Fortune or Evil?
The Effect of Inward Foreign Direct Investment on Corruption*

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Abstract

In this paper, we analyze how one of the central drivers of globalization, foreign direct investment (FDI), relates to the prevalence of corruption. According to received wisdom, the link between globalization and corruption depends on the presence of the right political institutions and practices. We develop an alternative explanation that looks at the effect of inward FDI on host market dynamics, which in turn affect the opportunities for rent creation. We argue that in less developed countries FDI inflows can increase market concentration, resulting in higher rents that public officials can demand from market actors. Yet, this positive association between FDI and corruption will be mitigated in more developed economies, where foreign entry into a market populated by productive indigenous firms generates severe competition and thus reduces rents, leading to less opportunities for corrupt behavior. We test this non-linear relationship between FDI and corruption in an instrumental variable two-stage least squares setting. The results indicate that FDI is indeed associated with higher levels of corruption in less developed countries but not in developed countries. Our findings highlight the role of globalization in shaping host countries' market dynamics that often set the parameters of political outcomes.

Keywords: foreign direct investment, corruption, instrumental variables

JEL Classification: D72; D73; F21; F23; C12

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1 Introduction

The causes and consequences of globalization are central themes in the comparative and international political economy literature. Scholars have written intensively on how economic integration through trade and finance affects both politics and policy-making throughout the world. Recent changes in the organization of economic activities have brought international investment to the attention of politicians, pundits, and researchers. There is now a profuse literature on the political causes and consequences of foreign direct investment (FDI) and multinational corporation (MNC) activities (among others, Jensen, Biglaiser, Li, Malesky, Pinto, Pinto, and Staats 2012; Jensen and Rosas 2007; Jensen 2006; Li and Resnick 2003; Pandya 2013; Pinto 2013). However, work on the effect of FDI on governance–and corruption in particular–in host countries still lags behind (see Sandholtz and Gray 2003).

In this paper we analyze the link between inward FDI and grand corruption – the type of corruption involving the highest ranked public officials and leaders.[1] According to received wisdom we should expect a negative association between foreign investment and corruption for the following reasons: First, when facing high demands for bribes and payments, foreign investors who have the ability to move internationally would choose to exit, or even stay out (Wei 2000). Second, as they compete for foreign capital, governments are forced to reform their regulatory environment, leading to a "race to the top" in governance standards (Malesky 2008; Sandholtz and Gray 2003). Third, FDI has the potential to promote the diffusion of pro-business norms and ideas that lead to the adoption of good governance practices, protection of property rights, and the consolidation of rule of law (UNCTAD 1999). Last, foreign investment could also lead to greater competition in the marketplace, resulting in a more efficient allocation of resources and dissipation of rents. Yet foreign investors are not always deterred by corruption. Many investors aptly adjust to local practices, as reflected in profuse anecdotal evidence of foreign investors actively engaging in corruption (see Hellman, Jones, and Kaufman 2002; Søreide 2006).[2]

FDI has the potential to have both positive and negative effects, a factor that has been overlooked in prevailing explanations. Firms engage in FDI to protect intangible assets, which are more pro-

[1] Corruption is traditionally defined as the "use of public office for private benefit" (Bardhan 1997: 1321).

[2] Egger and Winner (2005) find that corruption can act as a "helping hand" to foster FDI in unfavorable institutional environments. Other accounts suggest that corruption "*greases*" the wheels of commerce allowing investors to engage in highly profitable endeavors (see Kaufmann and Wei 1999: 3).

ductive under the control of a parent company (Caves 1996). Yet setting up and managing affiliates abroad is costly. Only the most productive, and usually largest firms, are able to afford these extra costs (Bernard, Jensen, and Schott 2009; Melitz 2003; Yeaple 2009). The host country can expect positive spillovers from inward FDI, including access to technology, efficient resource allocation, and crowding-in of domestic investment. Whether these positive spillovers materialize depends on the local absorptive capacity, which is a function of development and market structure in the host (see Agosin and Machado 2005; Blomström, Globerman, and Kokko 2001; Borensztein, De Gregorio, and Lee 1998).

We argue that the effect of FDI on corruption depends on the productivity differences between foreign and local firms. In less developed countries where the productivity differences between foreign and local firms are large, foreign investment has the potential to crowd out domestic investment and even stifle market competition (see Blomström et al. 2001; Blomström and Kokko 2003; Caves 1996), resulting in higher profit margins or economic rents. Higher rents, in turn, increases the benefits that government officials and investors expect when demanding and paying bribes respectively (Ades and Di Tella 1999). Consequently, inward FDI will be associated with high corruption in developing countries where foreign investment crowds out domestic investment, leading to rent creation. Yet, this positive effect of FDI on corruption will be mitigated in developed economies where foreign investors, whose productivity advantage relative to local firms is small, compete with domestic firms and drive economic rents away.[3]

Empirically, we examine the link between FDI and corruption for countries at different levels of development. Analyzing the relationship between FDI and corruption is fraught with technical issues, including endogeneity. To address this problem we implement an instrumental variable estimation, where we use remoteness–namely the weighted geographical distance between the host country and the richest economies in the world–as a proxy for inward direct investment. We find strong and robust evidence that inward FDI is indeed associated with higher corruption levels in less developed countries; but the positive marginal effect of FDI on corruption disappears as countries reach a certain threshold of economic development. Furthermore, we analyze the sensitivity of our results by examining the potential violation of the exclusion restriction, using different measures of corruption, and

[3]The argument that foreign investment can lead to negative political conditions, including corruption, is not novel. It is present in the *Dependentista* and *Triple Alliance* scholarship, in vogue during the late 1970s (see Evans 1979; Kobrin 1987; Moran 1978). Our argument deviates from this literature by focusing on the endogenous consequences of globalization on opportunities for rent creation and extraction.

exploring alternative mechanisms. Our findings suggest that the non-linear relationship between FDI and corruption remains strong in statistical and substantive terms.

Our study is related to a broader literature analyzing the link between politics and corruption. In that literature the calculus of corruption can be separated into two components for analytical purposes: the expected benefits and costs faced by the actors participating in the exchange of public benefits for private gains. Previous research has emphasized the effect of political institutions on the expected costs of engaging in corruption: the adoption and enforcement of good governance practices can increase the costs of engaging in corruption. The novelty of our argument is the focus on the expected benefits of corruption, which are commensurate to the opportunities for rent creation and extraction (Ades and Di Tella 1999). Our central claim is that the entry and presence of more productive MNCs may affect the expected benefits of corruption. In this regard our study supplements existing enforcement-based explanations of corruption, which tend to emphasize the consequences of varying the costs of engaging in corruption and raising the probability of punishing corrupt behavior through domestic or extraterritorial enforcement (Brunetti and Weder 2003; Kaczmarek and Newman 2011; Shleifer and Vishny 1993; Treisman 2007). Holding enforcement constant, high rents accruing from globalization create incentives for public and private actors to enter into the quid-pro-quo exchange of public favors for private gains, thereby leading to high levels of corruption. In the ensuing sections we present our argument, empirical strategy, and findings. In the conclusion we link our findings to broader debates on the political economy of globalization.

2 Foreign Investment, Rents, and Corruption

While the relationship between economic development and corruption has received plenty of scholarly attention, research on the consequences of economic integration on corruption lags behind. To date, the literature has focused on the link between international trade and corruption. Imports are likely to create competition in the market place, reducing the opportunities to extract rents and thus the expected benefits of corruption (Ades and Di Tella 1999; Sandholtz and Gray 2003: 765-6; Sandholtz and Koetzle 2000). By contrast, regulating and restricting trade through the distribution of import licenses and quotas has the potential to lead to bribery, graft, and corruption (Krueger 1974). Moreover, exports of fuels, metals, and minerals have been found to be positively correlated with the

level of corruption (Ades and Di Tella 1999; Treisman 2000).

In order to understand how FDI affects corruption we need to establish how the presence and activity of MNCs affect the conditions that make corruption prevalent, for which we can draw from the existing body of literature in international economics, business, and politics. On the first account, the literature on the determinants of corruption has persuasively shown that political and economic conditions create the incentives that "shape opportunities for corrupt behavior" (Montinola and Jackman 2002: 149; Ades and Di Tella 1999; Treisman 2000, 2007). The incentives to engage in corruption increase with the availability of rents associated with the exploitation of natural resources or with restricted competition in product markets (Ades and Di Tella 1999). In other words, the payoffs for corrupt behavior are larger under market conditions conducive to the creation of rents that can be shared between public and private agents participating in this exchange.[4] The key is, thus, identifying how foreign investment affects the benefits and opportunities of engaging in corruption.

Studies on the relationship between FDI and corruption tend to focus on the negative effect of foreign investment on corrupt activities (see Larraín and Tavares 2004; Sandholtz and Gray 2003), which oversimplifies the relationship between these two. Understanding this relationship requires accounting for the special nature of FDI as an economic entity. FDI involves the flow of investment capital across national borders where the investor, usually an MNC, retains a controlling stake over an affiliate established in a different country (Caves 1996). Conceptually FDI and MNCs are two sides of the same coin. The choice of establishing an affiliate abroad derives from the existence of proprietary intangible assets such as brand names, managerial skills, and production technology, which make arms' length relations risky. Transaction costs associated with protecting those valuable intangible assets justify the extra burden of setting up a hierarchical structure of control over an affiliate operating abroad (Caves 1996; Dunning 1992). Only the larger and more productive MNCs are able to incur these extra costs and remain profitable (Bernard et al. 2009; Melitz 2003; Yeaple 2009). The presence and expansion of the larger and more productive MNCs have the potential to either stifle or promote competition, depending on the productivity differences between foreign and local firms operating in that country. When the difference in productivity between foreign entrants and

[4]The benefits of engaging in corruption can be mitigated by the costs associated with the probability of getting caught, which is partly affected by the incentives and constraints created by domestic and international institutions. Abuse of public office for private benefits is more likely in political systems where leaders and public officials are less accountable to the public, or less likely to be caught and/or punished when participating in illegal activities. We explore this alternative mechanism in section A.6 of the Supplementary Information.

incumbent firms is low, the competitive effect of entry tends to dominate, resulting in rent dissipation. When the difference in productivity between foreign investors and incumbent firms is high, the entry of foreign firms has the potential to crowd out domestic firms. This crowding-out effect is likely to dominate the competitive pressure, leading to a more concentrated market and a higher level of rent creation.

Less developed economies are less diversifiied, lag behind in innovation and technology, and have less competitive markets for goods, services, and factors of production. When foreign firms –whic employ more advanced technology and enjoy lower marginal costs of production– enter the market, they can cause a reduction in the market shares of domestic firms, pushing some of them out of the market. A shrinking market share increases the average production costs of the remaining domestic firms and leads to a decline in their profitability.[5] When foreign investors enjoy a productivity advantage over their local counterparts, the crowding-out effect of entry of foreign firms tends to dominate. In such cases, foreign entry would result in less competition because of the exit of less productive firms, and higher rents due to the ability of the most productive firms to increase their markups over marginal costs. Moreover, the capital, technology, and know-how provided by foreign investors help relax the constraints faced by host governments in exploiting local resources that would otherwise remain idle or under-exploited in the absence of the foreign investors.[6] Increasing rents, in turn, lead to more opportunities for corruption, as those rents could ultimately be shared between investors who help create them, and government officials who are in position to regulate investors' presence and activity, grant or deny licenses and permits, and uphold restrictive market conditions.

Sharing the rents with local leaders is costly to foreign investors who would rather pocket those rents themselves. Yet, the expected returns of engaging in corruption could be worth these costs where the opportunities for rent extraction are large. Thus, we expect that more inward FDI will result in higher levels of corruption in less developed countries. In developed economies, MNCs are likely to coexist with incumbent firms with similar capacities, technologies, and know-how. In such cases, the entry of foreign investors is likely to increase competition, resulting in a dissipation of economic rents. In this environment FDI has the potential to intensify competitive pressures, ultimately forcing all firms to cut prices, further reducing the opportunities for rent creation and appropriation.[7]

[5] This is what Aitken and Harrison (1999) define as the *market-stealing* effect or negative technology spillover of MNCs.

[6] Chinese investment in resource rich countries in Africa, for instance, exemplifies this trend.

[7] If the economy remains open to foreign investment, local market participants who want to stay competitive have an incentive to

2.1 *Testable Hypothesis*

We argue that differences in productivity between foreign investors and local firms affect the opportunities for rent creation. When these differences in productivity are small, the competitive effect of foreign entry is likely to dominate, leading to rent dissipation. When the differences in productivity between foreign investors and domestic firms are large, the crowding-out effect is likely to prevail; less productive firms are replaced by more productive foreign entrants, resulting in higher market concentration and economic rents. The predictions linking productivity differences to higher rents can be derived from a simple monopolistic competition setup (which we present in Supplementary Information A.1). The exercise shows that the effect of entry on firm's profits depends on the productivity differential between incumbent firms and the new entrant. Note that the effect does not depend on the motivation for investment, whether vertical or horizontal, market or export platform oriented. More productive firms are able to produce more output and earn higher profits than less productive firms irrespective of the sector where they operate.[8] Thus, the main driver is the difference in productivity between foreign and domestic firms. To the extent that economic development serves as a proxy for competitiveness and productivity of the host country, we expect foreign investment to be associated with more corruption in less developed countries, but not in developed economies. We can derive the following testable hypothesis:

HYPOTHESIS: *Higher inward FDI will increase corruption levels in less developed economies.*

A counter argument is that rising competition could create incentives for incumbent firms to engage in corrupt practices to stay ahead. When facing high competitive pressures private actors would lobby for policies and regulations that would allow them to carve out a market niche for themselves. We believe that this effect is less likely to be observed above a threshold of market competition since more firms will be negatively affected by corruption and could push back. Furthermore, the saliency of this quid-pro-quo exchange is likely to be magnified when the firm engaging in corruption is foreign.

demand institutions to restrict the ability of elected officials to engage in graft and demand bribes.

[8] In the presence of fixed costs more productive firms, i.e., firms with lower marginal costs, are able to produce more output, and charge a higher markup (even while lowering prices), allowing them to earn higher profits. While some firms are able to endure the competition from a high-productivity entrant, the least productive firms, i.e., those with higher marginal costs, can be priced out of the market (Melitz and Trefler 2012: 100).

