | 2.13      | -6.14      | 7.44       | 1423     |
| <b>EMPLOYTpc</b>          | 0.00039     | 0.0010    | 0          | 0.0147     | 5494     |
| <i>lnEMPLOYTpc</i>        | -8.91       | 1.90      | -17.43     | -4.22      | 4397     |
| <b>CAPEXrpc</b>           | 4.51        | 16.08     | 0          | 247.77     | 2280     |
| <i>lnCAPEXrpc</i>         | -0.21       | 2.20      | -8.24      | 5.51       | 1816     |

*Note:* for the non-log variables, figures are in US\$ millions, except for employment, which is in thousands.

**Appendix 2:** Affiliate exports to local sales ratios,  
By industry grouping

| <b>Industry</b>                 | <b>mean</b> | <b>sd</b>    | <b>N</b>    |
|---------------------------------|-------------|--------------|-------------|
| Chemicals & allied products     | 0.99        | 4.63         | 639         |
| Electronic/electrical equipment | 4.50        | 27.41        | 488         |
| Food & kindred products         | 0.62        | 1.52         | 489         |
| Industrial machinery            | 3.81        | 12.63        | 395         |
| Other manufacturing             | 1.57        | 10.29        | 306         |
| Primary & fabricated metals     | 0.76        | 1.52         | 480         |
| Transportation equipment        | 4.16        | 17.08        | 213         |
| <b>Total</b>                    | <b>2.12</b> | <b>13.48</b> | <b>3010</b> |

**Appendix 3: correlations between independent variables**

|                        | lnGDP<br>ppp | lnGDP<br>pc | avGRO<br>WTH | GDPgro<br>wth<br>(current) | lnsdIN<br>FLATI<br>ON | lnDIST<br>ANCE | lnDUTI<br>ESplus<br>1 | lnOPE<br>NNESS | lnWAG<br>ESr | lnSECS<br>CHOOL | lnoppTA<br>XESbea | lnoppTA<br>XESwdi | lnTELE<br>PHON<br>ES | POLIT<br>Y | DURAT<br>ION | EXECL<br>C | ELFR<br>AC | lnCHE<br>CK2A | XRREG | lnAGRI<br>CLAN<br>D | english | bit   | ICSIDr<br>atifn | legal<br>origin |
|------------------------|--------------|-------------|--------------|----------------------------|-----------------------|----------------|-----------------------|----------------|--------------|-----------------|-------------------|-------------------|----------------------|------------|--------------|------------|------------|---------------|-------|---------------------|---------|-------|-----------------|-----------------|
| LnGDPppp               | 1.00         |             |              |                            |                       |                |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| LnGDPpc                | 0.14         | 1.00        |              |                            |                       |                |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| avGROWTH               | 0.17         | -0.15       | 1.00         |                            |                       |                |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| GDPgrowth<br>(current) | 0.10         | -0.11       | 0.71         | 1.00                       |                       |                |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| LnsdINFLATION          | -0.12        | -0.41       | -0.13        | -0.08                      | 1.00                  |                |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnDISTANCE             | 0.40         | -0.01       | 0.27         | 0.17                       | -0.11                 | 1.00           |                       |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnDUTIESplus1          | -0.24        | -0.72       | 0.12         | 0.10                       | 0.43                  | -0.05          | 1.00                  |                |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnOPENNESS             | -0.29        | 0.61        | -0.04        | -0.02                      | -0.42                 | -0.02          | -0.62                 | 1.00           |              |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnWAGESr               | 0.23         | 0.79        | -0.23        | -0.17                      | -0.37                 | -0.11          | -0.65                 | 0.44           | 1.00         |                 |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnSECSCHOOL            | 0.15         | 0.76        | -0.14        | -0.11                      | -0.42                 | 0.02           | -0.63                 | 0.45           | 0.64         | 1.00            |                   |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnoppTAXESbea          | 0.03         | 0.26        | 0.13         | 0.09                       | -0.15                 | 0.09           | -0.27                 | 0.36           | 0.08         | 0.18            | 1.00              |                   |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnoppTAXESwdi          | -0.04        | -0.38       | 0.08         | 0.08                       | 0.29                  | -0.17          | 0.46                  | -0.30          | -0.34        | -0.36           | -0.06             | 1.00              |                      |            |              |            |            |               |       |                     |         |       |                 |                 |
| lnTELEPHONES           | 0.06         | 0.95        | -0.16        | -0.12                      | -0.40                 | -0.08          | -0.71                 | 0.62           | 0.76         | 0.77            | 0.28              | -0.40             | 1.00                 |            |              |            |            |               |       |                     |         |       |                 |                 |
| POLITY                 | 0.02         | 0.45        | -0.20        | -0.11                      | -0.22                 | -0.31          | -0.34                 | 0.12           | 0.48         | 0.46            | -0.11             | -0.36             | 0.54                 | 1.00       |              |            |            |               |       |                     |         |       |                 |                 |
| DURATION               | 0.09         | 0.55        | -0.10        | -0.06                      | -0.42                 | -0.05          | -0.41                 | 0.39           | 0.48         | 0.49            | 0.14              | -0.52             | 0.53                 | 0.30       | 1.00         |            |            |               |       |                     |         |       |                 |                 |
| EXECLC                 | -0.10        | -0.17       | 0.06         | 0.04                       | 0.08                  | 0.21           | 0.08                  | 0.10           | -0.17        | -0.24           | 0.10              | 0.05              | -0.21                | -0.42      | -0.14        | 1.00       |            |               |       |                     |         |       |                 |                 |
| ELFRAC                 | 0.13         | -0.44       | 0.10         | 0.05                       | 0.02                  | 0.30           | 0.24                  | -0.23          | -0.38        | -0.32           | -0.20             | -0.08             | -0.53                | -0.28      | -0.14        | 0.21       | 1.00       |               |       |                     |         |       |                 |                 |
| LnCHECK2A              | 0.06         | 0.23        | -0.02        | -0.01                      | -0.02                 | -0.05          | -0.10                 | 0.08           | 0.13         | 0.22            | 0.11              | -0.11             | 0.27                 | 0.45       | 0.08         | -0.04      | -0.06      | 1.00          |       |                     |         |       |                 |                 |
| XRREG                  | 0.04         | 0.54        | -0.33        | -0.22                      | -0.15                 | -0.21          | -0.25                 | 0.12           | 0.48         | 0.40            | -0.09             | -0.25             | 0.53                 | 0.67       | 0.40         | -0.33      | -0.30      | 0.27          | 1.00  |                     |         |       |                 |                 |
| lnAGRICLAND            | 0.16         | 0.39        | -0.26        | -0.19                      | 0.02                  | -0.14          | -0.19                 | -0.02          | 0.36         | 0.28            | 0.09              | -0.37             | 0.37                 | 0.29       | 0.40         | -0.17      | -0.20      | 0.08          | 0.36  | 1.00                |         |       |                 |                 |
| English                | -0.27        | 0.21        | -0.16        | -0.09                      | -0.12                 | -0.23          | 0.02                  | 0.28           | 0.10         | 0.28            | 0.00              | -0.39             | 0.23                 | 0.25       | 0.40         | -0.12      | -0.02      | -0.10         | 0.24  | 0.19                | 1.00    |       |                 |                 |
| Bit                    | 0.05         | -0.03       | 0.03         | 0.02                       | 0.02                  | -0.14          | 0.03                  | -0.09          | -0.06        | -0.01           | 0.05              | 0.09              | 0.02                 | 0.02       | -0.07        | 0.02       | -0.04      | 0.01          | 0.00  | 0.01                | 0.00    | 1.00  |                 |                 |
| ICSIDratifn            | -0.02        | 0.32        | 0.01         | -0.01                      | -0.31                 | 0.24           | -0.56                 | 0.41           | 0.32         | 0.46            | 0.07              | -0.33             | 0.35                 | 0.07       | 0.30         | 0.12       | -0.11      | 0.08          | 0.07  | -0.05               | -0.05   | -0.01 | 1.00            |                 |
| Legal origin           | 0.15         | -0.22       | 0.02         | 0.02                       | 0.22                  | -0.16          | 0.00                  | -0.49          | -0.13        | -0.16           | -0.06             | 0.25              | -0.20                | 0.01       | -0.28        | -0.14      | -0.18      | 0.04          | -0.06 | -0.03               | -0.61   | 0.10  | -0.13           | 1.00            |

