

# **ARE ALIENS MISTREATED?**

## **THE RELATIVE TREATMENT OF FOREIGN FIRMS IN DEVELOPING COUNTRIES**

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--- Early work in progress. Please do not quote without permission.\* ---

### **Abstract**

It is often assumed that the political risks faced by foreign firms are greater than those faced by domestic firms because the former is politically disenfranchised. We revisit this stylized fact by asking whether developing country governments treat foreign firms differently than comparable domestic firms. Together with feedback from local lawyers in developing countries, we examine data from extensive World Bank surveys of firms' experiences in middle and low-income countries. Across a range of measures, our results suggest that foreign firms are typically treated as well or better by host governments than comparable domestic firms. Low-income countries are particularly prone to give foreign firms better treatment. This not only questions a widely used assumption in much literature on the political economy of foreign investment, but also provides important context to on-going policy debates about foreign investment governance.

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## Introduction

Foreign firms routinely complain about mistreatment by host state governments in the developing world. Yet, opaque and unpredictable treatment is not just a concern for foreign firms, domestic firms often share these same concerns. This begs the question whether one group of firms is treated better than the other? Much of the literature on foreign investment governance takes as a stylized fact that foreign firms suffer from a political ‘liability of foreignness’, primarily due to close connections between domestic firms and political elites of the host state. This paper revisits that assumption.

At the policy level, almost all countries have subjected foreign firms to ‘performance requirements’ at some stage in their development.<sup>2</sup> These requirements include targeted domestic-content requirements, export requirements, technology transfer requirements, employment and training requirements, and research and development requirements, to mention a few. On the other hand, foreign firms are often courted with a plethora of incentives such as tax breaks and targeted public infrastructure investments.<sup>3</sup> Governments often award foreign firms favourable contractual terms in utility and natural resource sectors,<sup>4</sup> and investment promotion agencies around the world seek to offer foreign investors red carpet treatment.<sup>5</sup> Finally, and crucially, developing countries have agreed to sign thousands of investment treaties that provide potent property right protections to foreign, but not domestic, investors.

This apparent schizophrenia on behalf of host government begs the question: what is the end outcome for the business environment experienced by foreign firms compared to their domestic counterparts?

To answer this question we make use of two independent sources of survey data. We gain preliminary insights from private lawyers in six developing countries who act on behalf of foreign investors vis-à-vis the host government. The qualitative and quantitative evidence from this survey suggests that foreign investors are generally treated at least as well as domestic ones. On this basis, we proceed to our primary analysis, which is based on the World Bank’s Enterprise Surveys. These surveys have been widely used to address a broad array of questions because they provide the best quality, standardized measure of the business climate across countries, especially with regards to government-firm interactions.

Our study goes beyond the existing literature in several ways. Firstly, ours is the first paper to use the enterprise surveys to focus on the relative experiences of foreign firms with courts in the host country and, secondly, the predictability of host government actions. Both of these measures are central to the investment treaty regime, which provides protections to foreign – but not domestic - investors. Investment treaties give foreign investors the right to avoid domestic courts in host states (on the premise that these are biased against foreigners) and file compensation claims against unpredictable government behaviour (on the premise that investment climates are particularly unpredictable for foreigners).

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<sup>2</sup> UNCTAD, 2003; Moran, 2002.

<sup>3</sup> Blomstrom and Kokko 2003; Tavares-Lehmann, Toledano, Johnson and Sachs 2016.

<sup>4</sup> E.g. Shemberg 2008.

<sup>5</sup> Harding and Javorcik 2011.

Secondly, ours is the first paper to look at how the relative treatment of foreign firms varies across host-state income groups. This aspect of the analysis allows us to gain insights into the dominant drivers of the relevant treatment of foreign investors, as well as predictions on how treatment evolves in line with economic development.

Finally, our study entails an important methodological innovation. Previous studies using the enterprise surveys are but some of the many quantitative studies in political economy that use generalized linear models (such as logit and probit). Despite their popularity, these models suffer specification bias if the generalised linear assumption on which they are based is incorrect. Higher order terms and interactions between variables can be incorporated into the linear specification, but these model changes can have major impacts on the results obtained (Iacus, King & Porro, 2011). The researcher is then left to choose which set of results to report, giving rise to the potential for substantial (intentional or otherwise) researcher bias (Ho et al., 2007).

We avoid the opportunity for these model selection issues by employing the conditional likelihood estimator of relative risk (CLERR), recently proposed by Aisbett, Aisbett & Steinhäuser (2016). The CLERR works on data in which observations from the treated and control groups (in our case foreign and domestic firms, respectively) have been matched within strata. Strata are constructed from the intersection of all other necessary control variables (or coarsened versions thereof). Thus the CLERR can be applied whenever exact matching or coarsened exact matching can be used.<sup>6</sup>

The CLERR is a close relative of the conditional logit estimator. Like the conditional logit estimator, the CLERR estimates treatment effects for binary dependent variables by conditioning out strata effects. Unlike the conditional logit estimator, the CLERR is fully efficient and unbiased in both small and large samples (Aisbett et al, 2016). An additional benefit of the CLERR is that it produces a relative risk estimate, rather than an odds ratio. Relative risk has a number of advantages over odds ratios, including being more intuitive and easier to interpret.

We find that foreign firms generally enjoy a business environment at least as good as that facing comparable domestic firms. The advantages for foreign firms are generally greatest in low-income countries, decreasing slightly as we move to lower-middle and then again to upper-middle income countries. This provides important context to ongoing policy discussions about offering foreign firms incentives and protections unavailable to domestic firms.

## **Expectations**

Much of the literature takes as a stylized fact that foreign investors suffer from a political ‘liability of foreignness’.<sup>7</sup> Foreign firms are believed to be politically

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<sup>6</sup> See Iacus, King & Porro (2011 & 2012) for introductions to Coarsened Exact Matching and its advantages compared to methods such as Propensity Score Matching.

<sup>7</sup> E.g. Caves 1996; Henisz 2002. See also Johns and Wellhausen (2015), who note that their model of property right protection through firm partnerships can be applied to both domestic and foreign firm partners in the host state.

disenfranchised because their owners are less likely to be closely connected to government officials. The value of such political connections has been shown in country case studies,<sup>8</sup> as well as cross-country analyses.<sup>9</sup> Advantages enjoyed by politically connected firms can include access to credit and debt financing,<sup>10</sup> direct government aid,<sup>11</sup> favourable government contracts,<sup>12</sup> regulatory protection,<sup>13</sup> and lower taxes.<sup>14</sup> Clientelist networks between politicians and local business elites occur also in developed countries,<sup>15</sup> but the networks are particularly strong in highly corrupt<sup>16</sup> and authoritarian<sup>17</sup> regimes.