We underscore the attenuating effect of development and competition on rent creation, therefore reducing corruption, while others have emphasized the incentives to engage in corruption to stay competitive. Both sets of hypotheses are theoretically plausible, yet we think the former is more likely to be reflected in the reduction of grand corruption and the latter on petty corruption. Which effect dominates is ultimately an empirical issue. The task is, thus, identifying empirically the conditions under which FDI will be associated with higher or lower corruption levels in the host country.

3 Empirical Strategy

We fit a series of models to assess the empirical content of our hypothesis that the effect of FDI on corruption depends on the economic environment in the host country. We regress corruption on FDI per capita, real GDP per capita (logged), democracy, and other controls. To capture the non-linear effect, we include an interaction term between FDI and GDP per capita. The model is set up as follows:

$$\begin{aligned} Corruption_i \;=\; & \beta_0 + \beta_1 * FDI_i + \beta_2 * Ln(GDPcap_i) + \\ & \beta_3 * FDI_i \times Ln(GDPcap_i) + \beta_4 * Democ_i + X_i\xi + \varepsilon_i \end{aligned} \tag{1}$$

3.1 *Data Description and Sources*

To test our hypothesis, we need a measure of the incidence of corrupt behavior across a large number of countries at different levels of development. However, objective measures of corruption are hard to come by, given that corruption is a very sensitive behavior and extremely hard to observe directly. Additionally, those available are usually not amenable for cross-country comparisons. Experience-based measures tend to capture instances of petty corruption and suffer from sensitivity and social desirability biases (see Jensen, Li, and Rahman 2010). Well executed list-experiment designs and micro-level analysis of corruption (e.g., Malesky, Gueorguiev, and Jensen 2015) are able to overcome the sensitivity and social desirability biases. Yet they are less likely to capture instances of grand corruption, and by design, are only suitable for within case analysis. Perception-based corruption indices are constructed by aggregating surveys and measures of experienced corruption where available, providing a wider coverage. Measures of perceived and experienced corruption are correlated, but they

tend to differ in systematic ways (Donchev and Ujhelyi 2014; Treisman 2007).[9] Perception-based measures of corruption are better at capturing instances of grand corruption, which is our concept of interest. In any event, perceptions of corruption can have highly real world consequences on political and economic behavior: they reflect the general consensus about the underlying level of grand corruption in different countries. For these reasons we use Transparency International's (TI) annual index of "perceived corruption," as our main dependent variable.[10] To help address concerns about measures of perceived corruption we also conduct robustness tests using experience-based measures from the World Bank Enterprise Surveys (WBES).[11]

TI's Corruption Perception Index (CPI) ranges from 0 (most corrupt) to 10 (least corrupt).[12] In order to simplify the interpretation of results, we reverse the values such that higher values represent more corruption. CPI has missing values for some countries and years. To maximize the data coverage, we follow Sandholtz and Gray (2003) and average the scores from 2000 to 2004 for each country that has observations during this period.[13]

The main explanatory variable is the average real FDI stock per capita (PPP adjusted) over a five-year span (2000–2004). To ease the interpretation of our results, we rescale it to 1,000 constant 2000 international dollars. The choice of FDI stocks as our main explanatory variable requires justification in light of recent debates on available measures of FDI (Jensen 2015; Kerner 2014, 2015; Li 2015). The central point in this debate is the need to identify the relevant measure of foreign investment activity that matches the theoretical mechanisms to be tested. Kerner (2014), for instance, suggests that in order to test hypotheses about the role of political risk in MNC activity, the appropriate measure is fixed capital investment, which captures the amount of illiquid assets exposed to government op-

[9] Perceptions of corruption correlate with political and economic conditions (Donchev and Ujhelyi 2014; Treisman 2007), but experience-based measures do not. Where data is available it has been shown that after controlling for legal systems, religion, economic and political development, perceptions of corruption are not sensitive to experienced corruption (Donchev and Ujhelyi 2014).

[10] CPI has been widely used in earlier studies. See, inter alia, Sandholtz and Gray (2003) and Treisman (2000).

[11] In Supplementary Information A.7 we present results based on alternative perception-based measures of corruption from the World Bank and the International Country Risk Guide.

[12] The CPI codes instances of grand corruption, graft, and petty corruption. Yet, our argument is about grand corruption and makes no prediction on the effect of foreign investment on petty corruption. According to Transparency International, CPI is a good proxy of grand corruption, which is at the center of the organization's activities. They note, however, that the incidence of grand corruption and petty corruption are likely to go hand in hand. Thus, CPI could be considered as a coarse proxy of the underlying level of grand corruption in the host country, which is the concept of interest in our study.

[13] An alternative empirical strategy would exploit the within unit variation in the dependent and independent variables. Unfortunately this strategy is not feasible at this stage for several reasons: first, none of the available measures are amenable to time-series cross-sectional analysis due to changes in coding, coverage, and other data collection problems discussed in detail by Treisman (2007); second, in the CPI dataset there is limited change in the level of corruption during the time frame for which the measures of corruption are available; and last, aside from limitations in the available data we believe that the effect of FDI on corruption should be apparent in the cross-section, and the results seem to support this claim.

portunism. We argue that the entry and presence of more productive foreign firms may contribute to rent creation in less developed countries, and hence higher corruption. In this sense, we are interested in capturing the presence and activity of MNCs in the host country, not necessarily fixed investment. Inward FDI stocks – and flows – are more relevant to our theory since they include both liquid and illiquid assets. The measure used by Kerner (2014, 2015), fixed capital expenditures, is too narrow for our case, and is only available for majority-owned foreign affiliates of U.S. MNCs. In our main specifications we report results using FDI stock data. Results using FDI inflows are substantively and statistically the same.[14] This should be no surprise, since despite being collected from different sources both measures are closely related.[15]

Regarding other covariates, economic development is measured by real GDP per capita (PPP adjusted). We take the natural log of GDP per capita to account for its skewed distribution. The data comes from the *Penn World Tables* and is averaged for a 5-year span from 2000 to 2004. This variable is mean-centered to simplify the analysis and interpretation of the results, particularly those on the interaction terms.

Standard Polity IV scores are used to capture the degree of democracy of host countries. We take the difference between *Democ* and *Autoc* as a measure of democracy which varies form -10 to +10, representing from strongly autocratic to strongly democratic (Marshall, Jaggers, and Gurr 2004). We average the values for the 2000-2004 interval.

We control for religion, legal origin,[16] and ethnolinguistic fractionalization, for which we use data from La Porta, Lopez-de Silanes, Shleifer, and Vishny (1999). Religious affiliation is measured by the proportion of the Protestant, Catholic, and Muslim population in each country in 1980.[17] Legal origin is captured by three dummy variables: British, French, and other legal systems (base category). The variable measuring ethnicity is created by averaging five different indices of ethnolinguistic fractionalization (see La Porta et al. 1999: 238). In addition, we include natural resources endowments

[14] Results using FDI inflows are reproduced in Supplementary Information A.3.

[15] FDI stocks data are calculated using different methods in different countries –at market value, at historical cost, or by cumulating FDI flows depending on the source. Data on FDI flows, on the other hand, are recorded on national accounts and are often more complete and reliable, albeit more volatile. However, FDI inflows are highly correlated with FDI stocks as prior investment activity is a strong predictor of investment inflows, and cumulative inflows result in higher investment stocks. Moreover, averaging over a five-year interval further reduces the volatility in both series. The Pearson correlations between real FDI inflow per capita and real FDI stock per capita during the period of 2000-2004 are 0.98 and 0.96 in our samples with and without outliers respectively. This suggests that they are essentially capturing the same underlying concept.

[16] The link between legal systems and good governance is quite controversial and has been contradicted by recent work (see Lederman, Loayza, and Soares 2005). Yet, we add them as controls following the extant literature.

[17] See La Porta et al. (1999: 238). The original data is in percentages, ranging from 0 to 100. To ease the interpretation of results we have converted the data to decimals.

and trade openness in the regression. To proxy for countries' raw material endowments we use the proportion of exports consisting of fuels, metals, and minerals (see Ades and Di Tella 1999; Treisman 2000).[18] Trade openness is measured as the sum of imports and exports of goods and services as a share of GDP. To deal with its skewed distribution, we take the natural log of openness.[19]

3.2 *FDI and Corruption: OLS Regressions*

We start with 'naive' OLS regressions. The results from these analyses are presented in Table 1. First, we simply regress corruption on FDI, real GDP per capita, and democracy, controlling for other covariates identified in the literature. In this setting we are able to reproduce the findings from earlier studies, which show a negative correlation between FDI and corruption. To account for the interactive effect with development, we add an interaction term between FDI and GDP per capita. The regression signs of FDI and GDP per capita and their interaction term are consistent with our hypothesis that the effect of FDI depends on the level of economic development but their coefficients do not attain statistical significance, and endogeneity concerns should make these results suspect.

In the ensuing sections we present our strategy for dealing with the endogeneity problem. First, we discuss the construction of an instrumental variable for FDI. Next, we move to the two-stage least squares (2SLS) results, where we evaluate the linear effect of FDI on corruption as proposed by the extant literature and test our hypothesis on the non-linear effect of FDI.

3.3 *Endogeneity and Instrumental Variable Estimator*

One possible solution to endogeneity is to fit an instrumental variable model in a 2SLS setting. The basic strategy in instrumental variable estimation is to find an instrument that is contemporaneously uncorrelated with the error term in the original model and correlated (preferably highly so) with the endogenous regressor for which it is to serve as an instrument; furthermore, the instrument should not have a direct effect on the dependent variable (Wooldridge 2002). Recent studies on the consequences of FDI have proposed different candidates. Malesky (2009), for example, uses the predicted exchange rate as an instrumental variable for cumulative stocks of FDI, finding that FDI has a strong influence on the progress and institutionalization of economic reform. Jensen and Rosas (2007), on

[18] This data is obtained from the World Bank's *World Development Indicators*, averaged for the 2000-2004 interval.
[19] Data on openness is drawn from the *Penn World Tables*.

Table 1: OLS Regression Results: FDI Stocks and Corruption (CPI)

Models	(1)	(2)	(3)
FDI stock/cap	-0.16***	-0.16***	0.01
	(0.02)	(0.02)	(0.14)
Ln(GDP/cap)			-1.17***
			(0.16)
Interactions			
(FDI/cap) ×			-0.06
Ln(GDP/cap)			(0.08)
Controls			
Democracy	-0.07**	-0.07**	-0.00
(Polity IV)	(0.03)	(0.03)	(0.03)
Fuel, metal and	0.97	0.97	1.04**
minerals exports	(0.58)	(0.59)	(0.46)
Ln(Openness)	0.32	0.34	0.25
	(0.32)	(0.33)	(0.28)
Ethno-ling.	1.91***	1.79***	0.34
fractionalization	(0.49)	(0.56)	(0.49)
Religion			
Catholic	0.74	0.81	0.61
	(0.49)	(0.59)	(0.48)
Muslim	0.07	0.11	-0.37
	(0.59)	(0.67)	(0.53)
Protestant	-3.61***	-3.58***	-3.10***
	(0.76)	(0.79)	(0.62)
Legal Origin			
British		0.20	-0.17
		(0.49)	(0.39)
French		0.04	-0.26
		(0.53)	(0.41)
Constant	4.66***	4.51***	5.10***
	(1.38)	(1.45)	(1.19)
N	95	95	95
R^2	0.70	0.71	0.82
Adj. R^2	0.68	0.67	0.80

Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

the other hand, use geography (distance to the U.S. border) to instrument for inward FDI into Mexico to study its effect on inequality. The identification strategy in these studies exploits variation in either economic conditions or geography in the host country, which are sensible choices given their sample but not for ours.

We construct an instrumental variable for inward FDI, which is based on a measure of *remoteness*, namely a weighted geographical distance between the host country and the richest twenty economies in the world for the period of 2000-2004.[20] The use of remoteness as an instrumental variable is

[20]We use the summation of the *multiplicative inverses* of bilateral geographic distances between the host country and the 20 wealthiest

grounded in recent literature on the determinants of FDI and loosely based on the gravity model of investment: while most of the world's FDI originates from the wealthiest economies in the world, the amount received by host countries is indirectly related to their distance to these source countries (e.g., Carr, Markusen, and Maskus 2001; Loungani, Mody, and Razin 2002; Markusen 1995). The choice of remoteness is based on the following logic: investors are more likely to invest in those destinations that are closer to their home country; and wealthier countries are more likely to be sources of FDI.[21]

Larraín and Tavares (2004) adopt a similar strategy: They use geographical and cultural proximity to the largest countries in the world weighted by the source countries' levels of exports and investment outflows to instrument FDI inflows in host countries. While distance to the largest economies is, in theory, exogenous to corruption in the hosts, economic integration (exports and FDI outflows) and the cultural factors included in the first-stage regression (such as common religion and language) could have a direct and independent effect on corruption in the second-stage regression, and thus violate the IV exclusion restriction.

In abstract, remoteness could also be construed as violating the IV exclusion restriction. Distance from the 20 wealthiest economies where corruption is less prevalent could proxy for the ease of diffusion of sound institutions, practices, norms, and values that may help reduce corruption. However, remoteness and proximity alone do not necessarily result in the diffusion of those institutions, practices, norms, and values. We need to identify the mechanisms through which these best practices are transmitted. One such mechanism is economic interdependence, including trade and investment flows. Yet, remoteness from the richest countries does not seem to be a good instrumental variable for trade. The correlation between our instrumental variable and imports as a percentage of GDP is low ($r = 0.12$) and it is not statistically significantly different from zero.[22] This is consistent with Treis-

economies, weighted by the latter's real GDP per capita in 2000-2004. The list of the 20 economies is: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Hong Kong, Iceland, Ireland, Luxembourg, Netherlands, Norway, Qatar, Singapore, Sweden, Switzerland, United Arab Emirates, United Kingdom, and United States. We exclude Bermuda, Macao, and Brunei from the list of the top 20 economies. Note that the top 20 wealthiest economies account for 74.11% of the world's cross-border investment outflows during this period.