Note: the legal origin variable is for this purpose constructed on a 1-5 scale from best to worst (i.e. English, German, Scandinavian, French and Socialist).



#### Appendix 4: Economic explanatory variables

| Explanatory variable   | mean      | sd       | min      | max       | N    | Expected effect on FDI |
|--|-----------|----------|----------|-----------|------|------------------------|
| <b>GDP (ppp)</b>   | 3.14.E+11 | 5.28E+11 | 1.75E+09 | 4.15E+12  | 6258 | +                      |
| <i>LnGDPppp</i>  | 25.40     | 1.61     | 21.28    | 29.05     | 6258 | +                      |
| <b>GDP (ppp) per capita</b>  | 10416.24  | 7309.00  | 455.50   | 39506.23  | 6258 | +                      |
| <i>lnGDPpc</i>   | 8.93      | 0.89     | 6.12     | 10.58     | 6258 | +                      |
| <b>GDP growth, 5 year moving avg (%)</b>                                 | 3.25      | 3.06     | -8.51    | 13.54     | 6237 | +                      |
| <b>s.d. Inflation, 5 year moving avg</b>                                 | 45.40     | 262.80   | 0.10     | 3002.69   | 6230 | -                      |
| <i>lnsdINFLAT</i>  | 1.38      | 1.51     | -2.31    | 8.01      | 6230 | -                      |
| <b>Distances (great circle distances between capitals)</b>               | 7773.67   | 4078.83  | 733.89   | 16370.82  | 6545 | ?                      |
| <i>lnDISTANCE</i>  | 8.79      | 0.63     | 6.60     | 9.70      | 6545 | ?                      |
| <b>Tariff revenues as % of total imports (plus 1)</b>                    | 7.73      | 8.40     | 1.00     | 54.07     | 5033 | ?                      |
| <i>lnDUTIESplus1</i>   | 1.51      | 1.08     | 0.00     | 3.99      | 5033 | ?                      |
| <b>Total trade as % of PPP GDP</b>                                       | 43.57     | 48.91    | 3.07     | 354.80    | 6020 | ?                      |
| <i>lnOPENppp</i>   | 3.37      | 0.88     | 1.12     | 5.87      | 6020 | ?                      |
| <b>Employee compensation per worker by industry (real \$), BEA data</b>  | 25294.27  | 17452.94 | 625.00   | 151871.00 | 4480 | -                      |
| <i>lnWAGESr</i>  | 9.87      | 0.79     | 6.44     | 11.93     | 4480 | -                      |
| <b>Secondary school enrolment ratio, total</b>                           | 74.22     | 27.13    | 18.30    | 152.70    | 5313 | +                      |
| <i>lnSECSCCHOOL</i>  | 4.23      | 0.41     | 2.91     | 5.03      | 5313 | +                      |
| <b>1 - income taxes paid by affiliates as % of total sales, BEA data</b> | 0.97      | 0.02     | 0.90     | 1.01      | 3976 | +                      |
| <i>lnoppTAXESbea</i>   | -0.03     | 0.02     | -0.11    | 0.01      | 3976 | +                      |