Yet, there are numerous countervailing forces to suggest that foreign firms could also benefit from an ‘advantage of foreignness’. First, and crucially, foreign firms are often believed - by both government officials and much of the public - to bring advantages over domestic firms in terms of more and better jobs, technology transfer, and management know-how. The skills and experience gained by employees of the foreign firms - and of local firms who interact with them - have been proven to provide positive spill-overs for the host economy.<sup>18</sup> Even in industries not typically associated with positive spillovers, host governments value the influx of foreign capital and the expectation of foreign revenue earnings associated with foreign direct investment.

Second, foreign firms could be better treated simply because they are more likely to move their investment elsewhere than domestic firms.<sup>19</sup> Government concerns about reputation and repeated interactions can make this effect particularly pronounced.<sup>20</sup> Third, foreign firms can have close links with their home government, which can incentivize host states to treat such firms particularly well for diplomatic reasons, including concerns over future aid flows.<sup>21</sup> Fourth, and related, some foreign firms enjoy the political support international financial institutions and major international banks that have co-financed or insured them.<sup>22</sup> Fifth, it is not necessarily the case that foreign firms are excluded from benefits arising from clientilism. For instance, in authoritarian regimes - which are more likely to favour politically connected firms due to their reliance on narrow elites - foreign firms have been found to be a core part

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<sup>8</sup> E.g. Johnson and Mitton 2001 (Malaysia); Fisman 2001 (Indonesia).

<sup>9</sup> E.g. Masulis and McConnell 2006; Faccio 2006; Faccio 2010.

<sup>10</sup> Claessens, Djankov, and Lang 2000; Joh and Chiu 2004; Khwaja and Mian 2005; Faccio 2010.

<sup>11</sup> Faccio, Masulis and McConnell 2006.

<sup>12</sup> Goldman, Rocholl, and So 2013.

<sup>13</sup> Kroszner and Stratmann 1998.

<sup>14</sup> Faccio 2010.

<sup>15</sup> E.g. Kroszner and Stratmann 1998.

<sup>16</sup> Faccio 2006; Faccio and Parsley 2009.

<sup>17</sup> E.g. Choi and Thum 2009. Faccio (2006) finds no significant relationship between democracy and share of firms that are politically connected.

<sup>18</sup> See e.g. Javorcik 2004; Kugler 2006; Newman, Rand, Talbor, and Tarp 2015.

<sup>19</sup> There is a large literature on ‘home bias’ of investment decisions; see e.g. Huberman 2001. For classic works on how multinationals can use credible exit-options when bargaining with host states, see e.g. Hymer 1976; Kogut 1983.

<sup>20</sup> Jensen 2008.

<sup>21</sup> Ramamurti 2001; Maurer 2013; Wellhausen 2014; Gertz 2016.

<sup>22</sup> West 1996; Wells and Gleason 1995; Woodhouse 2006; Peinhardt and Allee 2016.

of this elite.<sup>23</sup> Finally, multinational firms tend to employ highly skilled negotiators and lobbyists to ensure favourable government treatment.<sup>24</sup>

So are host state governments ultimately treating foreign investors worse, better, or the same as domestic investors? Also, to the extent differential treatment exists, might it depend on levels of economic development? We should expect that particularly poor countries are more likely to favour foreign over domestic firms as they are in desperate need for capital and less able to resist pressure when powerful states, international organizations, and multinationals ask for favourable treatment to foreign firms. Unfortunately, however, existing empirical literature is unable to answer these questions as studies tend to focus on absolute levels of host state treatment faced by foreign<sup>25</sup> or domestic investors,<sup>26</sup> or don't distinguish between the two.<sup>27</sup> Yet others pool property right measures for all investors with self-reported risk-measures of foreign investors.<sup>28</sup> When the two are compared, foreign firms often tend to be seen as discriminated against by host states compared to domestic firms,<sup>29</sup> but the opposite may equally be true.

### **Preliminary insights from local lawyers**

As a starting point to address the differential treatment of foreign and domestic firms, we conducted an email-administered survey to a group of actors with significant on-the-ground understanding of our question: local lawyers advising domestic and foreign investors in six developing countries: Brazil, Indonesia, Malaysia, Nigeria, Pakistan, and South Africa. All six countries are fairly large and have substantial foreign investment flows. They differ, however, in the types of foreign investment they attract. Brazil, Nigeria, Indonesia, and South Africa attract substantial amounts of investment in resource extraction and agricultural sectors, while Malaysia and Pakistan have traditionally attracted investment in labour intensive sectors. Malaysia also stands out as a relatively high-income country which attracts market-seeking and skilled-labour seeking investment.

The number of survey respondents per country ranged from 130 in Brazil to 28 in Pakistan. The median respondent to the survey had practised law for more than 10 years and only lawyers who had been in contact with their host government on behalf of foreign investors are included. Importantly, survey respondents did not have hostile views towards foreign multinationals. All but 11 respondents in the survey found the influence of foreign companies to be good for their country.

Mean responses are in Figure 1 below. While we need to be cautious of making strong conclusions based on Figure 1 due to the relatively small sample size of the survey, two observations seem in order. Firstly, perceived differences in the treatment

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<sup>23</sup> Huntington 1968; Evans 1979; O'Donnell 1979; Bornschieer and Chase-Dunn 1985; Oneal 1994.

<sup>24</sup> Desbordes and Vauday 2007.

<sup>25</sup> E.g. Busse and Hefeker 2007; Jensen 2008;

<sup>26</sup> E.g. Vernon 1971; Kobrin 1987.