[21] Distance from a source of investment could have different effects depending on the motivation for investment. Vertical FDI, for instance, exists to take advantage of factor price differentials across countries, and is thus explained by arguments based on factor proportions. Horizontal FDI arises when high trade barriers make exports to foreign markets costly. Consequently, firms are forced to have similar production facilities in more than one country to cater to local consumers (Markusen 1995). The latter is also associated with the "tariff-jumping" FDI, and hence likely to be correlated positively with distance. See Grossman and Helpman (1996) and Helpman (1984). Historically, most FDI flowed among countries with similar endowments, i.e., horizontal FDI; see Lipsey (2001) and Markusen (1995). Therefore, instrumented FDI could be interpreted as capturing the average treatment effect of horizontally motivated flows. Yet, Hanson, Mataloni Jr, and Slaughter (2001) have shown that vertical FDI is becoming increasingly more important. Slaughter (2003) also documents a higher prevalence of vertical FDI in recent years. In any event we should expect that given two potential targets investors are likely to choose the closer destination.

[22] Note that the correlation between the instrument and the log of trade openness (the ratio of total imports and exports to GDP) is

man's (2000; 2007) finding that weighted distance between a country and the 20 largest exporters is not a good instrument for trade openness.[23]

Instrumenting FDI with remoteness is equivalent to identifying MNCs as the vectors for diffusion of political practices. These effects, we argue, depend on the motivations for engaging in FDI and are likely to be affected by conditions in the host country. This is an additional difference from Larraín and Tavares's (2004) study, which does not allow for the effect of FDI to vary with levels of economic and political development, as is central to our argument.

An alternative mechanism for diffusion of governance would be the existence of cultural and colonial links, which could vary with geography. Yet, note that our operationalization of remoteness includes countries from different regions of the world with different languages, values, legal traditions, institutional backgrounds, and colonial statuses.[24] Moreover, it should be noted that this possibility is not a serious concern to our estimation strategy. The effect of diffusion of good practices through legal traditions and cultural links is hypothesized to be linear, and would bias our results downward in less developed and autocratic countries since more remote countries are less likely to be influenced by Western models traditionally associated with best practices and control of corruption. In such a case, we tend to *underestimate* the positive coefficient of FDI in less developed and autocratic countries (see more discussions in Supplementary Information A.5.)

Another potential critique to our instrument is that even though corruption in host countries is unlikely to be affected by remoteness, the variance of the information available to researchers at the TI, World Bank, or PRS group to construct the indices of perceived corruption might be affected by distance. This would result in a better assessment of the underlying level of corruption in places where MNCs are active. This is less a concern in the WBES's bribery indices as they are based on firms' experiences. The problem is mitigated in TI's Corruption Perceptions Index, which also

statically significant, suggesting that the effect is through exports, which could be attributed to direct investment. To further check whether our instrument captures the variation of trade openness, we have constructed two different instruments for FDI and trade flows respectively. We weight the bilateral distance between a host country and the richest 20 economies (in terms of GDP per capita) by their FDI outflows as an instrument for the country's inward FDI. Similarly, we weight the bilateral distance between a country and the 20 largest economies (in terms of GDP or population) by their exports as an instrument for the country's imports. Again, the former predicts FDI well but the latter is not significantly correlated with imports.

[23] Alternatively, we weight distance by the log of the population of the largest 20 economies, obtaining substantively and statistically similar results. One potential advantage of using population is that it could be taken as a proxy for real GDP while it is unlikely to have a direct effect on corruption in host countries. Larger populations would result in lower capital to population ratios, i.e., lower capital endowments. These results, available upon request, are substantively and statistically the same as those reported here.

[24] The correlation between the inverse/reciprocal of remoteness and British legal origin is relatively low, $r = -0.23$, significant at the 95% level in the sample when outliers (Ireland and Singapore) are excluded ($N = 93$). The correlation coefficient is -0.21 in the sample of 95 observations.

uses surveys of residents and local sources that are supposed to have more objective knowledge of local corruption. Furthermore, Fisman and Miguel (2007) find that perception-based measures of corruption are significantly correlated with actual corrupt behavior (i.e. parking violations), which provides some validation of the subjective measures of corruption used in our analysis. Additionally, instrumented FDI enters the second-stage regression in a non-linear form, which further mitigates the concern of information exposure. If geographic closeness leads to lower ratings of perceived corruption (i.e. less corruption) in host countries, we will *underestimate* the positive effect of FDI in less developed countries, which is similar to the case of diffusion of good governance through cultural and colonial links. In any event, we control for legal traditions and religion, and perform a series of sensitivity and robustness tests.[25] We have good reasons to believe that our instrumental variable presents an improvement over those used in earlier studies on the consequences of FDI.

In the first-stage regression, we fit the following model:

$$FDI_i = \alpha + \psi * Z_i + X_i\xi + \epsilon_i \tag{2}$$

$$Z_i = \sum_{j=1}^{20} \frac{1}{dist_{ij}} \times \ GDP\ per\ capita_j \tag{3}$$

where $i = 1, 2, \ldots, N$ and $j = 1, 2, \ldots, 20$

In equation (2), ψ is the coefficient to be estimated for the instrumental variable – Z_i (multiplicative inverse of geographic remoteness), α is the intercept, and X_i is a vector of k exogenous variables included in the second-stage regression. Bilateral distance is the inter-capital distance between pairs of countries.[26] For countries that are not among the top twenty, i.e., $i \neq j$, their real FDI per capita should be correlated positively with the *inverse* of the weighted distance to the wealthiest economies.[27] Ancillary tests suggest that our instrumental variable is strong and valid (see discussion in Supplementary Information A.2).

We have identified a couple of statistical outliers in the first-stage regression. Ireland and Singa-

[25]Following Conley, Hansen, and Rossi (2012), we have done additional sensitivity analysis on the extent to which our results are sensitive to the possible violation of the exclusion restriction. See discussions in Supplementary Information A.5.

[26]We calculated bilateral distance data using the ArcGIS 9.2 program. In the case of Hong Kong we take the distance between the city and the capitals of other sovereign countries.

[27]For each of the 20 wealthiest economies, i.e., when $i = j$, we set the term $1/distance_{ij} \times\ GDP\ per\ capita_j = 0$. It is equivalent to coding the distance of a country to itself as infinite so that $1/distance_{ij} \equiv 0$. This implies that for a country like the U.S., included among the top wealthiest economies, $1/distance_{ij} = 0$ would capture the fact that the U.S. receives no FDI from itself.

pore have received substantially more FDI per capita than the rest of the countries in the sample. To formally check the existence of outliers, we calculate the Cook's Distance for each observation in the sample for the first-stage regression. Results suggest that these two countries are indeed statistical outliers (see Supplementary Information A.2). We adopt two modeling strategies to deal with the statistical outliers. First, we simply drop these influential observations in main specifications. Second, we add a dummy variable of these observations to the first-stage regression as robustness checks.[28]

3.3.1 *The Effect of Instrumented FDI on Corruption*

Models 4 and 5 in Table 2 estimate the effect of FDI on corruption in a 2SLS setting. These results show that the effect of instrumented FDI stocks is both negative and statistically significant, in line with the findings by Larraín and Tavares (2004). The coefficients of other controls are generally consistent with those in the OLS regressions: A higher level of economic development and a larger Protestant population are strongly associated with lower corruption levels, while countries rich in natural resources tend to be more corrupt.

Yet, these models ignore our hypothesis that the effect of FDI on corruption depends the level of economic development of the host country. In less developed economies—where incumbent firms are less competitive—the entry of foreign investors is more likely to crowd out domestic firms and lead to greater opportunities for rent creation, and hence higher levels of corruption. On the contrary, developed economies tend to be more diversified and have more robust and competitive local businesses. In such cases, the crowding-out effect of foreign investment will be less prevalent. Moreover, the entry of multinationals could even increase competitive pressures, further reducing the opportunities for rent creation and appropriation. Thus, we expect that the marginal effect of FDI on corruption to vary with the level of economic development, i.e., GDP per capita, in the host country.

To estimate this non-linear relationship we replace FDI_i with the predicted $\widehat{FDI}_i$ obtained from the first-stage regression in equation 1, yielding:

$$\begin{aligned} Corruption_i \;=\; & \beta_0 + \beta_1 * \widehat{FDI}_i + \beta_2 * Ln(GDPcap_i) + \\ & \beta_3 * \widehat{FDI}_i \times Ln(GDPcap_i) + \beta_4 * Democ_i + X_i\xi + \varepsilon_i \end{aligned} \tag{4}$$

[28] Results are presented in Supplementary Information A.4.

Estimating the coefficient of the interaction term presents an additional technical challenge. Since FDI stock per capita is endogenous to corruption, the interaction between FDI and GDP per capita is also endogenous to corruption. The estimates obtained by directly multiplying an instrumented endogenous variable with another variable is inconsistent and the interaction term "must be purged as a single variable, not piecemeal" (Achen 1986: 143; see Kelejian 1971). For example, suppose we define a reduced form for an endogenous variable $x_1 = (X, Z)$, where Z are excluded instruments and X are the included exogenous variables from the second stage. The reduced form for $x_1 x_2$ is $x_1 x_2 = (X, Z)x_2$. A consistent estimate of the reduced form predicting $x_1 x_2$ can be obtained by estimating this equation. Then the purged values of the interacted terms can be included in the second-stage regression, while correcting for the standard errors as usual (Achen 1986, 141-44), which is the strategy that we adopt here.[29]

The results presented in Model 6 in Table 2 provide support to the non-linear hypothesis. The coefficient on GDP per capita is still negative and statistically significant at the 1% level. The most important change is that the sign of instrumented FDI stock per capita becomes positive while the coefficient of the FDI-GDP interaction term is negative. Both coefficients are statistically significant beyond conventional levels. These results support our hypothesis on the nonlinear relationship between FDI and corruption. At low levels of GDP per capita more FDI tends to be associated with higher levels of corruption, as predicted. When GDP per capita is above $20,671, the value that roughly corresponds to Spain's in our sample, the net effect of FDI inflows on corruption turns negative. The marginal effect of FDI on corruption for the less developed countries is substantively significant as well. One standard deviation increase in FDI stock per capita results in approximately 1.95 units change in corruption (0.86 standard deviations) for the median case among the less developed countries below the threshold. In contrast, for a median country above the threshold of economic development, one standard deviation increase in FDI per capita only leads to -0.30 units change in corruption, which is not statistically significant. Regarding the coefficients of other control variables, the addition of the interaction term does not greatly affect their signs or significance levels. Protestantism still has a negative and significant impact on corruption. The slope of natural resource endowments is

[29] The standard error of $\hat{\beta}_j$ is the square root of the jth diagonal element in the matrix: $\hat{\sigma}^2(\sum_{i=1}^{n} \hat{x}_i'\hat{x}_i)^{-1} = \hat{\sigma}^2(\hat{X}'\hat{X})^{-1}$, where $\hat{\sigma}^2 = (n-k-1)^{-1}\sum_{i=1}^{n}\hat{u}_i^2$, and $\hat{u}_i = y_i - x_i\hat{\beta}, i = 1, 2, ..., n$. The $\hat{u}_i$ used to compute $\hat{\sigma}^2$ are not the residuals from the second-stage regression where the x_i have been replaced by the $\hat{x}_i$ but those obtained when using the estimated coefficients $\hat{\beta}$ and the endogenous x_i. See Wooldridge (2002: 95).

Table 2: IV Regression Results: FDI Stocks and Corruption (CPI)

Model	(4)	(5)	(6)	(7)	(8)
FDI stock/cap	-0.13**	-0.13***	0.35***	0.20**	0.22**
	(0.05)	(0.05)	(0.11)	(0.10)	(0.10)
Ln(GDP/cap)	-1.09***	-1.07***	-1.23***	-1.92***	-2.05***
	(0.19)	(0.19)	(0.21)	(0.53)	(0.58)
Interactions					
(FDI/cap) ×			-0.25***	-0.13***	-0.14***
Ln(GDP/cap)			(0.05)	(0.03)	(0.03)
Controls					
Democracy	-0.01	-0.00	0.00	0.03	0.05
(Polity IV)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Fuel, metal, and	1.04**	1.04**	0.79	1.07**	1.11*
minerals exports	(0.45)	(0.45)	(0.48)	(0.53)	(0.56)
Ln(Openness)	0.33	0.33	-0.43	0.08	0.07
	(0.26)	(0.26)	(0.32)	(0.32)	(0.33)
Ethno-ling.	0.25	0.33	-0.04	-0.71	-0.66
fractionalization	(0.43)	(0.47)	(0.47)	(0.81)	(0.86)
Religion					
Catholic	0.49	0.54	0.03	0.17	0.31
	(0.38)	(0.46)	(0.42)	(0.47)	(0.57)
Muslim	-0.47	-0.41	-0.61	-0.91	-0.79
	(0.47)	(0.52)	(0.51)	(0.61)	(0.67)
Protestant	-2.84***	-2.85***	-2.76***	-2.72***	-2.73***
	(0.64)	(0.66)	(0.69)	(0.77)	(0.81)
Legal Origin					
British		-0.14			-0.52
		(0.38)			(0.48)
French		-0.12			-0.48
		(0.41)			(0.53)
Constant	4.83***	4.89***	7.77***	5.65***	5.95***
	(1.10)	(1.14)	(1.31)	(1.32)	(1.44)
N	93	93	93	93	93
R^2	0.82	0.83	0.80	0.77	0.76
Adj. R^2	0.81	0.80	0.77	0.74	0.73
	2SLS	2SLS	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

also positive and significant.

Yet, the estimates from Model 6 could also be biased, since GDP per capita could potentially be endogenous to corruption. To address this problem, we use countries' absolute latitudes as an instrumental variable for GDP per capita.[30] Remoteness and absolute latitude are likely to be correlated. However, the results of the first-stage regressions suggest that remoteness better captures the variation in FDI rather than the variation in GDP per capita.[31] When predicting FDI per capita in the first-stage

[30] For a discussion of this instrumental variable, see Treisman (2000).