Source: all data are from World Bank, *World Development Indicators 2001*, CD-rom, except where indicated. Log-transformed variables in italics.

**Appendix 5:** Political explanatory variables

| <b>Explanatory variable</b>                    | <b>mean</b> | <b>sd</b> | <b>min</b> | <b>max</b> | <b>N</b> | <b>Expected effect on FDI</b> |
|--|-------------|-----------|------------|------------|----------|-------------------------------|
| <b>POLITY</b>                                  | 5.83        | 6.06      | -10        | 10         | 6146     | ?                             |
| <b>DURATION</b>                                | 37.33       | 30.97     | 0          | 98         | 6188     | ?                             |
| <b>EXECRLC</b>                                 | 2.56        | 1.12      | 1          | 4          | 6048     | -?(left) <sup>a</sup>         |
| <b>ELFRAC</b>                                  | 0.21        | 0.23      | 0          | 0.86       | 6426     | -                             |
| <b>CHECK2A</b>                                 | 2.75        | 1.73      | 1          | 15         | 6426     | + <sup>b</sup>                |
| <i>lnCHECK2A</i>                               | 0.85        | 0.56      | 0          | 2.708      | 6426     | + <sup>b</sup>                |
| <b>Commonlaw</b>                               | 0.35        | 0.48      | 0          | 1          | 6545     | - <sup>c</sup>                |
| <b>XRREG</b>                                   | 2.73        | 0.49      | 1          | 3          | 6146     | +?                            |
| <b>Agricultural land (hectares per worker)</b> | 37.71       | 147.14    | 0.17       | 1127.55    | 6426     | -                             |
| <i>lnAGRICLAND</i>                             | 2.01        | 1.60      | -1.79      | 7.03       | 6426     | -                             |
| <b>English (native language)</b>               | 0.20        | 0.40      | 0          | 1          | 6545     | +                             |
| <b>BIT with US</b>                             | 0.04        | 0.20      | 0          | 1          | 6545     | +?                            |
| <b>ICSID ratification</b>                      | 0.64        | 0.48      | 0          | 1          | 6545     | ? <sup>d</sup>                |

*Sources:* Polity IV (POLITY, DURATION, XRREG); Beck et al 1999 (EXECRLC, CHECK2A); Easterly and Levine 1997 (ELFRAC); La Porta et al 1999 (legal origin); BIT (US Department of State); ICSID (ICSID ratification); WDI (agricultural land); author estimate (ENGLISH).

*Notes:* <sup>a</sup> I expect EXECRLC to be less significant when checks are high; <sup>b</sup> I expect checks and balances to be more important in developing countries; <sup>c</sup> I expect Common Law legal origin to be more significant when the country is high income; <sup>d</sup> I expect ICSID ratification to be more significant when the country is high income (in contrast to BITs).

**Appendix 6:** OLS Robust Regression on Whole Dataset

Clustered by country (time and industry dummies omitted)