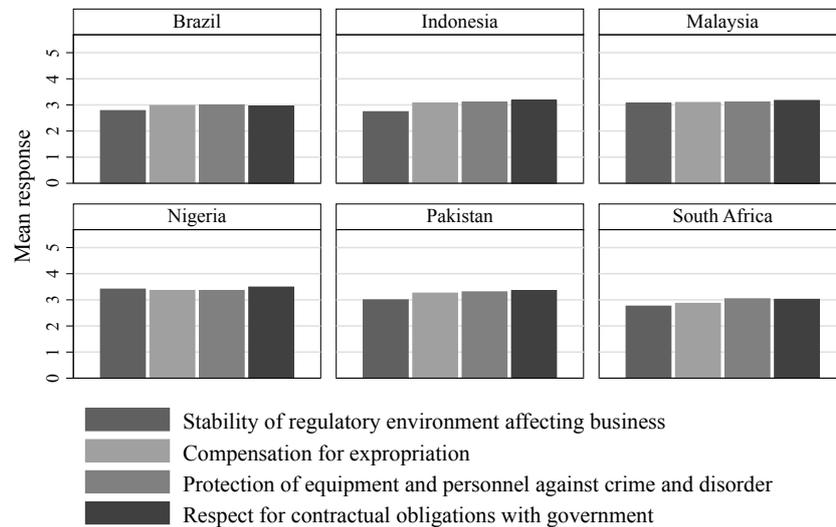
<sup>27</sup> E.g. North and Weingast 1989; Leblang 1996; Acemoglu, Johnson, and Robinson 2001; Stasavage 2002.

<sup>28</sup> E.g. Clague, Keefer, Knack, and Olson. 1996.

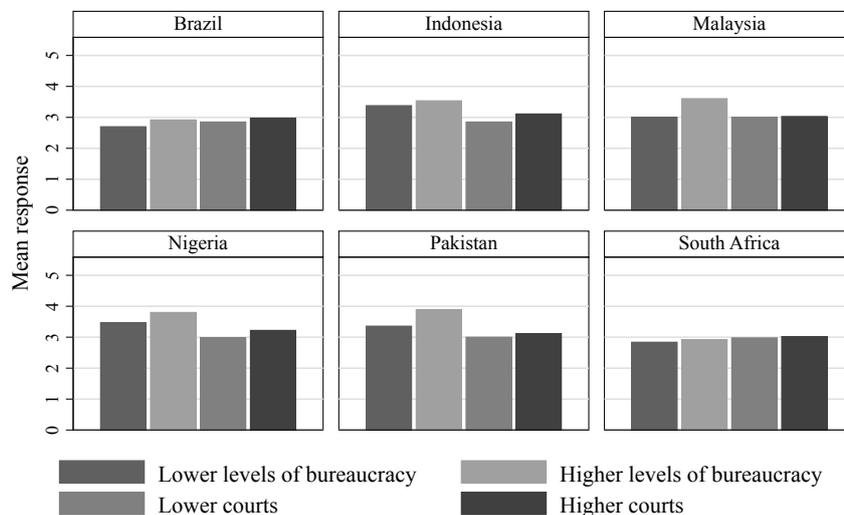
<sup>29</sup> E.g. Caves 1996; Henisz 2002. In contrast, see Desbordes and Vauday 2006 (see also below).

of domestic and foreign firms (as indicated by deviations from response “3”) are generally minor, but where they are largest, they indicate advantages for foreign investors. Secondly, lawyers in all countries thought that courts were relatively more favourable toward foreign investors than the corresponding level of government.

**A. Protection of foreign companies:**



**B. Treatment of foreign companies by courts and bureaucracy:**



VALUES: 1: Much worse; 2: Worse; 3: The same; 4: Better; 5: Much Better.  
 QUESTION: *How are foreign companies treated in [host] compared with local companies in the same circumstances?*

NOTE: Respondents include 137 lawyers in Brazilian, 30 Indonesian lawyers, 35 Malaysian lawyers, 51 Nigerian lawyers, 28 Pakistani lawyers, and 51 South African lawyers. All had been in contact with their host government on behalf of foreign investors. Survey conducted over email November 2013 to October 2014.

FIGURE 1. TREATMENT AND PROTECTION OF FOREIGN AND DOMESTIC INVESTORS IN SIX DEVELOPING COUNTRIES, INSIGHTS FROM LOCAL LAWYERS

These observations were also supported by the qualitative responses from survey respondents. In Indonesia, Malaysia, Nigeria, and Pakistan local lawyers reported that the treatment bureaucrats afford to foreign investors is better. For instance, an Indonesian lawyer said that while FDI regulations are restrictive, the “bureaucracy often provide better treatment to foreigners than the local investors”.<sup>30</sup> In Nigeria, as well, one lawyer noted how “Nigerian government officials are willing to bend backwards to accommodate foreign companies with a view to encouraging foreign investments in Nigeria”.<sup>31</sup> Others referred to the fact that Nigerian courts have initiated a fast-track scheme for claims filed by a foreigner or against a foreigner.<sup>32</sup> In Pakistan, as well, one lawyer noted that while treatment by the Pakistani government depends on the sector and quantum of investment the government does tend to favour foreign investors and companies.<sup>33</sup> In Brazil, - where there appeared the greatest tendency in favour of domestic firms - lawyers noted that most of the difficulties of doing business there “hit national and foreign companies alike”.<sup>34</sup>

As a first cut, these experiences do therefore not lend evidence to the notion that foreign firms systematically suffer in the hands of host governments compared to domestic firms. If anything, they suggest foreign firms may often be treated better than comparable domestic firms – particularly by the courts. The survey is too small, however, to derive hard and fast conclusions. Moreover, although the lawyers were prompted to consider comparable domestic firms (‘in the same circumstances’) we need to more carefully control for possible systematic differences between the two groups of investors. We therefore proceed to a set of more rigorous tests based on a large sample of domestic and foreign firms from around the world.

## **World Bank Enterprise Survey Data**

Our main analysis utilises the latest standardized data from the World Bank’s Enterprise Surveys (WBES). The surveys were conducted through direct interviews with firm managers from over 130,000 firms across 552 industry sectors in 135 countries.<sup>35</sup> Using survey data to assess actual treatment of foreign investors is not without its challenges of course. Respondents may understand core concepts differently – e.g. ‘predictable regulation’ or ‘corruption’ – in ways that are difficult to control for. Idiosyncratic factors, such as general pessimism, may also distort respondent feedback. There could also be ‘anchoring effects’ if respondents compare themselves to different benchmarks.<sup>36</sup> Respondents may also refuse to answer, or provide misleading responses, to sensitive questions. If such factors cause bias, it would question the validity of inferences drawn from the surveys.

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<sup>30</sup> Respondent 162.

<sup>31</sup> Respondent 219.