[31] See Models 3-6 in Table A in Supplementary Information A.2.

regression, the coefficient of remoteness is highly significant at the 1% level, but the one of absolute latitude is not. In contrast, the coefficient of absolute latitude is statistically significant at the 1% level in predicting real GDP per capita, but the coefficient of remoteness is not significantly different from zero.[32]

In Model 7 where both FDI and GDP per capita are instrumented, the results show that the coefficients of FDI, GDP per capita, and their interaction term all have expected signs and their coefficients are statistically significant at conventional levels. In Model 8, we add a set of dummy variables that measure different legal origins. We again obtain similar results as before. We calculate the net effect of FDI per capita on corruption and simulate the 95% confidence intervals by setting GDP per capita at the level of Papua New Guinea ($4,431, which corresponds to a value of -0.16 in the transformed variable) and Australia ($27,069 corresponding to 1.65 in the transformed variable), each respectively representing the median of GDP per capita for the group of countries below and above the threshold ($23,649, roughly corresponding to the level of Japan's in our sample) at which the estimated net effect flips signs. For a country like Papua New Guinea, the net effect of one unit increase of FDI stock per capita ($1,000 PPP) is 0.24 with a 95% confidence interval of [0.06, 0.45].[33] For a country like Australia, the net effect is almost 0 (-0.02), with a 95% confidence interval of [-0.18, 0.14].

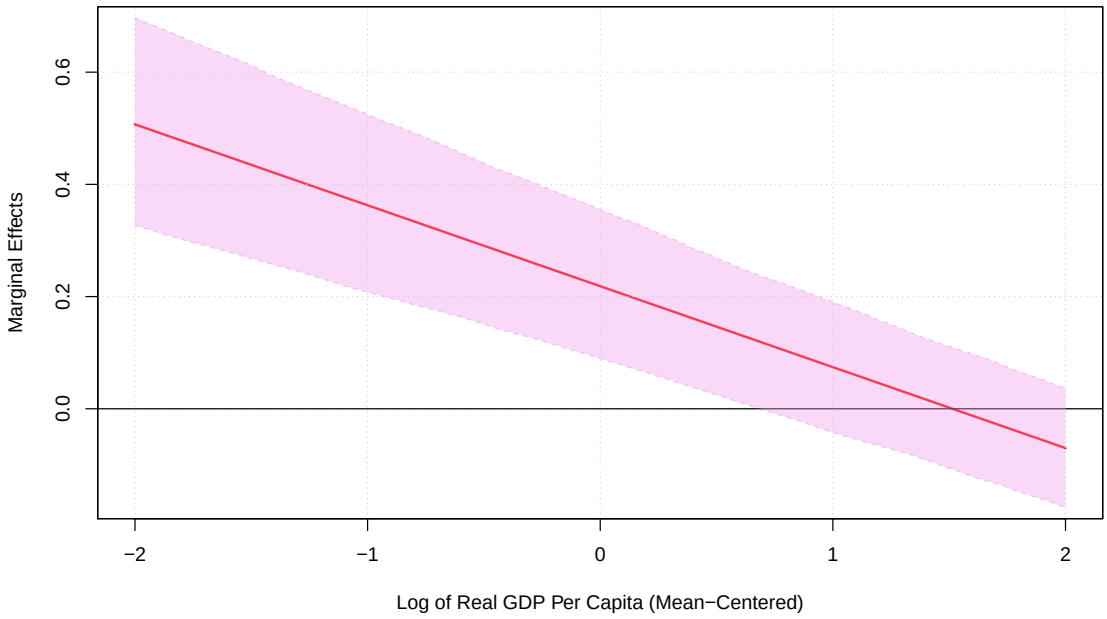
Figure 1 graphs the marginal effects of FDI stock per capita on corruption and their 95% confidence intervals along different levels of economic development. The graph clearly shows that at the lowest levels of development, more FDI is associated with higher levels of corruption, and the effect tapers off at higher levels of development.

So far, the results suggest that the effect of FDI on corruption is not linear. Increasing inward FDI is associated with higher levels of corruption in less developed countries, while in advanced economies, increasing inward FDI has no substantial effect on corruption. The finding is consistent with our hypothesis that the presence of foreign investors in less developed countries has the potential to increase opportunities for rent extraction and thereof corrupt behavior. These results also suggest that corruption in less developed economies is more likely to be affected by external factors such as FDI, than in advanced economies. In the latter case, property rights and legal institutions are already well established; markets are highly competitive; corruption levels are already relatively low.

[32] When we add countries' legal origin as control variables, absolute latitude becomes a significant predictor of FDI (see Model 5 of Table A in the Supplementary Information). However, the *F-statistic* of its coefficient is only 7.06, suggesting that it is a weak instrument for FDI. In contrast, the *F-statistic* of remoteness's coefficient is 33.47, suggesting it is a strong instrument for FDI.

[33] The marginal effect is doubled for countries in the bottom quartile of the per capita GDP distribution.

Figure 1: Marginal effects of FDI Stock per Capita on Corruption



Notes: The unit of real FDI stock per capita is re-scaled to 1,000 constant 2000 international dollars. Real GDP per capita is logged and mean-centered. Marginal effects and the 95% confidence intervals (shadow areas) are obtained from simulations using coefficients in Model 8 of Table 2.

Thus, the additional marginal effect of FDI on corruption resulting from increasing competition and efficiency is likely to be less consequential.

3.4 *FDI and Bribery Incidence*

One potential critique of the above results is that the CPI measure of corruption is subjective. Ideally, we should use objective measures of corruption. However, these so-called "objective" measures could be as subjective as experts' opinions and they tend to be better proxies for petty corruption rather than grand corruption. One possible objection to these measures is how truthful responses are in less democratic and/or repressive settings.[34] To check whether our results are driven by the subjective measure of corruption, we turn to the World Bank Enterprise Surveys (WBES) project that has surveyed firms in 144 countries on their corruption experience.

We utilize two indices from the WBES as alternative measures of corruption: *bribery incidence*, which measures the percentage of firms experiencing at least one bribe payment request, and *bribery*

[34] See Jensen et al. (2010) who analyze the patterns of non-responses or non-truthful responses in the World Bank's firm surveys.

Table 3: IV Regression Results: FDI Stocks and Bribery

Model	(9)	(10)	(11)	(12)
DV	Bribery Incidence		Bribery Depth	
FDI stock/capita	0.43**	0.37*	0.46**	0.38
	(0.19)	(0.22)	(0.21)	(0.24)
Ln(GDP/cap)	-1.44*	-1.20	-1.49*	-1.29
	(0.82)	(0.75)	(0.89)	(0.82)
Interactions				
(FDI/cap) ×	-0.23***	-0.24***	-0.24***	-0.27***
Ln(GDP/cap)	(0.05)	(0.04)	(0.06)	(0.05)
Controls				
Democracy	0.00	0.01	0.00	0.01
(Polity IV)	(0.04)	(0.03)	(0.04)	(0.04)
Fuel, metal, and	0.01*	0.01	0.01	0.01
minerals exports	(0.01)	(0.01)	(0.01)	(0.01)
Ln(Openness)	0.13	0.15	0.19	0.20
	(0.42)	(0.38)	(0.46)	(0.42)
Ethno-ling.	-0.61	-0.42	-0.52	-0.36
fractionaliz.	(0.87)	(0.81)	(0.94)	(0.89)
Religion				
Catholic	-0.08	0.29	-0.09	0.38
	(0.48)	(0.63)	(0.52)	(0.69)
Muslim	-0.14	0.19	0.02	0.47
	(0.52)	(0.66)	(0.57)	(0.72)
Protestant	-2.60*	-2.17	-2.41	-1.55
	(1.36)	(1.82)	(1.48)	(2.00)
Legal Origin				
British		-0.06		-0.42
		(0.62)		(0.68)
French		-0.41		-0.65
		(0.58)		(0.64)
Constant	1.42	1.48	0.69	0.94
	(1.91)	(1.80)	(2.08)	(1.98)
N	97	91	97	91
R^2	0.31	0.36	0.31	0.36
Adj. R^2	0.23	0.26	0.23	0.26
	2SLS	2SLS	2SLS	2SLS

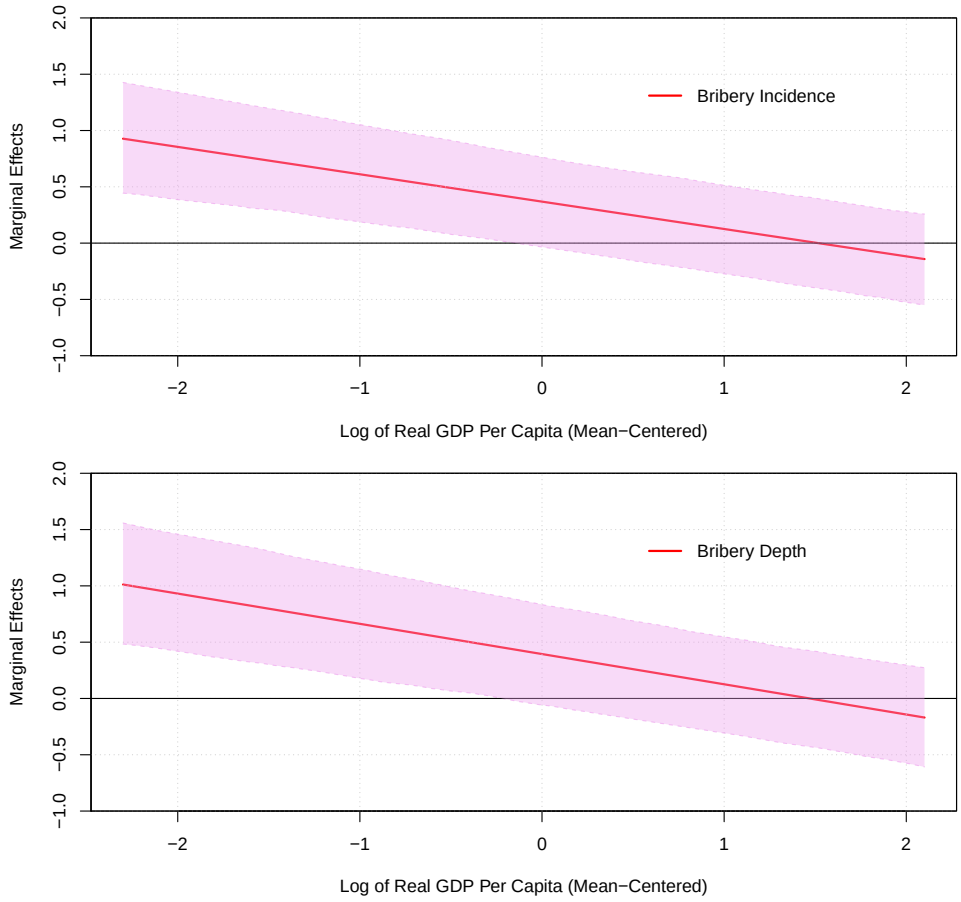
Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

depth, recording the percentage of public transactions where a gift or informal payment was requested. The two variables are logged to deal with skewed distributions. Since the World Bank conducts surveys in different years for different countries, we average all covariates over a 10-year time span prior to the survey year in each country. Again, remoteness and absolute latitude are used as an instrumental variable for FDI and GDP per capita respectively. We have also identified influential observations by calculating Cook's distances (see more discussions in Supplementary Information

A.2.). These outliers are dropped in the empirical analysis presented in Table 3.[35]

Figure 2: Marginal effects of FDI Stock per Capita on Bribery



Notes: Real GDP per capita is logged and mean-centered. Marginal effects and the 95% confidence intervals (shadow areas) are obtained from simulations using coefficients in Model 2 (top panel) and Model 4 (bottom panel) of Table 3.

The dependent variable is *bribery incidence* in Models 9 and 10 and *bribery depth* in Models 11 and 12. We can see that the results are consistent with those based on perception-based CPI. Figure 2 graphs the simulated marginal effects using coefficients from Mode 10 and 12 respectively. The two panels show that more inward FDI is strongly associated with a higher incidence of bribery in developing countries but the association disappears when the host country becomes developed. These results provide further support to our central argument that the effect of FDI on corruption is nonlinear.

[35] Alternative model specifications that use a dummy variable for these influential observations are shown in Supplementary Information A.4.

3.5 *Additional Robustness Checks*

To further check the robustness of our findings, we have experimented with different model specifications and explored alternative causal mechanisms. First, we use a dummy variable for those influential observations in first-stage regressions rather than drop them. Results are consistent with those presented in the paper. Second, we use the Export Concentration Index constructed by UNCTAD as a measure of market concentration and explore whether the effect of FDI on corruption varies with market concentration levels. The results show that inward FDI increases corruption in countries with concentrated markets, as proxied by their export portfolios, but the effect disappears in countries with more diversified economies. Third, to examine whether or not economic integration is the underlying driving force, we utilize a factor score of FDI and trade openness as a measure of economic integration. The results indicate that economic integration has a weaker effect on corruption, which suggests that the effect of integration on corruption is mainly through inward FDI, not trade.

Finally, we analyze the role of political development, which has taken a prominent role in the extant literature on the determinants of corruption (Lederman et al. 2005; Shleifer and Vishny 1993; Treisman 2000). We employ different measures of democracy, including *Regime*, *Parcomp*, and *Polcomp* from the Polity IV project, Freedom House's political rights index, and Vanhanen's (2003) measures of political participation. We also use a factor score of GDP per capita and democracy to capture a country's joint level of economic and political development as economic and political development tend to go hand-in-hand. Our findings suggest that political and economic development play a different, albeit complementary role: inward FDI is associated with high levels of corruption in countries with the lowest levels of economic and political development in our sample. The detailed discussions and results from these alternative specifications and robustness checks are presented in the Supplementary Information.

4 Conclusion

Foreign direct investment has the potential to affect economic and political conditions in host countries. Yet, the desirability of these effects is controversial: for every analysis describing FDI as a vehicle for the diffusion of good governance, there is an account vilifying multinationals and their alleged deleterious effects on host countries. In this paper we focus on the relationship between in-

ward foreign investment and corruption. We argue that whether FDI and MNCs have positive or negative effects on corruption depends on the underlying economic and political environments in the host country. This argument runs counter to the received wisdom that the effects of FDI are construed as either always positive (increasing corruption) or always negative (reducing corruption). Rent sharing is at the center of instances of grand corruption. FDI could have the potential to increase the opportunities for rent creation, or could highlight the costs of engaging in corruption, which depends on the structure of the local economy and the availability of local resources. FDI inflows tend to be associated with high corruption levels in economic environments where FDI crowds out domestic investment and competition is restricted.