|                       | <b>lnEMPLOYTpc</b> |         | <b>lnLOCALSALESrpc</b> |         | <b>lnAFFEXPrpc</b> |         | <b>lnSALESrpc</b> |         |
|-----------------------|--------------------|---------|------------------------|---------|--------------------|---------|-------------------|---------|
|                       | Coef.              | p value | Coef.                  | p value | Coef.              | P value | Coef.             | p value |
| <b>LnGDPppp</b>       | 0.143              | 0.315   | 0.170                  | 0.203   | -0.002             | 0.991   | 0.084             | 0.549   |
| <b>LnGDPpc</b>        | 2.017              | 0.000   | 2.177                  | 0.000   | 1.649              | 0.017   | 1.877             | 0.001   |
| <b>AvGROWTH</b>       | -0.019             | 0.632   | -0.043                 | 0.222   | -0.011             | 0.877   | -0.015            | 0.721   |
| <b>lnsdINFLATION</b>  | 0.129              | 0.073   | 0.079                  | 0.221   | 0.233              | 0.046   | 0.129             | 0.087   |
| <b>LnDISTANCE</b>     | -0.737             | 0.001   | -0.651                 | 0.001   | -0.802             | 0.001   | -0.649            | 0.001   |
| <b>lnDUTIES+1</b>     | -0.028             | 0.909   | 0.089                  | 0.719   | -0.511             | 0.165   | -0.032            | 0.900   |
| <b>LnOPENppp</b>      | 0.645              | 0.012   | 0.357                  | 0.155   | 1.239              | 0.002   | 0.786             | 0.003   |
| <b>LnWAGESr</b>       | -0.855             | 0.000   | -0.145                 | 0.476   | -0.637             | 0.068   | -0.129            | 0.546   |
| <b>lnSECSCCHOOL</b>   | -0.965             | 0.089   | -0.850                 | 0.068   | 0.138              | 0.885   | -0.748            | 0.184   |
| <b>lnoppTAXESbea</b>  | 5.707              | 0.403   | 5.925                  | 0.411   | 7.514              | 0.471   | 7.793             | 0.299   |
| <b>cons</b>           | -12.382            | 0.037   | -10.377                | 0.050   | -3.201             | 0.704   | -7.133            | 0.185   |
|                       |                    |         |                        |         |                    |         |                   |         |
| <b>Number of obs.</b> | 1,890              |         | 1,350                  |         | 1,203              |         | 1,582             |         |
| <b>F test</b>         | 30.41              |         | 46.9                   |         | 37.99              |         | 47.94             |         |
| <b>Prob &gt; F</b>    | 0.0000             |         | 0.0000                 |         | 0.0000             |         | 0.0000            |         |
| <b>R-squared</b>      | 0.5270             |         | 0.6261                 |         | 0.6388             |         | 0.6419            |         |
| <b>Root MSE</b>       | 1.3155             |         | 1.2811                 |         | 1.6394             |         | 1.3230            |         |

**Appendix 7:** Prais-Winston regressions, panel-corrected errors: ELECTRONICS

cross-panel heteroskedasticity and autocorrelation (AR1) assumed

Group variable: country

Time variable: year

Panels: correlated (unbalanced)

|                        | lnEMPLOYTpc |         | lnLOCALSALESr<br>pc |         | lnAFFEXPrpc      |         | lnSALESrpc |         |
|------------------------|-------------|---------|---------------------|---------|------------------|---------|------------|---------|
|                        | Coef.       | p value | Coef.               | p value | Coef.            | p value | Coef.      | p value |
| LnGDPppp               | 0.120       | 0.182   | 0.352               | 0.000   | 0.414            | 0.012   | 0.149      | 0.087   |
| LnGDPpc                | 0.937       | 0.000   | 1.135               | 0.000   | 0.904            | 0.041   | 1.284      | 0.000   |
| lnsdINFLATION          | 0.007       | 0.843   | 0.053               | 0.159   | 0.051            | 0.486   | 0.022      | 0.598   |
| LnDISTANCE             | -0.762      | 0.000   | -0.527              | 0.000   | -0.579           | 0.002   | -0.539     | 0.000   |
| lnDUTIES+1             | -0.002      | 0.988   | 0.172               | 0.191   | 0.077            | 0.656   | 0.108      | 0.366   |
| LnOPENppp              | 1.063       | 0.000   | 1.170               | 0.000   | 2.212            | 0.000   | 1.225      | 0.000   |
| LnWAGESr               | -0.503      | 0.000   | 0.134               | 0.101   | -0.282           | 0.233   | -0.033     | 0.764   |
| POLITY                 | -0.007      | 0.628   | -0.029              | 0.300   | 0.021            | 0.385   | -0.002     | 0.927   |
| DURATION               | -0.017      | 0.000   | -0.013              | 0.000   | -0.020           | 0.006   | -0.017     | 0.000   |
| IEXECRLC_2<br>(Centre) | 0.239       | 0.143   | 0.339               | 0.106   | <i>[dropped]</i> |         | 0.315      | 0.109   |
| IEXECRLC_3<br>(Right)  | 0.080       | 0.409   | -0.058              | 0.609   | <i>[dropped]</i> |         | -0.001     | 0.993   |
| IEXECRLC_4 (NA)        | 0.548       | 0.001   | 0.854               | 0.000   | <i>[dropped]</i> |         | 0.615      | 0.001   |
| ELFRAC                 | -1.467      | 0.013   | -1.022              | 0.031   | -0.479           | 0.483   | -1.390     | 0.004   |
| lnCHECK2A              | 0.030       | 0.766   | -0.206              | 0.068   | 0.166            | 0.224   | -0.022     | 0.845   |
| Common Law             | 1.462       | 0.000   | 0.457               | 0.161   | 0.818            | 0.222   | 1.219      | 0.001   |
| XRREG                  | -0.116      | 0.349   | 0.323               | 0.377   | -0.718           | 0.004   | -0.170     | 0.335   |
| lnAGRICLAND            | 0.025       | 0.751   | 0.176               | 0.009   | -0.206           | 0.035   | -0.061     | 0.400   |
| English                | -0.206      | 0.613   | 0.416               | 0.421   | 0.490            | 0.528   | 0.310      | 0.479   |
| BIT                    | -0.264      | 0.153   | -0.241              | 0.222   | -0.114           | 0.550   | -0.525     | 0.001   |
| ICSID ratification     | 0.069       | 0.584   | 0.047               | 0.830   | 0.336            | 0.268   | 0.112      | 0.451   |
| cons                   | -11.735     | 0.000   | -18.957             | 0.000   | -14.774          | 0.002   | -10.967    | 0.000   |
| Rho                    | 0.803       |         | 0.703               |         | 0.770            |         | 0.744      |         |
| Number of obs          | 496         |         | 354                 |         | 317              |         | 414        |         |
| Number of groups       | 42          |         | 41                  |         | 37               |         | 42         |         |
| Obs per group: min     | 4           |         | 2                   |         | 1                |         | 3          |         |
| Avg                    | 11.81       |         | 8.63                |         | 8.57             |         | 9.86       |         |
| Max                    | 16          |         | 16                  |         | 17               |         | 16         |         |
| R-squared              | 0.8911      |         | 0.6377              |         | 0.5706           |         | 0.6651     |         |
| Wald chi2              | 7440.0      |         | 9192.1              |         | 372.5            |         | 7084.0     |         |
| Prob > chi2            | 0.0000      |         | 0.0000              |         | 0.0000           |         | 0.0000     |         |