<sup>32</sup> Respondent 232. See also; [www.britishcouncil.org/voices-magazine/how-lagos-judges-are-now-resolving-disputes-more-quickly](http://www.britishcouncil.org/voices-magazine/how-lagos-judges-are-now-resolving-disputes-more-quickly).

<sup>33</sup> Respondent 296.

<sup>34</sup> Respondent 109.

<sup>35</sup> See Appendix A for full list of the countries included in the dataset by income class. See <http://www.enterprisesurveys.org/data> for further information about the World Bank Enterprise Surveys.

<sup>36</sup> Bertrand and Mullainathan 2001.

Yet, the growing literature making use of the Enterprise Surveys for other research questions than ours have found that these sources of bias are not substantial. One study investigated the relationship between productivity of African manufacturing firms and their access to services inputs.<sup>37</sup> It included both objective and survey (i.e. self-reported) measures of service performance and found that the two were highly correlated. Another study used the surveys to examine the effects of competition and information sharing on bank lending corruption.<sup>38</sup> Here, too, the survey data were associated with objective measurable outcomes. Equally, objective measures of access to and use of banking services across countries correlate highly with measures from the Enterprise surveys.<sup>39</sup> Firms reporting labor regulations as constraining are in fact placed in countries with more restrictive labor regulations.<sup>40</sup> Another study of loan expectations of managers cross-checked inter-linked questions found that the surveys are internally consistent as respondents do not contradict themselves.<sup>41</sup> Finally, the surveys are not biased by respondent bias as a result of pessimism.<sup>42</sup> Rather, respondents “do not complain indiscriminately” and response “patterns correlate reasonably well with several other country-level indicators related to the business climate.”<sup>43</sup> For these reasons we are comfortable that the firm responses in the World Bank Enterprise Surveys are the best data available to test our hypotheses.

The section of the Survey titled “Business-Government Relations” begins with two questions of particular relevance for our analysis. Respondents are asked the extent to which they agree with the statements “The court system is fair, impartial and uncorrupted”, and “Government officials’ interpretations of the laws and regulations affecting this establishment are consistent and predictable”.<sup>44</sup> The Business-Government Relations section of the Survey finishes with a question about obstacles to current operations of the firm.<sup>45</sup> Respondents are asked their view on six potential obstacles: Tax Rates, Tax Administration, Business Licencing and Permits, Political Instability, Corruption, and Courts. Together these variables constitute a broad and representative set of the key concerns voiced by business regarding political aspects of the investment climate. Furthermore, with the exception of corruption, investment treaties often provide foreign investors protections against these obstacles.<sup>46</sup> We examine independently the relative responses of foreign and domestic firms to all of these questions.

An initial view of the data is provided by Table 1, which summarises the number and percent of observations that agree with the statement. The three columns indicate

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<sup>37</sup> Arnold, Mattoo, and Narciso 2008.

<sup>38</sup> Barth, Lin, Lin and Song 2009.

<sup>39</sup> Beck, Demirguc-Kunt, and Peria 2007. Similar results are reported in Aterido and Hallward-Driemeier 2009.

<sup>40</sup> Pierre and Scarpetta 2004.

<sup>41</sup> Bignebat and Gouret 2008.

<sup>42</sup> Desbordes and Vauday 2007;

<sup>43</sup> Gelb, Ramachandran, Kedia-Shah and Turner 2007.

<sup>44</sup> We code the responses “Strongly disagree” and “Tend to disagree” as negative (zero) responses, and “Tend to agree” and “Strongly agree” as positive (one).

<sup>45</sup> The question is introduced with the text “As I list some of many factors that can affect the current operations of a business, please look at this card and tell me if you think that each factor is No Obstacle, a Minor Obstacle, a Major Obstacle, or a Very Severe Obstacle to the current operations of this establishment.”

<sup>46</sup> We code responses “No Obstacle” or “Minor Obstacle” as a zero, and responses “Major Obstacle” and “Very Severe Obstacle” as one.

fully-domestic, foreign, and all firms. For example 41.6% of full-domestic firms and 42.4% of firms with foreign ownership agreed that the domestic courts were fair. The upshot of Table 1 is that foreign firms comprise a little over ten percent of the valid responses for each question and that there is little systematic difference between foreign and domestic firms in terms of agreement with the statements. If anything, foreign firms give responses that reflect a more favourable relationship with government institutions in five out of eight questions.

	All	Domestic	Foreign	Difference
<i>Courts are fair</i>				
% of Firms Agreeing	41.7	41.6	42.4	-0.8
Total Observations	92,465	83,467	8,998	
<i>Government is predictable</i>				
% of Firms Agreeing	45	44.7	47.4	-2.7
Total Observations	23,565	20,572	2,993	
<i>Tax rate is an obstacle</i>				
% of Firms Agreeing	58.1	58.4	55.7	2.7
Total Observations	100,016	89,984	10,032	
<i>Tax administration is an obstacle</i>				
% of Firms Agreeing	44.6	44.6	44.8	-0.2
Total Observations	99,659	89,653	10,006	
<i>Licenses and permits are an obstacle</i>				
% of Firms Agreeing	32.4	32.2	34.2	-2
Total Observations	97,952	88,064	9,888	
<i>Political instability is an obstacle</i>				
% of Firms Agreeing	48	48.2	46.1	2.1
Total Observations	98,327	88,569	9,758	
<i>Courts are an obstacle</i>				
% of Firms Agreeing	28.9	28.5	32.4	-3.9
Total Observations	92,997	83,508	9,469	
<i>Corruption is an obstacle</i>				
% of Firms Agreeing	52.3	52.5	50	2.5
Total Observations	98,066	88,263	9,803	

TABLE 1 - PROPORTION OF POSITIVE RESPONSES AND NUMBER OF NON-MISSING RESPONSES BY FOREIGN OWNERSHIP

At this stage, however, we cannot say whether these differences are meaningful, as they may be artefacts of sampling biases or other confounding influences. It is well known that multinational firms differ systematically from purely local firms and Table 2 confirms that in our dataset – as in the population at large - foreign-owned firms are substantially more likely than domestic firms to be large and to be directly engaged in exporting.<sup>47</sup> There are also differences between foreign and domestic firms on a range of other measures. All of these characteristics may influence the government-firm relationship, but our objective is to isolate the impact of foreign ownership alone.<sup>48</sup> To achieve this, our empirical strategy – described below - non-parametrically controls for all of the characteristics in Table 2.