To assess this relationship empirically, we introduce a new instrumental variable for inward FDI, i.e., *remoteness*, which is operationalized as the weighted distance between the host and the twenty wealthiest economies in the world, to deal with possible endogeneity. Consistent and robust empirical evidence strongly supports our hypothesis. In less developed countries, inward FDI is positively associated with corruption, while in more diversified and competitive economies inward FDI is negatively associated with corruption. In the latter case, however, the marginal effect of FDI on corruption is relatively small.[36] We also find that FDI is associated with higher levels of corruption under authoritarian regimes, but could lead to lower levels of corruption in more democratic countries. Again, the marginal effect is relatively small in the latter case.

Our argument builds on earlier work on the political economy of corruption by renowned scholars such as Alberto Ades and Rafael Di Tella (1999), Anne Krueger (1974), Susan Rose-Ackerman (1999), Andrei Shleifer and Robert Vishny (1993), Daniel Treisman (2000), and Gordon Tullock (1967) among others. This literature has emphasized the role of political and economic competition, or lack thereof, in the costs and benefits analysis faced by public officials and economic agents when deciding whether or not to engage in predatory behavior. Our main theoretical contribution is the emphasis placed on the effect of foreign investment on the opportunities and costs of engaging in corruption.

Conventional wisdom states that inward foreign investment is likely to reduce corruption in host countries because of increasing competition and the diffusion of norms and values associated with

[36] One plausible explanation for this finding is that once corruption levels are low due to the existence of institutional checks, the establishment and consolidation of the rule of law, and property rights protection associated with democratic or political development, there is limited room for a substantial reduction of corruption resulting from increased competition and efficiency brought about by foreign investment and the activity of MNCs.

FDI. Our results suggest that this claim does not hold empirically. In countries with less competitive domestic firms, inward FDI could lead to high corruption levels. Our argument has also found partial support in journalistic accounts and anecdotal evidence, mostly drawn from developing countries: MNCs do not necessarily demand higher standards of public governance, nor are they less likely than their domestic counterparts to engage in corruption (see Hellman et al. 2002; Søreide 2006). Ours is, we believe, the first study to analyze these effects systematically drawing on data from both developing and developed countries.

Our findings underscore the importance of understanding the effect of global integration–through investment–on domestic market structures, and consequently on political conditions in host countries, as identified in recent literature on the changing nature of interdependence.[37] Future research should explore further the political consequences of endogenously determined investment flows. Political and economic conditions in the host country are likely to affect not only the location decision of foreign investors, but also their choice of entry mode. Investors' location and entry mode decisions, in turn, affect the political and economic parameters in host countries. While some investors are attracted to countries with favorable business climates and governance institutions, others are motivated by the opportunities for rent creation and extraction in countries whose leaders are institutionally unconstrained and politically unchallenged. Investors of the latter type have the potential to worsen political and economic conditions in the host country, particularly in less developed countries. This framework can be extended to examine how other global economic forces, such as international trade, financial capital flow, and labor migration, affect the dynamics of the market and therefore shape domestic political outcomes.

Lastly, our paper speaks to broader debates on the domestic and international determinants of good governance and institutional development. Global integration through MNCs has the potential to alter the opportunities to create rents, which, in turn, affect the calculus of corruption. Our findings on the expected benefits of corruption supplements existing enforcement-based explanations, which emphasize the expected costs associated with corruption. These studies have convincingly shown how commitment to the rule of law and judicial oversight, raises the probability that those engaging in corrupt behavior will be identified, prosecuted, and punished (Brunetti and Weder 2003; Gerring and Thacker 2004; Shleifer and Vishny 1993; Treisman 2007). Furthermore, recent contributions

[37] See Farrell and Newman (2014) for an excellent review of this literature.

have persuasively shown that local attempts to curb corruption are boosted by the extraterritorial enforcement of developed countries' statutes (Kaczmarek and Newman 2011). Our findings suggest that holding enforcement constant, increasing rents create incentives for public and private actors to enter into the quid-pro-quo exchange of public favors for private gains associated with corruption. Importantly, rent creation and appropriation can be linked to other distorted political and economic outcomes, such as conflict, violence, war, and underdevelopment. Thus, addressing the consequences of globalization on rent creation could pay an important role in international efforts aimed at curbing corruption, as well as promoting good governance and international development. Efforts to ratchet up enforcement can be supplemented by initiatives that target rent creation by promoting competition, enforcing antitrust measures, and strengthening domestic business capacity. Under these conditions countries would be better able to enjoy the full benefits of engaging the global economy.

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A Supplementary Information

A.1 Entry, Productivity, and Profits

Consider a (duopolistic) market with domestic (d) and foreign (m) firms, facing prices ($P = a - Q$) and output ($Q = q^d + q^m$), where m produce q^m and domestic firms produce q^d. MNCs (m) and domestic firms (d) differ in their marginal costs (c^i), with $c^m < c^d$. When active domestic (d) and foreign (m) firms have profits: $\pi^d = [a - (q^d + q^m) - c^d]q^d$, and $\pi^m = [a - (q^d + q^m) - c^m]q^m$, respectively. Entry by m can affect economic rents/profits. Assume that firms are in Cournot competition, choosing output conditional on the behavior of other market participants:

$\frac{\partial \pi^d}{\partial q^d} = a - 2q^d - q^m - c^d = 0 \Rightarrow q^d = \frac{a - q^m - c^d}{2}$.

$\frac{\partial \pi^m}{\partial q^m} = 0 \Rightarrow q^m = \frac{a - q^d - c^m}{2}$.

Replacing q^m and q^d: $q^d = \frac{(a - 2c^d + c^m)}{3}, q^m = \frac{(a - 2c^m + c^d)}{3} 2$.

Output and prices are, respectively: $Q = \frac{(2a - c^d - c^m)}{3}$ and $P = \frac{(a + c^d + c^m)}{3}$.

Let $\Delta = c^d - c^m$ be the differential in marginal costs. We can show that the effect m's entry on profits depends on Δ:

$\pi^d = \frac{(a - c^d - \Delta)^2}{9}$, $\pi^m = \frac{(a - c^m + \Delta)^2}{9}$.

A.2 First-Stage Results

A.2.1 The CPI Sample

To show the validity of our instrumental variable, we first look at the bivariate correlation between real FDI stock per capita and our measure of geographic closeness (the inverse of weighted bilateral geographic distance) in the sample. The pairwise Pearson correlation is 0.50, and is statistically significant at the 1% level. A bivariate plot of FDI stock per capita against remoteness (inverse of) shows that our instrument predicts FDI stocks quite well (see Figure A). However, it suggests that Ireland and Singapore could be statistical outliers. These are two small countries that receive more FDI stock per capita in the 2000-2004 period than what is predicted by their distance to the world's wealthiest economies. When we exclude these two countries, the Pearson correlation increases to 0.72. Figure B plots FDI stock per capita over remoteness (inverse of) after removing outliers. It shows that our instrument is highly correlated with FDI stock per capita.

Figure A: FDI Stock per Capita and Remoteness, N=95

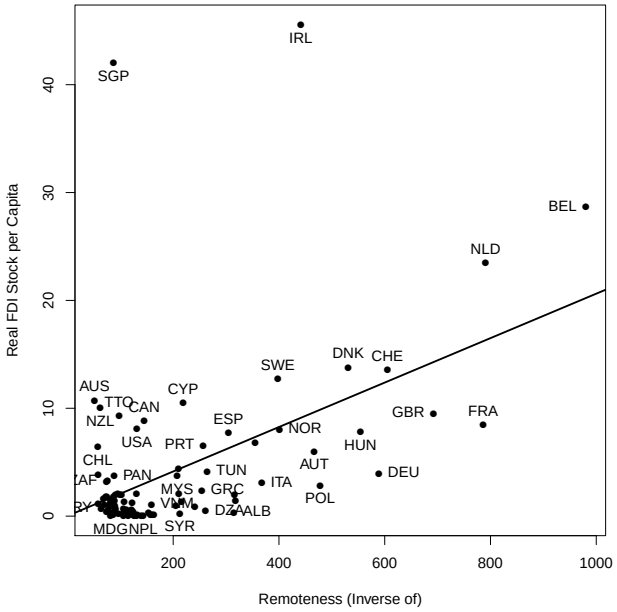
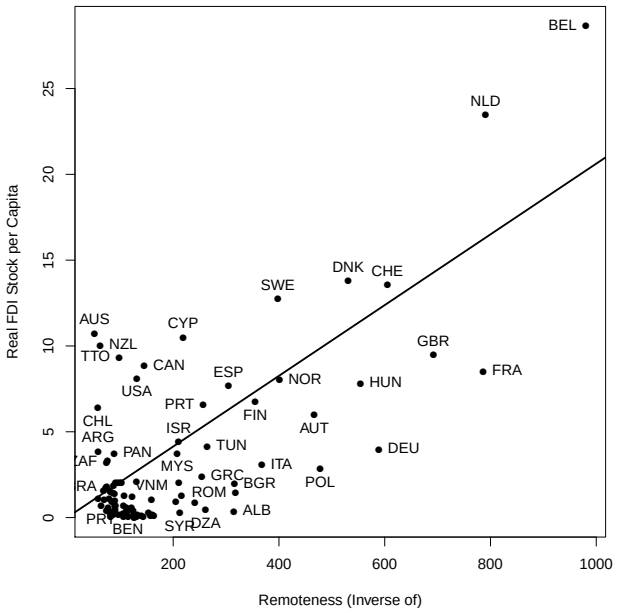


Figure B: FDI Stock per Capita and Remoteness, N=93

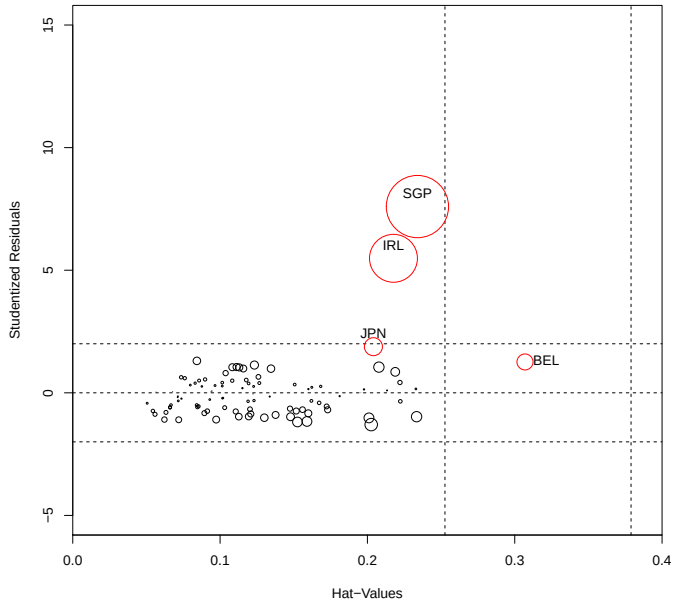


To further check for outliers, we calculated Cook's distance for each observation in our sample in the first-stage regression (Cook 1977, 1979).[1] The Cook's distances suggest that Ireland and

[1]In the model, we regress FDI on the instruments and all the predetermined variables in the second-stage regression. The Cook's distance (D_i) measures the influence of observation i on the predicted value of other observations in the sample given the parameters

Singapore are indeed outliers, which is illustrated in Figures C and D that graph the leverage and added-variable plots of the first-stage regression. Excluding Singapore from our tests requires additional explanation given that it is usually characterized as an authoritarian regime with very low levels of corruption. However, note that Singapore is usually coded as having a highly competitive system for recruitment of political leaders, even in comparison with democratic systems in other regions of the world.[2] Additionally, Singapore has a diversified economy which is highly integrated into the global economy. Both conditions would point to a negative marginal effect of FDI on corruption.

Figure C: First Stage (FDI Stocks): Studentized Residuals, Hat Values, and Cook Distances

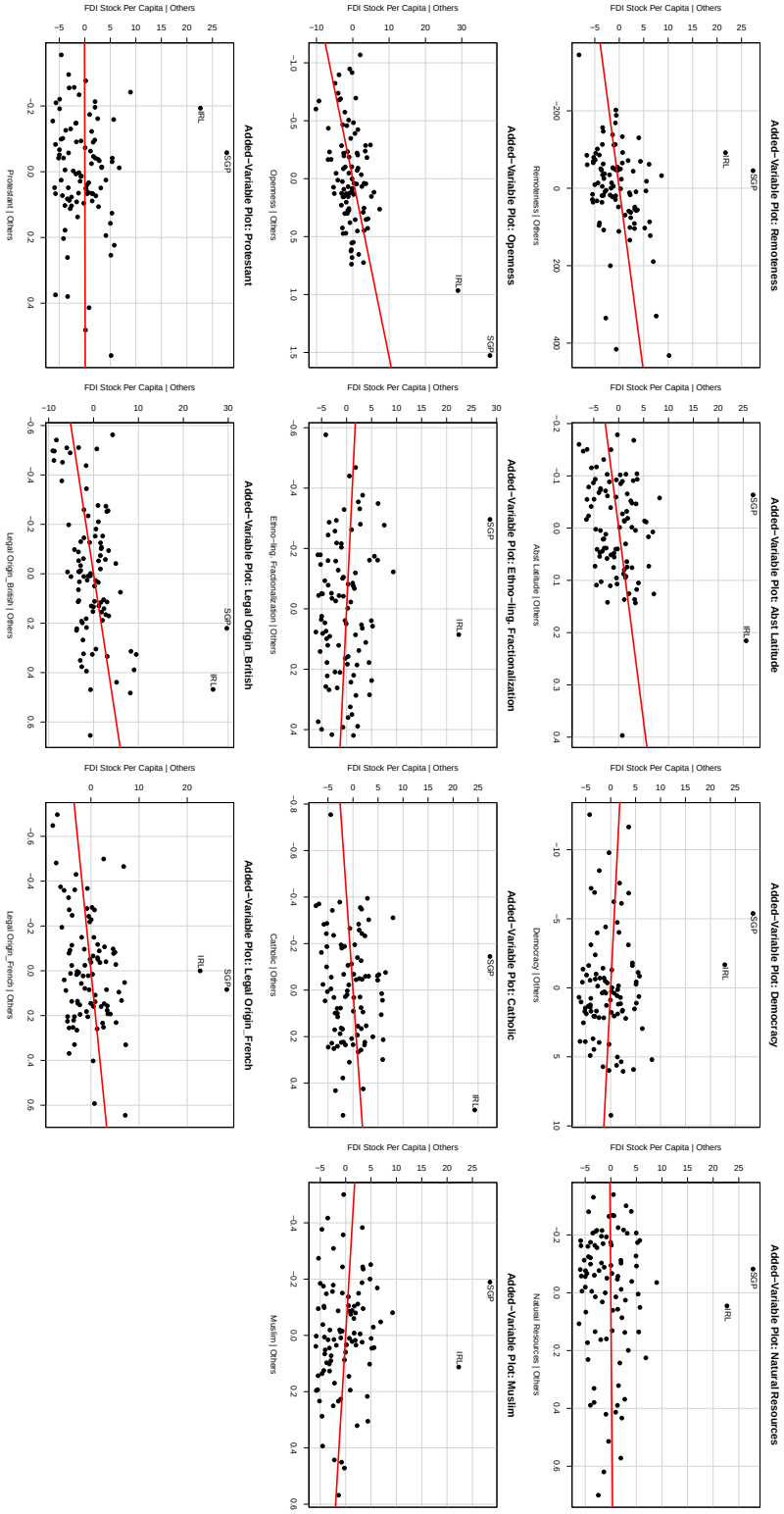


Notes: Plot of studentized residuals against hat values. The horizontal lines represent studentized residuals of -2, 0, and 2, respectively. The two vertical lines that equal to $2 \times (k+1)/n$ and $3 \times (k+1)/n$ are used to identify observations with high leverage in small samples. Observations above those lines are noteworthy. The size of the circles is proportional to Cook's distance. Observations with Cook's distances larger than the cutoff $4/(n-k-1)$ are identified.