**Appendix 7a:** Prais-Winston regressions, panel-corrected errors: ELECTRONICS  
(high income countries)

cross-panel heteroskedasticity and autocorrelation (AR1) assumed

Group variable: country

Time variable: year

Panels: correlated (unbalanced)

|                                | lnEMPLOYTpc |         | lnSALESrpc |         |
|--------------------------------|-------------|---------|------------|---------|
|                                | Coef.       | p value | Coef.      | p value |
| <b>LnGDPppp</b>                | 0.529       | 0.000   | 0.392      | 0.000   |
| <b>LnGDPpc</b>                 | -0.750      | 0.045   | 0.117      | 0.662   |
| <b>lnsdINFLATION</b>           | -0.020      | 0.752   | -0.058     | 0.305   |
| <b>LnDISTANCE</b>              | -0.483      | 0.009   | -0.224     | 0.153   |
| <b>lnDUTIES+1</b>              | -0.193      | 0.153   | -0.192     | 0.058   |
| <b>LnOPENppp</b>               | 1.546       | 0.000   | 1.590      | 0.000   |
| <b>LnWAGESr</b>                | -0.471      | 0.009   | 0.302      | 0.064   |
| <b>POLITY</b>                  | 0.080       | 0.722   | 0.019      | 0.920   |
| <b>DURATION</b>                | -0.012      | 0.078   | -0.012     | 0.023   |
| <b>IEXECRLC_2<br/>(Centre)</b> | -0.078      | 0.745   | -0.117     | 0.643   |
| <b>IEXECRLC_3<br/>(Right)</b>  | 0.120       | 0.292   | 0.029      | 0.770   |
| <b>IEXECRLC_4 (NA)</b>         | 1.378       | 0.000   | 0.982      | 0.003   |
| <b>ELFRAC</b>                  | -1.711      | 0.268   | -1.346     | 0.342   |
| <b>lnCHECK2A</b>               | 0.087       | 0.416   | -0.027     | 0.781   |
| <b>Common Law</b>              | 2.974       | 0.000   | 2.733      | 0.000   |
| <b>XRREG</b>                   | 0.835       | 0.735   | 1.197      | 0.549   |
| <b>lnAGRICLAND</b>             | 0.143       | 0.043   | 0.024      | 0.563   |
| <b>English</b>                 | -1.306      | 0.012   | -0.795     | 0.110   |
| <b>BIT</b>                     | -0.494      | 0.027   | -0.495     | 0.008   |
| <b>ICSID ratification</b>      | -0.155      | 0.424   | -0.506     | 0.004   |
| <b>cons</b>                    | -14.997     | 0.033   | -17.914    | 0.000   |
| <b>Rho</b>                     | 0.629       |         | 0.581      |         |
| <b>Number of obs</b>           | 229         |         | 194        |         |
| <b>Number of groups</b>        | 18          |         | 18         |         |
| <b>Obs per group: min</b>      | 5           |         | 3          |         |
| <b>Avg</b>                     | 12.72       |         | 10.78      |         |
| <b>Max</b>                     | 16          |         | 16         |         |
| <b>R-squared</b>               | 0.8971      |         | 0.8316     |         |
| <b>Wald chi2</b>               | 3687.27     |         | 6045.7     |         |
| <b>Prob &gt; chi2</b>          | 0.0000      |         | 0.0000     |         |