<sup>47</sup> See e.g. Horst 1972; Griffith and Simpson 2001. Faccio (2006) finds that large domestic firms – the business elite - tends to be more politically connected than smaller domestic firms.

<sup>48</sup> The principles of treatment no less favourable than ‘like’ domestic firms or products is enshrined in most trade agreements and is increasingly the norm in investment agreements as well.

	<b>Domestic, %</b>	<b>Foreign, %</b>	<b>Total, %</b>
<b>Sector</b>			
Textiles	4.9	5.4	5.0
Leather	0.8	1.3	0.8
Garments	6.8	5.6	6.7
Food	10.6	10.9	10.7
Metals and machinery	8.5	7.3	8.4
Electronics	1.6	2.2	1.7
Chemicals and pharmaceuticals	4.4	6.3	4.6
Wood and furniture	2.2	1.3	2.1
Non-metallic and plastic materials	6.1	5.7	6.0
Auto and auto components	1.0	0.6	0.9
Other manufacturing	8.4	11.5	8.7
Retail and wholesale trade	23.6	22.0	23.5
Hotels and restaurants	5.0	4.4	5.0
Other services	10	10.9	10.1
Other: Construction, Transportation, etc.	5.9	4.4	5.8
Total	100	100	100
<b>Size quintile</b>			
First	19.9	9.1	18.8
Second	20.5	11.4	19.6
Third	20.6	15.5	20.1
Fourth	21.3	23.7	21.6
Fifth	17.6	40.4	19.9
Total	100	100	100
<b>Government ownership</b>			
None	98.9	96.6	98.6
Less than 10%	0.1	0.4	0.1
Greater than 10%	1.0	3.0	1.2
Total	100	100	100
<b>Legal organization of firm</b>			
Publicly listed	4.2	9.9	4.7
Private LLC	44.9	59.5	46.4
Sole proprietorship	36.0	13.6	33.8
Partnership	7.8	8.3	7.9
Limited Partnership	7.1	8.7	7.3
Total	100	100	100
<b>Exports</b>			
None	80.9	55.3	78.3
Indirect	4.8	7.9	5.1
Direct	14.3	36.8	16.5
Total	100	100	100

TABLE 2 – SECTOR, SIZE, OWNERSHIP, ORGANIZATION, AND EXPORT PROPENSITY OF FIRMS IN EACH CATEGORY, BY FOREIGN OWNERSHIP

## Conditional likelihood estimation of relative risk (CLERR)

Our principle empirical objective is to determine the causal impact of foreign ownership - a binary variable – on host state treatment. In other words, our objective is to estimate a treatment effect.

There are a wide variety of approaches to estimating treatment effects and the selection among these depends on the characteristics of the data at hand. In our case we have a large number of observations, and many of the variables whose influence we wish to control for are categorical. This type of data is ideally suited for application of Coarsened Exact Matching (CEM). The advantages of CEM – especially with regard to reducing model dependence – are discussed at length by Iacus et al.<sup>49</sup> CEM involves first coarsening any continuous control variables into categorical variables, and then creating strata which are the intersection of all the relevant (now all categorical) control variables. Thus treated observations (in our case, foreign firms) are matched within strata with controls (in our case, domestic firms) which share the same set of characteristics. We report results for several different strata definitions. For example, our least conservative estimate is based on strata defined by the Sector, Size quintile and Government ownership categories in Table 2, as well as the country of operation of the firm. Our most conservative strata includes all these factors plus Legal Organisation (e.g. publicly listed or limited partnership), Exporting, and City/Region within country of operation.

Having matched the data, the researcher is then left with the question of exactly which treatment effect to estimate, and how best to estimate it. Again, the choice here depends on the data type. For continuous variables, the Average Treatment Effect (ATE) is a popular choice. However, our dependent variables are binary, and here treatment effects are typically estimated as either relative risk or odds ratios.

Relative risk has a number of advantages over an odds ratio as a measure of effect on binary outcomes. Principle among these advantages is that odds ratios are notoriously difficult to interpret, but relative risks are intuitive. The probability of an event occurring to a member of the treatment group is simply the relative risk times the base rate (where ‘base rate’ is the probability of the event occurring to a member of the control group). Thus if the relative risk of foreign firms exporting is 1.2, then foreign firms can be understood to be 20% more likely to export than domestic firms. In contrast, the meaning of an odds ratio is difficult to explain without resorting to mathematics. Yet, despite the advantages of relative risk, odds ratios have dominated political science and economics research because of the ready availability of logit and conditional logit estimation software. For historical reasons, there has been a lack of an equivalent estimator for relative risk.

This lack has recently been addressed by the introduction of the conditional likelihood estimator of relative risk (CLERR) by Aisbett et al.<sup>50</sup> The CLERR works similarly to the conditional logit estimator in that it uses a conditional maximum likelihood approach to remove the influence of ‘nuisance’ strata effects on the estimated effect of the treatment variable. Despite the similarity in underlying approach, the CLERRs

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<sup>49</sup> Iacus, King, and Porro 2011; 2012

<sup>50</sup> Aisbett, Aisbett and Steinhauser 2016.

statistical properties are far superior to those of the conditional logit estimator. Unlike the conditional logit, the CLERR is fully efficient in both small and large samples. Perhaps more importantly, the CLERR is unbiased in small samples while the conditional logit is not.<sup>51</sup>

Because of the intuitive appeal of relative risk, many authors interpret odds ratios produced by logit or conditional logit estimators as if they were relative risk. While this practice can be excused in cases where both the baseline and relative risk are low, it can lead to substantial biases when either or both are high.<sup>52</sup> Furthermore, because the strata effects are not estimated by either the conditional logit or the CLERR, there is no way of converting from the estimated odds ratio to a relative risk. Reference to Table 1 shows that the baseline risk for our dependent variables of interest is in the range of 30-60%. This range is similar to that for the variables studied in Aisbett et al,<sup>53</sup> who find the conditional logit estimates sometimes more than double the (unbiased) CLERR estimates.