in the model. Formally $D_i = [(\hat{\beta}_j - \hat{\beta}_{j-i})' X' X (\hat{\beta}_j - \hat{\beta}_{j-i})]/(ks^2)$, where $\hat{\beta}_j$ are the coefficients estimated from the full sample and $\hat{\beta}_{j-i}$ are the estimated coefficients without ith observation. k is the number of parameters and $s^2 = e'e/(n-k)$. See Cook (1977, 1979).

[2]Since independence Singapore has been an autocratic regime characterized by highly competitive access to political positions, especially when compared with Latin American democracies. Singapore has a system of recruitment to public office that extols probity and heavily punishes petty corruption.

Figure D: First Stage (FDI Stocks): Added-Variable Plots (Partial Regression Plots)



Notes: Plots of residuals of regression of FDI stock per capita on all other regressors against residuals of regression of x_i on all other regressors.

A.2.2 First-Stage Regression Results (CPI Sample)

Table A: First-Stage Regression Results

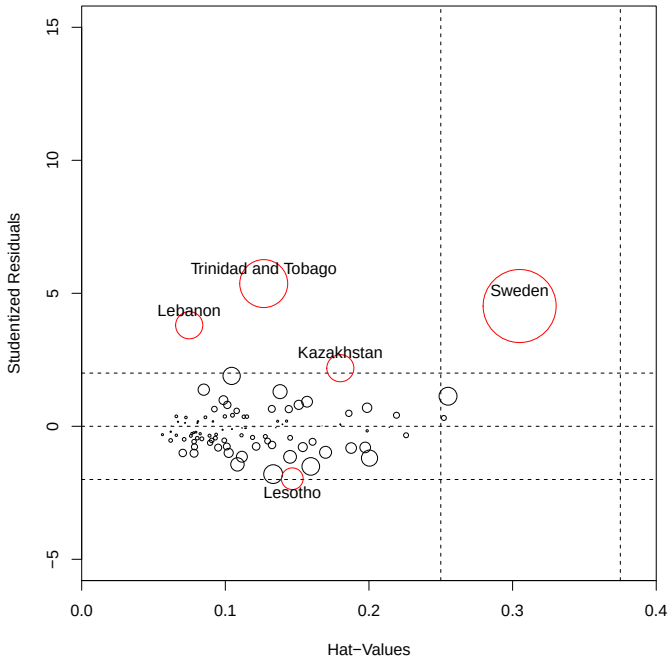
Models	(1)	(2)	(3)	(4)	(5)	(6)
DV	FDI Stock per Capita	FDI Stock per Capita	FDI Stock per Capita	GDP per Capita	FDI Stock per Capita	GDP per Capita
Remoteness	0.01***	0.02***	0.01***	0.00	0.01***	0.00
(Inverse of)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Absolute Latitude			4.71	2.96***	8.24***	3.26***
			(3.32)	(0.74)	(3.10)	(0.76)
Controls						
Ln(GDP/cap)	1.62***	1.52***				
	(0.42)	(0.39)				
Democracy	0.04	0.00	0.11	0.05**	0.05	0.04**
(Polity IV)	(0.08)	(0.07)	(0.08)	(0.02)	(0.07)	(0.02)
Fuel, metal, and	0.21	0.08	0.73	0.33	0.83	0.34
minerals exports	(1.28)	(1.19)	(1.40)	(0.31)	(1.26)	(0.31)
Ln(Openness)	0.93	1.02	1.38*	0.28	1.71**	0.31*
	(0.70)	(0.65)	(0.78)	(0.17)	(0.71)	(0.17)
Ethno-ling.	1.61	-0.24	0.40	-0.74**	-0.97	-0.87***
fractionaliz.	(1.24)	(1.24)	(1.38)	(0.31)	(1.29)	(0.32)
Religion						
Catholic	1.29	0.42	1.67	0.24	1.01	0.24
	(1.07)	(1.21)	(1.19)	(0.27)	(1.28)	(0.32)
Muslim	0.31	-1.01	-0.69	-0.62*	-2.27	-0.71*
	(1.34)	(1.39)	(1.41)	(0.32)	(1.45)	(0.36)
Protestant	3.27*	3.99**	3.29*	0.01	3.46*	-0.00
	(1.71)	(1.61)	(1.91)	(0.43)	(1.74)	(0.43)
Legal Origin						
British		3.98***			4.95***	0.46*
		(1.01)			(1.09)	(0.27)
French		3.34***			4.09***	0.30
		(1.09)			(1.17)	(0.29)
Constant	-5.10*	-7.58***	-8.32**	-2.02**	-13.18***	-2.44***
	(2.96)	(2.81)	(3.61)	(0.81)	(3.43)	(0.85)
N	93	93	93	93	93	93
R^2	0.69	0.74	0.64	0.67	0.72	0.68
Adj. R^2	0.66	0.7	0.6	0.63	0.68	0.64
F-Statistics (excluded instruments)	43.10	62.87	31.76	14.63	48.35	15.85

Notes: Standard errors in parentheses
* significant at 10%, ** significant at 5%; *** significant at 1%

A.2.3 The WBES Sample

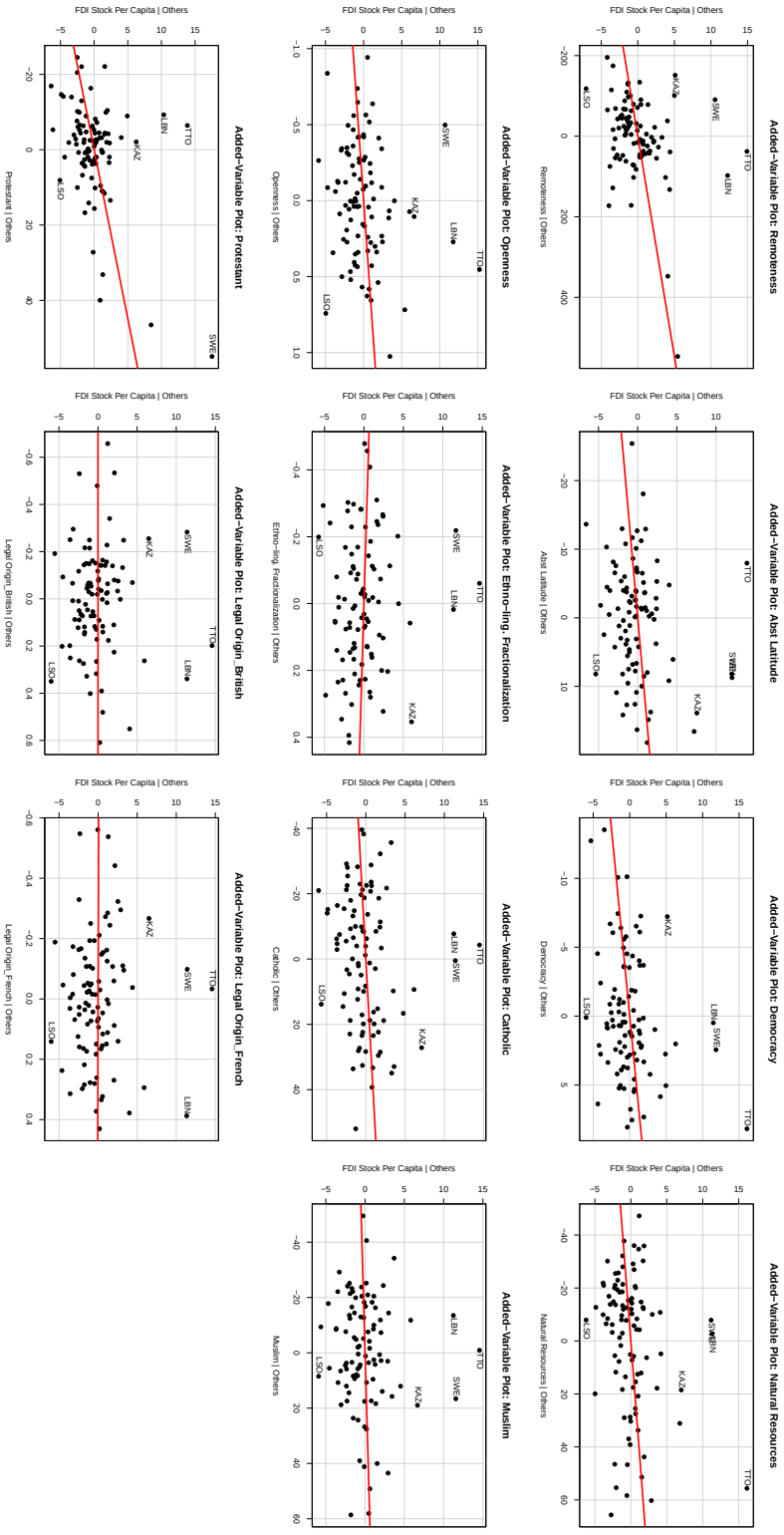
We again calculate the Cook's distance for each observation in the WBES sample. As illustrated in Figures E and F, Kazakhstan, Lebanon, Lesotho, Sweden, and Trinidad and Tobago stand out as statistical outliers. We use two alternative modeling strategies to deal with these influential observations. First, we drop them from the sample. Results are shown in Table 3 in the paper. Second, we use a dummy variable of these observations in the first-stage regression. Results are presented in Supplementary Information A.4. Our results are robust to different modeling strategies.

Figure E: First Stage (FDI Stocks): Studentized Residuals, Hat Values, and Cook Distances



Notes: Plot of studentized residuals against hat values. The horizontal lines represent studentized residuals of -2, 0, and 2, respectively. The two vertical lines that equal to $2 \times (k+1)/n$ and $3 \times (k+1)/n$ are used to identify observations with high leverage in small samples. Observations above those lines are noteworthy. The size of the circles is proportional to Cook's distance. Observations with Cook's distances larger than the cutoff $4/(n-k-1)$ are identified.

Figure F: First Stage (FDI Stocks): Added-Variable Plots (Partial Regression Plots)



Notes: Plots of residuals of regression of FDI stock per capita on all other regressors against residuals of regression of x_i on all other regressors.

A.3 FDI Inflows and Corruption

In this section, we present results based on FDI inflow data. As we have argued that the entry and presence of more productive foreign firms can contribute to rent creation and thus lead to more corruption in less developed countries, both FDI stocks and inflows are relevant to our theory. The advantages of FDI inflow data are that they are more complete and reliable and better at capturing foreign investment activity that could be associated with rent-seeking opportunities (see Malesky et al. 2015).

Net FDI inflows are measured in constant 2000 international dollars (PPP adjusted). As reflected in the national accounts, net FDI inflows are $\underline{not}$ two-way flows; they are total inward FDI flows received (including equity, long and short-term capital, and reinvestment of earnings) minus divestment, i.e., foreign investment pulling out from the host, which includes dividends, interests, and other payments to the parent company or equity holder. Note that net FDI could take negative values when divestment is larger than inward investment flows.[3] We normalize the total amount of inward FDI by the country's population. To ease the interpretation of our results, we re-scale it to 100 constant international dollars.

We have identified two influential observations–Ireland and Singapore–for the first stage regression as illustrated Figures in G and H. In Table B we present results by dropping these two observations. Alternative specifications that use a dummy variable of the two observations are shown in Supplementary Information A.4. We can see that the results in Table B are qualitatively the same as those based on FDI stock data, which is not surprising given the high correlation between these two variables.[4] These results provide further support to our central argument that the relationship between FDI and corruption is nonlinear and dependent on the level of economic development in the host country.

[3]Net inflows are *inward flows*, net of interest and dividend payments, capital repatriation, and other forms of divestment, which occurs when foreign investors pull out from the host country. They do not include outward direct investment flows, which are recorded as *FDI outflows* in national accounts.