**Appendix 7b:** Prais-Winston regressions, panel-corrected errors: ELECTRONICS  
(low and middle income countries)

cross-panel heteroskedasticity and autocorrelation (AR1) assumed

Group variable: country

Time variable: year

Panels: correlated (unbalanced)

|                                | lnEMPLOYTpc |         | LnSALESrpc |         |
|--------------------------------|-------------|---------|------------|---------|
|                                | Coef.       | p value | Coef.      | p value |
| <b>LnGDPppp</b>                | 0.002       | 0.987   | -0.055     | 0.684   |
| <b>LnGDPpc</b>                 | 1.588       | 0.000   | 1.799      | 0.000   |
| <b>LnsdINFLATION</b>           | -0.003      | 0.940   | -0.008     | 0.849   |
| <b>LnDISTANCE</b>              | -0.471      | 0.057   | 0.015      | 0.960   |
| <b>lnDUTIES+1</b>              | 0.109       | 0.437   | 0.194      | 0.206   |
| <b>LnOPENppp</b>               | 1.050       | 0.000   | 1.117      | 0.000   |
| <b>LnWAGESr</b>                | -0.554      | 0.000   | -0.052     | 0.651   |
| <b>POLITY</b>                  | -0.018      | 0.328   | -0.008     | 0.749   |
| <b>DURATION</b>                | -0.014      | 0.031   | -0.015     | 0.010   |
| <b>IEXECRLC_2<br/>(Centre)</b> | 0.369       | 0.182   | 0.362      | 0.107   |
| <b>IEXECRLC_3<br/>(Right)</b>  | -0.071      | 0.642   | -0.099     | 0.604   |
| <b>IEXECRLC_4 (NA)</b>         | 0.444       | 0.017   | 0.396      | 0.061   |
| <b>ELFRAC</b>                  | 0.698       | 0.119   | 0.238      | 0.632   |
| <b>lnCHECK2A</b>               | 0.042       | 0.809   | 0.019      | 0.919   |
| <b>Common Law</b>              | 0.371       | 0.387   | 0.265      | 0.474   |
| <b>XRREG</b>                   | -0.138      | 0.317   | -0.135     | 0.449   |
| <b>LnAGRICLAND</b>             | 0.051       | 0.665   | -0.037     | 0.744   |
| <b>English</b>                 | -2.690      | 0.000   | -1.997     | 0.024   |
| <b>BIT</b>                     | -0.146      | 0.472   | -0.336     | 0.047   |
| <b>ICSID ratification</b>      | -0.253      | 0.118   | -0.163     | 0.322   |
| <b>cons</b>                    | -16.573     | 0.000   | -14.784    | 0.000   |
| <b>Rho</b>                     | 0.775       |         | 0.819      |         |
| <b>Number of obs</b>           | 267         |         | 220        |         |
| <b>Number of groups</b>        | 24          |         | 24         |         |
| <b>Obs per group: min</b>      | 4           |         | 3          |         |
| <b>Avg</b>                     | 11.13       |         | 9.17       |         |
| <b>Max</b>                     | 16          |         | 16         |         |
| <b>R-squared</b>               | 0.8972      |         | 0.4875     |         |
| <b>Wald chi2</b>               | 516.2       |         | 564.45     |         |
| <b>Prob &gt; chi2</b>          | 0.0000      |         | 0.0000     |         |

**Appendix 7c:** Testing Checks and Balances: Prais-Winston regressions,  
panel-corrected errors: ELECTRONICS (low and middle income countries)

**cross-panel heteroskedasticity and autocorrelation (AR1) assumed**

**Group variable: country**

**Time variable: year**

**Panels: correlated (unbalanced)**

|                    | lnEMPLOYTpc |         | lnSALESrpc |         |
|--------------------|-------------|---------|------------|---------|
|                    | Coef.       | p value | Coef.      | p value |
| LnGDPppp           | 0.002       | 0.991   | -0.013     | 0.921   |
| LnGDPpc            | 0.813       | 0.001   | 1.188      | 0.000   |
| lnsdINFLATION      | -0.014      | 0.710   | -0.013     | 0.756   |
| LnDISTANCE         | -0.493      | 0.004   | 0.027      | 0.874   |
| LnDUTIES+1         | -0.111      | 0.386   | 0.041      | 0.769   |
| LnOPENppp          | 1.007       | 0.000   | 1.181      | 0.000   |
| LnWAGESr           | -0.389      | 0.000   | 0.072      | 0.474   |
| lnCHECK2A          | 0.077       | 0.565   | 0.043      | 0.745   |
| cons               | -11.321     | 0.005   | -12.626    | 0.001   |
| Rho                | 0.856       |         | 0.868      |         |
| Number of obs      | 283         |         | 234        |         |
| Number of groups   | 24          |         | 24         |         |
| Obs per group: min | 4           |         | 3          |         |
| Avg                | 11.79       |         | 9.75       |         |
| Max                | 17          |         | 17         |         |
| R-squared          | 0.8847      |         | 0.3654     |         |
| Wald chi2          | 74.08       |         | 128.66     |         |
| Prob > chi2        | 0.0000      |         | 0.0000     |         |