## **Experiences of foreign firms relative to those of similar domestic firms**

### *Results for the full sample of countries*

Table 3 presents the results of our comparison of foreign firms' perceptions of government and institutions with those of like domestic firms for the full sample of low and middle-income countries in the Enterprise Survey data. The variables used to define the conditioning strata are listed at the top of each column.<sup>54</sup> More complete and informative names for the conditioning variables can be found in Table 2. The results in Table 3 show that foreign firms are by most measures more likely to have a positive perception of government and institutions in the host country than comparable domestic firms. For example, the relative risk estimated for the "Courts are fair" variable ranges from 1.0400 (column 4) to 1.0576 (column 3). This means foreign firms are roughly 4-6% more likely to agree with the statement "The court system is fair, impartial and uncorrupted." Statistically significant advantages for foreign firms are evident in Table 3 for predictability of government, as well as reduced perceived obstacle from tax administration, and tax rate, and political instability. Meanwhile foreign firms are generally neither significantly more nor less likely to agree that corruption, courts, or licences and permits are obstacles to their operations.

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<sup>51</sup> See *ibid.* for proofs.

<sup>52</sup> As a rule of thumb it is not advisable to treat odds ratios as relative risks when either baseline or relative risk is greater than about 0.1.

<sup>53</sup> Aisbett, Aisbett and Steinhauser 2016.

<sup>54</sup> Thus the first column of estimates has conditioned out the impacts of (any functional form and all interactions) of country of operation, sector, size quintile, and government ownership.

<b>Strata Definition</b>				
	Country	Country	Country	City/town
	Sector	Sector	Sector	Sector
	Size	Size	Size	Size
	Gov. own	Gov. own	Gov. own	Gov. own
		Legal org.	Legal org.	Legal org.
			Exports	Exports
<i>Courts are fair</i>				
Rel. Risk	1.0478***	1.0534***	1.0576***	1.0400
Std. Err.	(0.0177)	(0.0199)	(0.0221)	(0.0246)
ID treated obs.	[7201]	[6250]	[5391]	[4671]
<i>Government decisions are predictable</i>				
Rel. Risk	1.0443	1.0601**	1.0639*	1.0814**
Std. Err.	(0.0272)	(0.0302)	(0.0329)	(0.0373)
ID treated obs.	[2625]	[2374]	[2110]	[1789]
<i>Corruption is an obstacle</i>				
Rel. Risk	0.9962	0.9826	0.9856	0.9847
Std. Err.	(0.0139)	(0.0153)	(0.0170)	(0.0185)
ID treated obs.	[7929]	[6866]	[5887]	[5099]
<i>Courts are an obstacle</i>				
Rel. Risk	1.0419**	1.0210	1.0248	1.0302
Std. Err.	(0.0187)	(0.0205)	(0.0229)	(0.0247)
ID treated obs.	[7602]	[6615]	[5697]	[4931]
<i>Licenses and permits are an obstacle</i>				
Rel. Risk	1.0293*	1.0267	1.0343	1.0229
Std. Err.	(0.0176)	(0.0196)	(0.0219)	(0.0235)
ID treated obs.	[7990]	[6911]	[5912]	[5136]
<i>Political instability is an obstacle</i>				
Rel. Risk	0.9875	0.9782	0.9790	0.9578**
Std. Err.	(0.0145)	(0.0159)	(0.0176)	(0.0188)
ID treated obs.	[7849]	[6801]	[5827]	[5049]
<i>Tax administration is an obstacle</i>				
Rel. Risk	0.9570***	0.9483***	0.9578**	0.9491***
Std. Err.	(0.0144)	(0.0159)	(0.0177)	(0.0192)
ID treated obs.	[8089]	[6997]	[6002]	[5211]
<i>Tax rate is an obstacle</i>				
Rel. Risk	0.9468***	0.9415***	0.9527***	0.9402***
Std. Err.	(0.0128)	(0.0141)	(0.0158)	(0.0172)
ID treated obs.	[8109]	[7024]	[6020]	[5223]

NOTES: "ID treated obs." is the number of foreign firms whose response could be identified statistically because there was at least one domestic firm in the same strata. "Rel. Risk" stands for risk/pronensity of foreign firms agreeing with the statement relative to that of domestic firms. Stars on the relative risk indicate statistical significance of test of whether the relative risk is unity. \*\*\* p<0.01 \*\* p<0.05 \* p<0.1.

TABLE 3 – RELATIVE PERCEPTIONS OF HOST GOVERNMENT INSTITUTIONS AMONG COMPARABLE FOREIGN AND DOMESTIC FIRMS

One potential critique of Table 3 from a policy perspective is that the results therein could be driven primarily by differences between foreign and domestic firms in reporting mildly positive or negative responses. Arguably, it is the avoidance of strongly negative experiences which matters. Of relevance to policy discussions about the investment treaty regime, for instance, foreign investors are unlikely to bring negligible disputes with the host state to international arbitration. For these reasons, Table 4 summarises the relative propensity of foreign firms to give strongly negative responses about their relationship with government and courts.

The pattern of responses is very similar to that in Table 3 (noting that the “Courts are fair” and “Government is predictable” variables are now coded so that negative rather than positive responses are counted). There is again no evidence to suggest that foreign firms are systematically disadvantaged compared to their domestic counterparts. Rather, foreign firms appear to be at an advantage in terms of perceived fairness of courts, predictability of government decisions, and insulation from the impediments of political instability, tax administration, and tax rates. Foreign firms show no significant advantage or disadvantage in terms of the obstacles caused by courts or corruption. The only measure on which there is some evidence that foreign firms perceive more constraint is the issuing of licenses and permits, but this finding is not robust to controlling for firm exporting behaviour.