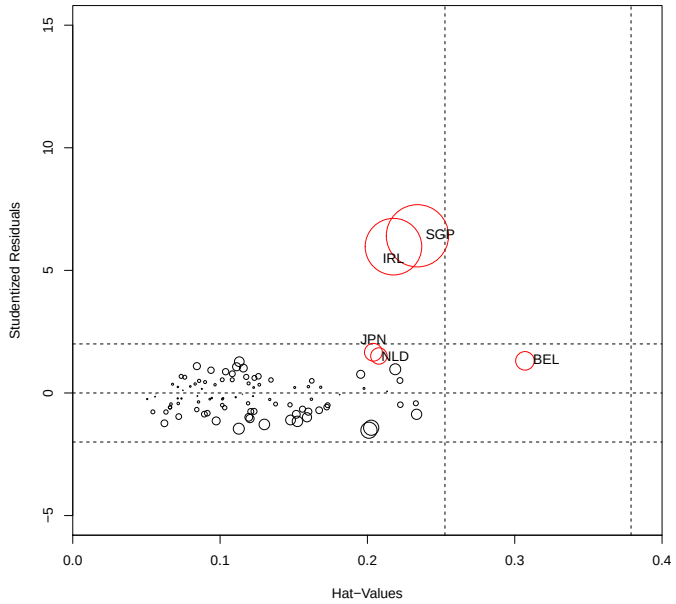
[4]The correlations between FDI inflows and FDI stocks for the period of 2000-2004 are 0.96 and 0.98 in the samples of 93 and 95 observations respectively (see footnote 15).

Table B: IV Regression Results: FDI Inflows and Corruption (CPI)

Model	(1)	(2)	(3)	(4)	(5)
FDI inflow/cap	-0.11**	-0.12***	0.35***	0.18*	0.19*
	(0.05)	(0.05)	(0.11)	(0.10)	(0.10)
Ln(GDP/cap)	-1.14***	-1.12***	-1.13***	-1.91***	-2.01***
	(0.18)	(0.18)	(0.20)	(0.54)	(0.57)
Interactions					
(FDI/cap) ×			-0.25***	-0.12***	-0.13***
Ln(GDP/cap)			(0.05)	(0.03)	(0.03)
Controls					
Democracy	-0.00	0.00	-0.01	0.03	0.04
(Polity IV)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Fuel, metal, and	1.00**	1.02**	0.99**	1.07*	1.10*
minerals exports	(0.45)	(0.45)	(0.50)	(0.54)	(0.57)
Ln(Openness)	0.35	0.36	-0.54	0.10	0.10
	(0.27)	(0.27)	(0.34)	(0.33)	(0.34)
Ethno-ling.	0.15	0.28	0.29	-0.63	-0.58
fractionalization	(0.43)	(0.47)	(0.48)	(0.81)	(0.86)
Religion					
Catholic	0.41	0.50	0.21	0.27	0.36
	(0.38)	(0.46)	(0.42)	(0.46)	(0.57)
Muslim	-0.56	-0.45	-0.41	-0.82	-0.74
	(0.47)	(0.52)	(0.51)	(0.60)	(0.67)
Protestant	-2.98***	-3.02***	-2.55***	-2.57***	-2.57***
	(0.62)	(0.64)	(0.69)	(0.76)	(0.79)
Legal Origin					
British		-0.27			-0.44
		(0.37)			(0.46)
French		-0.26			-0.38
		(0.40)			(0.52)
Constant	4.81***	4.92***	7.88***	5.47***	5.69***
	(1.11)	(1.14)	(1.36)	(1.34)	(1.43)
N	93	93	93	93	93
R^2	0.82	0.82	0.79	0.77	0.76
Adj. R^2	0.80	0.80	0.76	0.74	0.73
	2SLS	2SLS	2SLS	2SLS	2SLS

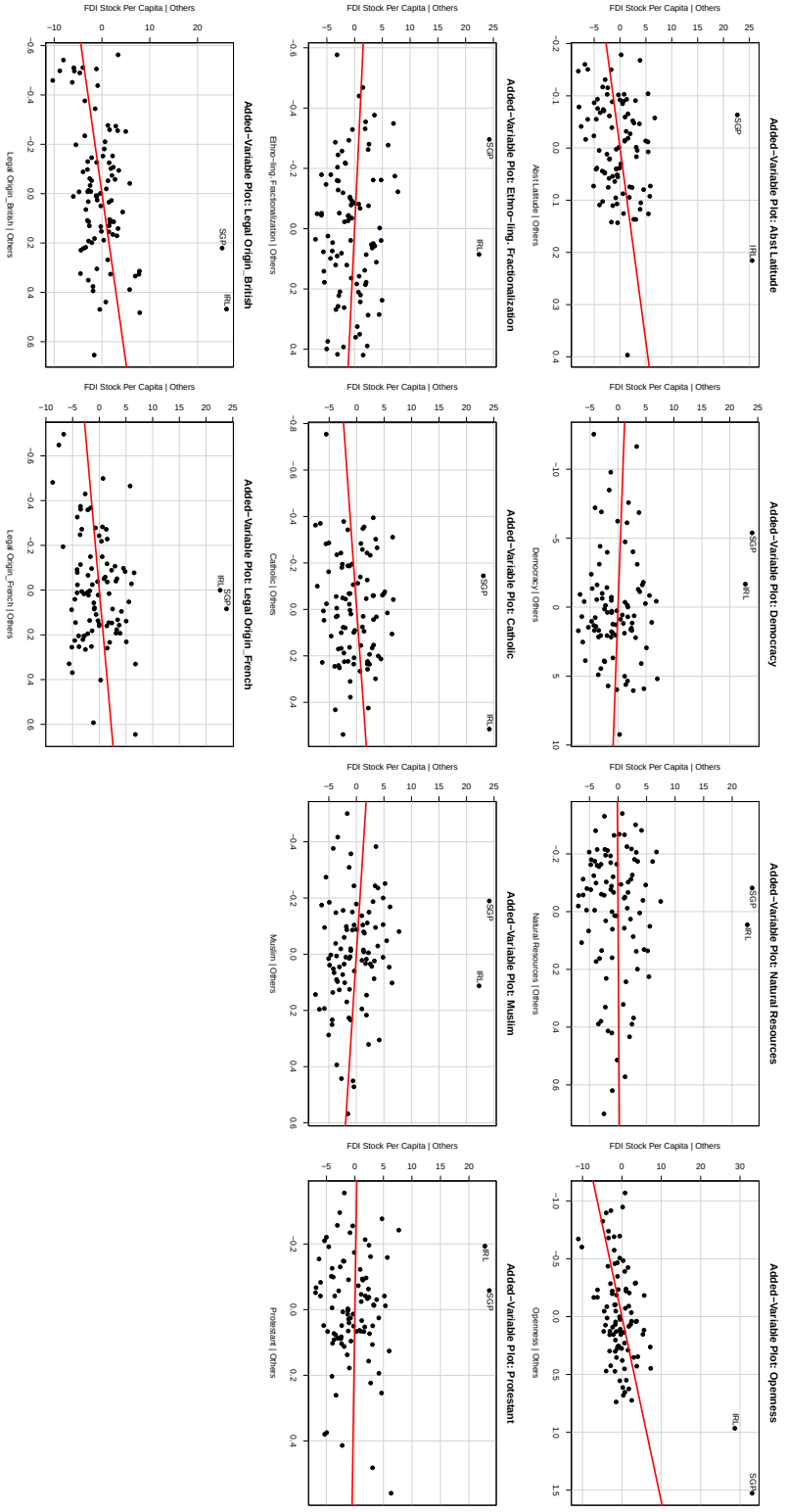
Notes: Standard errors in parentheses
* significant at 10%, ** significant at 5%; *** significant at 1%

Figure G: First Stage (FDI Inflows): Studentized Residuals, Hat Values, and Cook Distances



Notes: Plot of studentized residuals against hat values. The horizontal lines represent studentized residuals of -2, 0, and 2, respectively. The two vertical lines that equal to $2 \times (k+1)/n$ and $3 \times (k+1)/n$ are used to identify observations with high leverage in small samples. Observations above those lines are noteworthy. The size of the circles is proportional to Cook's distance. Observations with Cook's distances larger than the cutoff $4/(n-k-1)$ are identified.

Figure H: First Stage (FDI Inflows): Added-Variable Plots (Partial Regression Plots)



Notes: Plots of residuals of regression of FDI inflow per capita on all other regressors against residuals of regression of x_i on all other regressors.

A.4 Influential Observations and Alternative Model Specifications

In this section, we present results using an alternative strategy to deal with influential observations in the first stage regression. We add a dummy of these observations to the first stage regression and estimate the second stage regression using the full sample. Adding the dummy variable should not violate the exclusion restriction as we do not have reasons to believe that the dummy variable has a direct effect on corruption. Model 1 in Table C re-estimates Model 8 in Table 2. Model 2 replaces FDI stocks with FDI inflows as the independent variable. Models 3-4 and 5-6 use the WBES's bribery incidence and depth as the dependent variable respectively. We can see that all the coefficients of FDI, GDP per capita, and their interaction terms have expected regression signs and are statistically significant at conventional levels. These results suggest that our findings are not sensitive to alternative modeling strategies or the inclusion or exclusion of statistical outliers.

Table C: IV Regression Results: FDI and Corruption

Model	(1)	(2)	(3)	(4)	(5)	(6)
DV	CPI	CPI	Bribery Incidence		Bribery Depth	
FDI/cap	0.25***	2.03***	0.27***	0.30***	0.27**	0.33***
	(0.06)	(0.66)	(0.10)	(0.10)	(0.11)	(0.11)
Ln(GDP/cap)	-2.05***	-1.98***	-1.63***	-1.69***	-1.63***	-1.87***
	(0.47)	(0.49)	(0.55)	(0.56)	(0.59)	(0.62)
Interactions						
(FDI/cap) ×	-0.16***	-1.35***	-0.09***	-0.11***	-0.09**	-0.12***
Ln(GDP/cap)	(0.03)	(0.30)	(0.03)	(0.03)	(0.03)	(0.04)
Controls						
Democracy	0.05	0.04	0.01	0.01	0.00	0.01
(Polity IV)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Fuel, metal, and	1.11**	1.10*	0.02**	0.02**	0.02**	0.02**
minerals exports	(0.55)	(0.55)	(0.01)	(0.01)	(0.01)	(0.01)
Ln(Openness)	0.01	0.05	0.30	0.28	0.36	0.34
	(0.32)	(0.32)	(0.40)	(0.42)	(0.40)	(0.47)
Ethno-ling.	-0.61	-0.50	-0.72	-0.70	-0.62	-0.67
fractionaliz.	(0.82)	(0.84)	(0.79)	(0.87)	(0.84)	(0.96)
Religion						
Catholic	0.32	0.41	-0.08	0.42	-0.09	0.52
	(0.55)	(0.55)	(0.48)	(0.75)	(0.52)	(0.83)
Muslim	-0.75	-0.67	-0.12	0.17	0.06	0.42
	(0.64)	(0.65)	(0.53)	(0.69)	(0.57)	(0.77)
Protestant	-2.76***	-2.59***	-2.40*	-2.44*	-2.14	-2.00
	(0.76)	(0.77)	(1.21)	(1.40)	(1.29)	(1.55)
Legal Origin						
British	-0.55	-0.44		-0.05		-0.37
	(0.47)	(0.45)		(0.55)		(0.61)
French	-0.51	-0.39		-0.44		-0.66
	(0.50)	(0.50)		(0.61)		(0.68)
Constant	6.12***	5.82***	0.75	0.84	0.03	0.19
	(1.38)	(1.37)	(1.87)	(1.97)	(1.99)	(2.19)
N	95	95	102	96	102	96
R^2	0.77	0.77	0.26	0.22	0.27	0.22
Adj. R^2	0.74	0.74	0.18	0.11	0.19	0.10
IV	FDI Stocks	FDI Inflows	FDI Stocks	FDI Stocks	FDI Stocks	FDI Stocks
	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

A.5 Sensitivity Analysis

As suggested by Conley et al. (2012), we conduct sensitivity analysis to assess to what extent the empirical results are sensitive to the possible violation of the IV exclusion restriction. The model can be set up as follows:

$$Corruption = \beta_0 + \beta_1 * FDI + \beta_2 * FDI * GDP/cap + \beta_3 * GDP/cap + X\xi + Z\gamma + \varepsilon \quad (1)$$

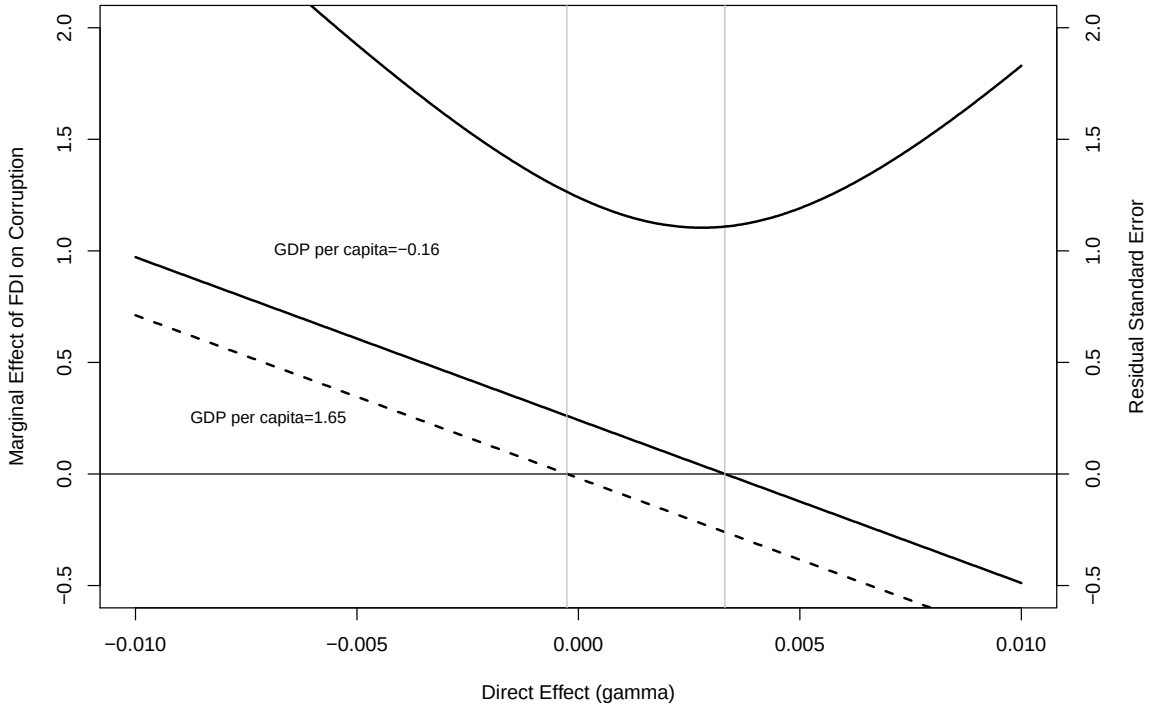
$$FDI = Z\lambda + \upsilon \quad (2)$$

Where Z is the (excluded) instrument (geographic closeness/inverse of remoteness) for the endogenous variable of $FDI\ per\ capita$; $E(FDI\varepsilon) \neq 0$ and $E[Z\varepsilon] = 0$. γ is a parameter measuring to what extent the exclusion restriction is satisfied. In a normal setup, the term, $Z\gamma$, does not appear in the structural equation (1). If the exclusion restriction holds, then $\gamma = 0$. We can estimate the two equations using a normal 2SLS regression. If the exclusion restriction is violated, $\gamma \neq 0$. In such a case, we assume the relationship between the instrument and corruption is linear. Based on these two equations, we can conduct sensitivity analysis by manipulating the magnitude of γ and then subtracting $Z\gamma$ from both sides of equation (1).