**Appendix 8:** Summaries of explanatory variables by country group,  
Electronics industry database

***Developed countries***

| <b>Explanatory variable</b> | <b>mean</b> | <b>sd</b> | <b>min</b> | <b>max</b> | <b>N</b> |
|-----------------------------|-------------|-----------|------------|------------|----------|
| <b>LnGDPppp</b>             | 25.598      | 1.559     | 21.42      | 28.79      | 384      |
| <b>LnGDPpc</b>              | 9.706       | 0.322     | 8.80       | 10.58      | 384      |
| <b>LnsdINFLAT</b>           | 0.596       | 0.947     | -2.31      | 5.13       | 380      |
| <b>LnDISTANCE</b>           | 8.861       | 0.659     | 6.60       | 9.68       | 425      |
| <b>lnDUTIESplus1</b>        | 0.767       | 0.860     | 0          | 3.42       | 328      |
| <b>LnOPENppp</b>            | 4.091       | 0.620     | 2.96       | 5.87       | 350      |
| <b>LnWAGESr</b>             | 10.219      | 0.511     | 8.49       | 11.45      | 356      |
| <b>POLITY</b>               | 7.330       | 6.014     | -10        | 10         | 391      |
| <b>DURATION</b>             | 60.092      | 26.813    | 0          | 98         | 391      |
| <b>EXECRLC</b>              | 2.518       | 1.067     | 1          | 4          | 384      |
| <b>ELFRAC</b>               | 0.144       | 0.121     | 0          | 0.38       | 408      |
| <b>lnCHECK2A</b>            | 0.921       | 0.592     | 0          | 2.56       | 408      |
| <b>Commonlaw</b>            | 0.440       | 0.497     | 0          | 1          | 425      |
| <b>XRREG</b>                | 2.921       | 0.271     | 2          | 3          | 391      |
| <b>lnAGRICLAND</b>          | 2.470       | 1.793     | -1.79      | 7.03       | 408      |
| <b>English</b>              | 0.280       | 0.450     | 0          | 1          | 425      |
| <b>BIT</b>                  | 0.012       | 0.108     | 0          | 1          | 425      |
| <b>ICSID ratification</b>   | 0.819       | 0.386     | 0          | 1          | 425      |

***Developing countries***

| <b>Explanatory variable</b> | <b>mean</b> | <b>sd</b> | <b>min</b> | <b>max</b> | <b>N</b> |
|-----------------------------|-------------|-----------|------------|------------|----------|
| <b>LnGDPppp</b>             | 25.25       | 1.64      | 21.28      | 29.05      | 510      |
| <b>LnGDPpc</b>              | 8.34        | 0.72      | 6.12       | 9.74       | 510      |
| <b>LnsdINFLAT</b>           | 1.97        | 1.58      | -1.55      | 8.01       | 510      |
| <b>LnDISTANCE</b>           | 8.73        | 0.61      | 7.75       | 9.70       | 510      |
| <b>lnDUTIESplus1</b>        | 2.13        | 0.82      | 0          | 3.99       | 391      |
| <b>LnOPENppp</b>            | 2.88        | 0.68      | 1.12       | 4.76       | 510      |
| <b>LnWAGESr</b>             | 9.09        | 0.72      | 6.44       | 11.65      | 310      |
| <b>POLITY</b>               | 4.63        | 5.84      | -8         | 10         | 487      |
| <b>DURATION</b>             | 19.28       | 20.36     | 0          | 98         | 493      |
| <b>EXECRLC</b>              | 2.59        | 1.16      | 1          | 4          | 480      |
| <b>ELFRAC</b>               | 0.26        | 0.27      | 0          | 0.86       | 510      |
| <b>lnCHECK2A</b>            | 0.79        | 0.53      | 0          | 2.71       | 510      |
| <b>Commonlaw</b>            | 0.27        | 0.44      | 0          | 1          | 510      |
| <b>XRREG</b>                | 2.57        | 0.57      | 1          | 3          | 487      |
| <b>lnAGRICLAND</b>          | 1.65        | 1.31      | -1.29      | 4.81       | 510      |
| <b>English</b>              | 0.13        | 0.34      | 0          | 1          | 510      |
| <b>BIT</b>                  | 0.07        | 0.25      | 0          | 1          | 510      |
| <b>ICSID ratification</b>   | 0.49        | 0.50      | 0          | 1          | 510      |

*Note:* Groups are divided into developed and developing on the basis of World Bank classifications.



**Appendix 9:** Number and percentages of total Country-Years in which EXECRLC="NA" (Electronics dataset)

| <b>Country</b>       | <b>Frequency</b> | <b>%of total</b> |
|----------------------|------------------|------------------|
| Argentina            | 2                | 1.12             |
| Ecuador              | 1                | 0.56             |
| Egypt                | 16               | 8.94             |
| Guatemala            | 8                | 4.47             |
| Indonesia            | 16               | 8.94             |
| Italy                | 1                | 0.56             |
| Malaysia             | 16               | 8.94             |
| Nigeria              | 16               | 8.94             |
| Panama               | 11               | 6.15             |
| Philippines          | 11               | 6.15             |
| Portugal             | 1                | 0.56             |
| Saudi Arabia         | 16               | 8.94             |
| Singapore            | 16               | 8.94             |
| Switzerland          | 16               | 8.94             |
| Thailand             | 8                | 4.47             |
| Turkey               | 2                | 1.12             |
| United Arab Emirates | 16               | 8.94             |
| Venezuela            | 6                | 3.35             |
| <b>Total</b>         | <b>179</b>       | <b>100</b>       |