	<b>Strata Definition</b>			
	Country	Country	Country	City/town
	Sector	Sector	Sector	Sector
	Size	Size	Size	Size
	Gov. own	Gov. own	Gov. own	Gov. own
		Legal org.	Legal org.	Legal org.
			Exports	Exports
<i>Courts are fair</i> (Strongly disagree)				
Rel. Risk	0.9447***	0.9432***	0.9348***	0.9435**
Std. Err.	(0.0184)	(0.0203)	(0.0222)	(0.0241)
ID treated obs.	[7201]	[6250]	[5391]	[4671]
<i>Government decisions are predictable</i> (Strongly disagree)				
Rel. Risk	0.9424*	0.9137**	0.9313*	0.9341
Std. Err.	(0.0349)	(0.0375)	(0.0411)	(0.0460)
ID treated obs.	[2625]	[2374]	[2110]	[1789]
<i>Corruption is a (major or severe) obstacle</i>				
Rel. Risk	0.9816	0.9666*	0.9673	0.9793
Std. Err.	(0.0166)	(0.0183)	(0.0203)	(0.0221)
ID treated obs.	[7929]	[6866]	[5887]	[5099]
<i>Courts are a (major or severe) obstacle</i>				
Rel. Risk	1.0366	1.0119	1.0165	1.0321
Std. Err.	(0.0260)	(0.0286)	(0.0318)	(0.0343)
ID treated obs.	[7602]	[6615]	[5697]	[4931]
<i>Licenses and permits are a (major or severe) obstacle</i>				
Rel. Risk	1.0638**	1.0549*	1.0527	1.0402
Std. Err.	(0.0267)	(0.0299)	(0.0334)	(0.0358)
ID treated obs.	[7990]	[6911]	[5912]	[5136]
<i>Political instability is a (major or severe) obstacle</i>				
Rel. Risk	0.9557**	0.9539**	0.9559**	0.9350***
Std. Err.	(0.0176)	(0.0195)	(0.0216)	(0.0230)
ID treated obs.	[7849]	[6801]	[5827]	[5049]
<i>Tax administration is a (major or severe) obstacle</i>				
Rel. Risk	0.9374***	0.9275***	0.9384**	0.9347**
Std. Err.	(0.0209)	(0.0231)	(0.0258)	(0.0280)
ID treated obs.	[8089]	[6997]	[6002]	[5211]
<i>Tax rate is a (major or severe) obstacle</i>				
Rel. Risk	0.8770***	0.8668***	0.8808***	0.8947***
Std. Err.	(0.0167)	(0.0184)	(0.0206)	(0.0230)
ID treated obs.	[8109]	[7024]	[6020]	[5223]

NOTES: "ID treated obs." is the number of foreign firms whose response could be identified statistically because there was at least one domestic firm in the same strata. "Rel. Risk" stands for risk/propensity of foreign firms agreeing with the statement relative to that of domestic firms. Stars on the relative risk indicate statistical significance of test of whether the relative risk is unity. \*\*\* p<0.01 \*\* p<0.05 \* p<0.1.

TABLE 4 – RELATIVE RISK OF STRONGLY NEGATIVE PERCEPTIONS OF HOST GOVERNMENT INSTITUTIONS AMONG COMPARABLE FOREIGN AND DOMESTIC FIRMS

### *The role of income*

The results reported up to this point arise from the analysis of the full sample of countries available in the World Bank's latest enterprise survey data. As such, it is possible that they mask systematic variation in the relative treatment of foreign firms by hosts at different stages of development. To test for this, we merge onto the Enterprise Survey data, World Bank data on income classification among developing countries (Low, Lower middle, and Upper middle).

In order to reduce dimensionality, and thus ease interpretation of the results, we report only the results where the strata are comprised of the intersection of country, sector, firm size, government ownership dummy, legal organisation, and export status.<sup>55</sup> That is, we report results comparable to those in the third column of Table 3. Also, we report in the main text only results for an aggregated "Government Treatment Score" variable.<sup>56</sup> The score is an unweighted linear combination of all the individual binary dependent variables in Table 3 (except "Government decisions are predictable", as this question was not administered in the surveys for a substantial proportion of countries). It ranges from a maximum of 6 to a minimum of zero, with higher numbers corresponding to better perceptions of the business environment.<sup>57</sup>

The analysis of the Government Treatment Score variable is again conducted using the CLERR (conditional likelihood estimator of relative risk). The CLERR is an appropriate treatment-effects estimator because the score is the sum of the firms' positive responses and is therefore binomially distributed.<sup>58</sup> The only change required when switching from the individual binary responses to the sum of binary responses is in the interpretation of the estimated relative risk. For the binary responses, we estimated the relative risk of a single event (e.g. agreeing that courts are fair). For the Government Treatment Score, we estimate the relative risk of a foreign firm having a score one point higher than a comparable domestic firm.

Results are presented by income group in Figure 2 below and in Appendix C. Figure 2 shows that, while foreign firms are always at least as well treated as comparable domestic ones, there is a clear trend for foreign firms' relative satisfaction with government treatment to decrease as per capita income increases. This same pattern is also evident in most of the graphs for the individual binary dependent variables in Appendix C. The only variables for which the relative treatment of foreign firms was not better for the low-income compared to upper-middle income group were "Courts are an Obstacle" and "Government is Predictable". Note that in all the graphs, the standard error bars are wider for low-income than for middle-income hosts because there are fewer low-income countries in the Enterprise Survey data and thus fewer firm observations in this category.

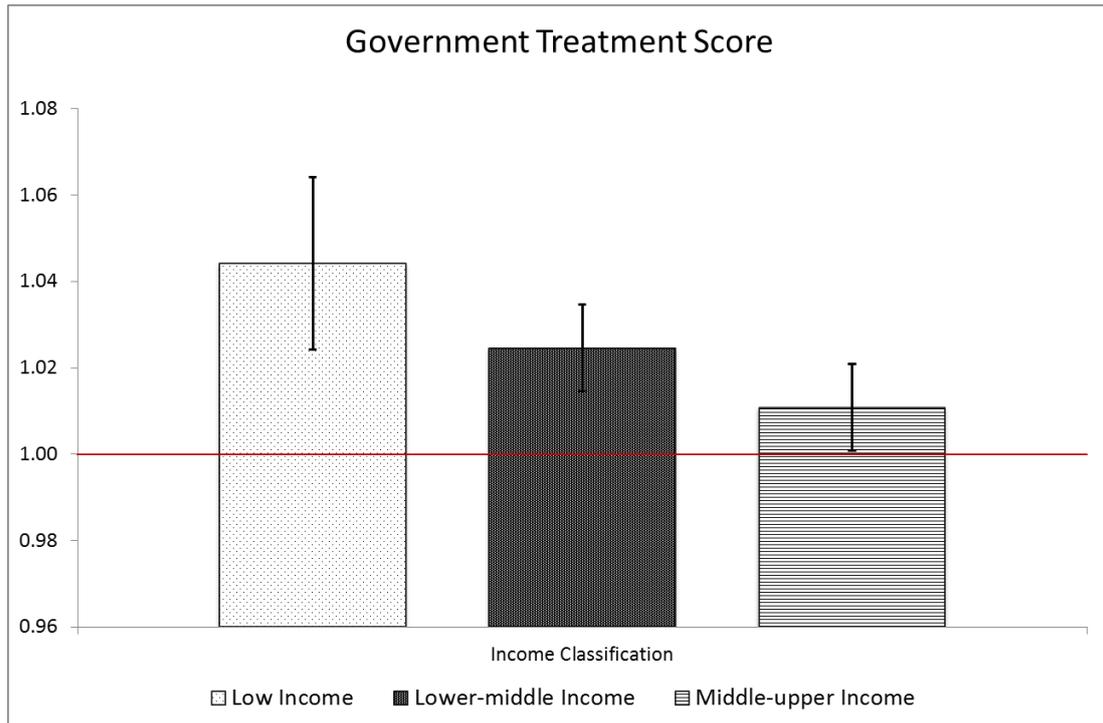
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<sup>55</sup> Results for alternative strata definitions available on request from the authors.

<sup>56</sup> Results for the individual dependent variables as used in Table 4 are presented in Appendix C.

<sup>57</sup> The government score is equal to the sum of the "1"s from the firms response when all the binary variables are coded so that a 1 indicates a favourable response. That is, a score of 6 is achieved if the firm does not find any of potential impediments are an obstacle and does find that courts are fair.

<sup>58</sup> See Aisbett, Aisbett and Steinhäuser (2016) for further discussion and explanation. The basic point is that the CLERR assumes the dependent variable is binomially distributed. We know that the sums of firms' binary responses for one variable have a binomial distribution. Furthermore, we know that the sum of binomially distributed random variables will also have a binomial distribution. Hence the Government Score will have a binomial distribution and the CLERR is an appropriate estimator.



NOTES: Columns show the relative risk of a foreign firm having a Government Treatment Score which is one point higher than a comparable domestic firm. Relative risk greater than one suggests foreign firms are better treated. T-bars show plus and minus one standard error of the estimated relative risk (a 68% confidence interval).

FIGURE 2. RELATIVE GOVERNMENT TREATMENT SCORE AMONG COMPARABLE FOREIGN AND DOMESTIC FIRMS: BY INCOME CLASSIFICATION

## Conclusion

Foreign investors are subject to a wide range of political risks when operating in developing countries that lack strong property rights institutions. Important insights about the nature and extent of these risks is coming out of large and rapidly growing literatures in political science, international economics, and international business. Yet, it is not just foreign firms that suffer in countries with weak property rights. Expropriation, breach of contract, opaque and unpredictable government behaviour – all are familiar concerns not just for foreign investors but also domestic firms operating in high-risk jurisdictions. It is therefore unfortunate that academic literature and policy debates routinely focus solely on the absolute treatment of foreign investors without considering treatment of comparable domestic investors.

Our results suggest that foreign firms tend to be treated at least as well by host state governments as comparable domestic firms in the vast majority of cases. There is a political advantage, as opposed to liability, of being a foreign firm. As a matter of descriptive inference, this not only questions a widely used assumption in much literature on foreign investment governance, but also provides important context to

on-going policy debates about the appropriateness of governments giving foreign investors unique rights and privileges unavailable to domestic firms – for instance in investment treaties.

Secondly, our results show that the political advantage of foreignness are greatest in the poorest countries of the world. One explanation could be that least-developed countries are likely to perceive the greatest benefits from foreign investment, because they are in desperate need of investment of any kind. By contrast, many middle-income countries are characterised by having industries that are relatively underdeveloped but have promise to become competitive in the future. A government wishing to provide such industries with the chance to reach their full potential is unlikely to want to tilt the playing field in favour of their foreign competitors. Hence relative foreign friendliness is lower for middle-income countries. This so-called ‘infant industry’ argument has at times been very influential among developing country policy-makers, and interventionist industrial policy has enjoyed something of a come-back in recent years. Another set of explanations could arise from political and institutional dynamics. For instance, the poorer a country, the more exposed it is to pressure by foreign governments and international organizations demanding special attention to the needs of multinationals. Skill gaps may also be particularly pronounced when low-income countries bargain with foreign firms. We leave it to future studies to study these, and other, mechanisms in more detail.

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## Appendix A – Countries in the Enterprise Survey by Income Classification

Low Income	Lower middle Income	Upper middle Income	High Income
Afghanistan	Armenia	Albania	Antigua and Barbuda
Benin	Bangladesh	Angola	Bahamas
Burkina Faso	Bhutan	Azerbaijan	Barbados
Burundi	Bolivia	Belarus	Chile
Central African Republic	Cabo Verde	Belize	Croatia
Chad	Cambodia	Bosnia and Herzegovina	Czech Republic
Congo, Dem. Rep.	Cameroon	Botswana	Estonia
Eritrea	Congo, Rep.	Brazil	Hungary
Ethiopia	Cote d'Ivoire	Bulgaria	Israel
Gambia, The	Djibouti	China	Latvia
Guinea	El Salvador	Colombia	Lithuania
Guinea-Bissau	Ghana	Costa Rica	Poland
Liberia	Guatemala	Dominica	Saint Kitts and Nevis
Madagascar	Honduras	Dominican Republic	Slovak Republic
Malawi	India	Ecuador	Slovenia
Mali	Indonesia	Fiji	Trinidad and Tobago
Mozambique	Kenya	Gabon	Uruguay
Nepal	Kosovo	Georgia	
Niger	Kyrgyzstan	Grenada	
Rwanda	Lao PDR	Guyana	
Senegal	Lesotho	Iraq	
Sierra Leone	Mauritania	Jamaica	
Tanzania	Micronesia	Jordan	
Togo	Moldova	Kazakhstan	
Uganda	Mongolia	Lebanon	
Zimbabwe	Myanmar	Macedonia, FYR	
	Nicaragua	Marshall Islands	
	Nigeria	Mauritius	
	Pakistan	Mexico	
	Philippines	Montenegro	
	Samoa	Namibia	
	Sri Lanka	Palau	
	Swaziland	Panama	
	Tajikistan	Paraguay	
	Timor	Peru	
	Tonga	Romania	
	Ukraine	Russian Federation	
	Uzbekistan	Saint Lucia	
	Vanuatu	Serbia	
	Vietnam	South Africa	
	Yemen, Rep.	St. Vincent & Grenadines	
	Zambia	Suriname	
		Turkey	
		Venezuela	

## Appendix B – Results by Income Class

Graphs show estimated relative risk of foreign versus domestic firms agreeing with the statement. T-bars show plus and minus one standard error of the estimated relative risk (a 68% confidence interval).