**Appendix 10:** Prais-Winston regressions, panel-corrected errors: FOOD

cross-panel heteroskedasticity and autocorrelation (AR1)

assumed

Group variable: country

Time variable: year

Panels: correlated (unbalanced)

|                            | lnEMPLOYTpc |         | lnLOCALSALE<br>Srpc |         | lnAFFEXPrpc |         | lnSALESrpc |         |
|----------------------------|-------------|---------|---------------------|---------|-------------|---------|------------|---------|
|                            | Coef.       | p value | Coef.               | p value | Coef.       | p value | Coef.      | p value |
| <b>LnGDPppp</b>            | -0.124      | 0.024   | 0.073               | 0.038   | -0.367      | 0.011   | -0.037     | 0.500   |
| <b>LnGDPpc</b>             | 1.147       | 0.000   | 1.001               | 0.000   | 2.213       | 0.000   | 1.267      | 0.000   |
| <b>lnsdINFLATION</b>       | 0.031       | 0.238   | -0.036              | 0.325   | 0.110       | 0.107   | 0.021      | 0.435   |
| <b>LnDISTANCE</b>          | -0.737      | 0.000   | -0.834              | 0.000   | -0.212      | 0.343   | -0.777     | 0.000   |
| <b>lnDUTIES+1</b>          | 0.006       | 0.915   | -0.009              | 0.923   | -0.210      | 0.189   | -0.068     | 0.343   |
| <b>LnOPENppp</b>           | 0.354       | 0.005   | 0.317               | 0.032   | 0.427       | 0.175   | 0.329      | 0.020   |
| <b>LnWAGESr</b>            | -0.521      | 0.000   | 0.158               | 0.279   | -0.297      | 0.195   | 0.206      | 0.024   |
| <b>POLITY</b>              | 0.026       | 0.098   | 0.037               | 0.073   | -0.029      | 0.416   | -0.010     | 0.501   |
| <b>DURATION</b>            | -0.010      | 0.001   | -0.015              | 0.001   | -0.007      | 0.047   | -0.014     | 0.000   |
| <b>IEXECRLC_2 (Centre)</b> | 0.073       | 0.615   | -0.105              | 0.570   | 0.576       | 0.113   | -0.032     | 0.838   |
| <b>IEXECRLC_3 (Right)</b>  | -0.013      | 0.851   | 0.148               | 0.169   | 0.138       | 0.458   | 0.032      | 0.577   |
| <b>IEXECRLC_4 (NA)</b>     | 0.270       | 0.026   | 0.345               | 0.007   | 1.032       | 0.004   | 0.208      | 0.068   |
| <b>ELFRAC</b>              | 0.187       | 0.605   | 0.225               | 0.682   | -1.549      | 0.039   | 0.176      | 0.664   |
| <b>lnCHECK2A</b>           | 0.018       | 0.772   | -0.114              | 0.077   | 0.182       | 0.332   | -0.016     | 0.776   |
| <b>Common Law</b>          | -0.579      | 0.058   | -0.535              | 0.223   | 0.403       | 0.487   | 0.564      | 0.017   |
| <b>XRREG</b>               | -0.221      | 0.197   | -0.145              | 0.438   | 0.530       | 0.139   | 0.215      | 0.164   |
| <b>lnAGRICLAND</b>         | 0.407       | 0.000   | 0.461               | 0.000   | 0.124       | 0.359   | 0.444      | 0.000   |
| <b>English</b>             | 0.817       | 0.039   | 0.877               | 0.082   | 0.704       | 0.322   | -0.081     | 0.798   |
| <b>BIT</b>                 | -0.130      | 0.264   | -0.210              | 0.217   | 0.343       | 0.148   | 0.076      | 0.678   |
| <b>ICSID ratification</b>  | -0.073      | 0.528   | 0.068               | 0.623   | -0.278      | 0.316   | 0.141      | 0.164   |
| <b>cons</b>                | -5.920      | 0.001   | -3.883              | 0.010   | -7.550      | 0.163   | -5.043     | 0.001   |
| <b>Rho</b>                 | 0.798       |         | 0.812               |         | 0.836       |         | 0.828      |         |
| <b>Number of obs</b>       | 528         |         | 377                 |         | 330         |         | 472        |         |
| <b>Number of groups</b>    | 44          |         | 44                  |         | 40          |         | 43         |         |
| <b>Obs per group: min</b>  | 1           |         | 1                   |         | 1           |         | 1          |         |
| <b>Avg</b>                 | 12          |         | 8.57                |         | 8.25        |         | 10.98      |         |
| <b>Max</b>                 | 16          |         | 16                  |         | 16          |         | 16         |         |
| <b>R-squared</b>           | 0.9162      |         | 0.7137              |         | 0.4517      |         | 0.6742     |         |
| <b>Wald chi2</b>           | 1709.06     |         | 2113.89             |         | 799.18      |         | 2335.22    |         |
| <b>Prob &gt; chi2</b>      | 0.0000      |         | 0.0000              |         | 0.0000      |         | 0.0000     |         |

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