We specify a set of values for γ based on prior knowledge. We want to see how large the γ could be such that we still obtain a nonlinear relationship between FDI and corruption. In this case, we are more interested in the negative values of γ, because geographic closeness (the inverse of weighted bilateral geographic distance) to the top 20 richest economies is more likely to have a negative direct effect on corruption (i.e. geographic closeness leads to less corruption) if the exclusion restriction is violated. Since we have reasons to believe geographic closeness affects corruption primarily through the channels of inward FDI, γ should be small even if the exclusion restriction is violated. Thus, we choose a uniform distribution for γ ranging from -0.01 to 0.01. In addition, we assume the instrumental variable (absolute latitude) for GDP per capita does not violate the IV exclusion restriction. We conduct sensitivity analysis based on Model 8 in Table 2 and results are presented in Figure I.

In order to calculate the marginal effects, we set GDP per capita (in logged and mean-centered transformation) at -0.16 (corresponding to the value of Papua New Guinea's) for developing countries

Figure I: Sensitivity Analysis



Notes: Plot of sensitivity analysis results based on Model 8 in Table 2. Real GDP per capita is logged and mean-centered. Solid and dashed lines show the marginal effects of FDI on corruption for a developing (real GDP per capita=$4,431) and developed country (real GDP per capita=$27,069) respectively. The curve represents residual standard errors.

and 1.65 (corresponding to the value of Australia's) for developed countries. Figure I shows that, the positive marginal effect of FDI on corruption in developing countries actually increases with the magnitude of the negative direct effect of the instrument on corruption. In other words, if the exclusion restriction is violated and we remove the negative direct effect of the instrument on corruption, we actually observe a *larger* positive marginal effect of FDI on corruption for developing countries. This confirms the previous discussion in the paper that the diffusion of good practices, norms, and values through legal traditions and cultural links is not a serious concern to our estimation strategy since it tends to bias our results *downward* for less developed countries.

If there is a positive direct effect of the instrument on corruption (i.e. geographic closeness leads to more corruption), which is unlikely to be the case in reality, the results show that γ can be as large as 0.0033 such that we still observe a nonlinear relationship between FDI and corruption. If 0.0033 represents the true direct effect of the instrument on corruption, substantively, one standard deviation change in geographic closeness will increase corruption by 0.27 standard deviations.

The above sensitivity analysis can also be used to assess potential biases accruing from different levels of information availability in perception-based corruption indices. If geographic closeness leads to systematically lower ratings of corruption scores (i.e. less corruption) because of better information, it is equivalent to a negative direct effect of the instrument on corruption. As shown before, such a negative direct effect tends to bias downward the positive marginal effect of FDI on corruption in less developed and autocratic countries. If this bias is corrected, we would observe a *larger* positive marginal effect. If geographic closeness leads to systematically higher ratings of corruption scores (i.e. more corruption), this direct effect can be substantially large as discussed before such that we still observe a nonlinear relationship between FDI and corruption.

Taken together, the sensitivity analysis shows that our results are not sensitive to the possible violation of the IV exclusion restriction or potential biases in perception-based corruption indices.

A.6 Political Development, FDI, and Corruption

In the paper, we have explored the relationship between inward FDI and corruption by focusing on productivity differences between foreign and domestic firms. We find that when the host country is less developed and foreign firms' productivity advantage over domestic firms is large, FDI inflows are likely to crowd out domestic investment and increase market concentration, which contributes to rent creation; higher rents accruing from decreased competition lead to more corruption. When the host country is more developed and foreign firms' productivity advantage is small, foreign and domestic firms tend to compete with each other, resulting in rent dissipation.

In this section, we explore an alternative causal mechanism that inward FDI may interact with domestic political environment to impact corruption in the host country. While the economic environment affects the potential benefits of engaging in corruption, political development is another parameter that enhances the opportunity of detecting and punishing corrupt behavior, thereby affecting the costs of corruption. Political institutions determine who is in charge of regulating economic activity and who has the ability to collect taxes. The incentives created by political institutions frame the conditions under which government officials are likely to pocket revenues and rents, and the ease with which graft and bribes will remain undetected. Under permissive political conditions where the probability of getting caught is low and the market structure is conducive to rent creation and extraction, the entry of foreign investors undeterred by those conditions could create more opportunities for the exchange of public and private favors associated with corruption. For instance, Hellman et al. (2002) provide evidence from survey data in transition economies that foreign firms are as likely to engage in corruption as their domestic counterparts; there is no significant difference in total amount of bribes paid between foreign and domestic firms. Other survey evidence suggests that foreign firms have a considerable propensity to pay bribes in operating countries, especially in developing countries (Søreide 2006; TI 2006).

Electoral competition for executive and legislative office, one of the defining elements of democracy or "poliarchy" according to Robert Dahl, is likely to increase the incentives to detect and expose corrupt practices, and has the potential to discipline elected officials directly through the threat of voting them out of office and the bureaucracies indirectly through electoral pressure on those controlling the agencies (Dahl 1971). Democracy is also associated with freedom of association and free

Table D: IV Regression Results - Democracy and Corruption (CPI)

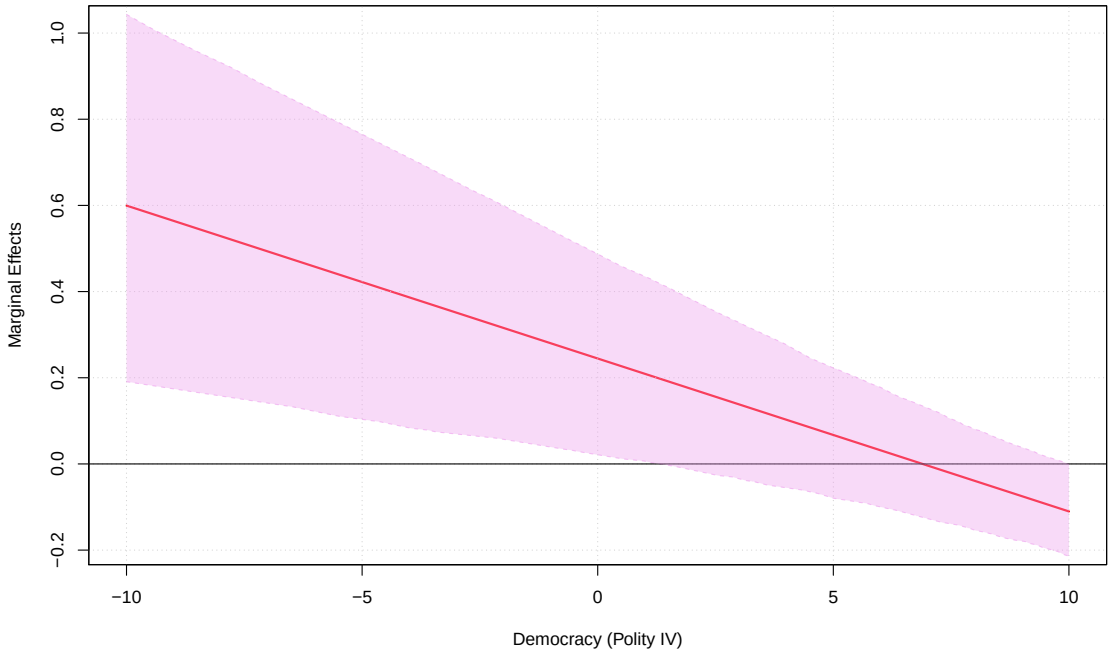
Model	(1)	(2)	(3)	(4)
FDI stock/capita	0.34**	0.05	0.25**	0.04
	(0.13)	(0.09)	(0.12)	(0.08)
Democracy	0.05		0.04	
(Polity IV)	(0.03)		(0.03)	
Democratic		-0.42		-0.35
(1930-1995)		(0.48)		(0.47)
Interactions				
(FDI/cap) $\times$	-0.04***	-0.13**	-0.04***	-0.13**
Democracy	(0.01)	(0.06)	(0.01)	(0.06)
Controls				
Ln(GDP/cap)	-1.31***	-1.21***	-1.24***	-1.19***
	(0.22)	(0.21)	(0.20)	(0.20)
Fuel, metal, and	1.00**	0.92	0.99**	0.92*
minerals exports	(0.49)	(0.46)	(0.48)	(0.47)
Ln(Openness)	-0.35	0.01	-0.30	0.03
	(0.33)	(0.31)	(0.33)	(0.30)
Ethno-ling.	0.11	0.34	0.33	0.45
fractionalization	(0.47)	(0.46)	(0.51)	(0.49)
Religion				
Catholic	0.05	0.31	0.32	0.27
	(0.43)	(0.41)	(0.50)	(0.49)
Muslim	-0.96*	-0.49	-0.79	-0.50
	(0.53)	(0.48)	(0.57)	(0.52)
Protestant	-3.23***	-2.47***	-3.27***	-2.47***
	(0.71)	(0.67)	(0.71)	(0.69)
Legal Origin				
British			-0.54	-0.20
			(0.42)	(0.40)
French			-0.60	-0.05
			(0.46)	(0.42)
Constant	7.43***	5.92***	7.65***	5.91***
	(1.37)	(1.27)	(1.46)	(1.27)
N	93	93	93	93
R^2	0.79	0.81	0.80	0.81
Adj. R^2	0.77	0.78	0.77	0.78
	2SLS	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses;
* significant at 10%, ** significant at 5%; *** significant at 1%

press that engender public interest groups and reporters with a mission and the rights to expose abuse (Brunetti and Weder 2003; Treisman 2007). Thus, in less competitive political systems the costs of engaging in corruption and pocketing rents for personal benefits would be lower.[5] Incumbents and investors can engage in the quid-pro-quo exchanges that characterize corruption with less fear that they would be prosecuted and sanctioned for their behavior. Therefore, inward FDI is more likely to be associated with corruption in less competitive political systems. At the other end of the spectrum, inward FDI is less likely to be associated with corruption in more competitive political systems, where political leaders competing for scarce foreign capitals internalize the benefits they are likely to bring to the local economy.[6]

Considering that autocracies are likely to be less competitive politically, this alternative explanation would predict that foreign investment will be associated with higher levels of corruption in autocratic regimes. Conversely, we would expect FDI to be associated with lower levels of corruption in democratic countries.

Figure J: Marginal effects of FDI Stocks on Corruption at Different Levels of Democracy



Notes: Real GDP per capita is logged and mean-centered. Marginal effects and the 95% confidence intervals (shadow areas) are obtained from simulations using coefficients in Model 3 of Table D.

[5]Note that Treisman (2000) finds that this relationship only holds empirically for long-lasting democracies using measures of perceived corruption.

[6]This is the traditional mechanism identified in the literature on the consequences of FDI. See Malesky (2009).

To test the hypothesis, we introduce an interaction term between FDI stock per capital and democracy. The 2SLS regression results are presented in Table D. In Model 1 of Table D, we interact the instrumented FDI variable with standard Polity IV scores. It shows that the signs and coefficients of FDI, democracy, and their interaction term are all in the expected direction and statistically significant except for the one on democracy. In substantive terms, the results suggest that the relationship between FDI and corruption is positive in less democratic countries and turns to zero in more democratic countries. It is plausible that the incentives created by changes in political institutions take time to consolidate, leading to a cumulative effect of long standing democratic practices and values. Thus, in alternative specifications we use a dummy variable coded as 1 for countries that have been democratic throughout the 1930-1995 period, and 0 otherwise.[7] In Model 2, we replace Polity IV scores with the dummy variable of long-standing democracies. The results are pretty consistent with those in Model 1. Models 3 and 4 reproduce Models 1 and 2 by adding a set of dummy variables that measure different legal origins.

In Figure J, we graph the marginal effects of FDI at different levels of democracy using simulated coefficients from Model 3. The graph shows that inward FDI has a positive and significant effect on corruption in authoritarian countries, while its effect turns negative when the host country become more democratic.

A.6.1 Alternative Measures of Political Development

The use of the composite measure of democracy has been challenged in recent studies. Treier and Jackman (2008), for instance, argue that due to inappropriate aggregation and measurement error, there is "an error-in-variables problem" potentially leading to biased and inconsistent estimates when democracy is used as an explanatory variable (Treier and Jackman 2008: 2002-3). The problem is compounded when one tries to estimate the effect of intermediate levels of democracy, such as anocracies and transitions to and from democracy, or non-linearities in the effect of the regime variable.[8]

In order to deal with the problems of possible inappropriate aggregation and measurement error in Polity IV's measure of democracy (see Treier and Jackman 2008; Vreeland 2008), we use two variables from the Polity IV project that measure the degree of competitiveness of the political system,

[7] The source for this variable is Treisman (2007).

[8] Vreeland (2008) argues that two components used to construct democracy scores—*Parcomp* and *Parreg* are partially defined in terms of civil war, which drives the correlation between anocracies and civil war. This problem is a less concern for this paper.

Parcomp and *Polcomp*, which are arguably less susceptible to that critique.[9] Using *Parcomp*/*Polcomp* yields similar results (see Model 1 and 2 in Table E). The coefficients of both instrumented FDI and the interaction terms with *Parcomp*/*Polcomp* are statistically significant and in the expected direction, while the coefficient for *Parcomp* is also statistically significant in Model 1.

In addition, we fit models using Freedom House's index of political rights and Tatu Vanhanen's indices of participation and democracy for robustness checks.[10] In Models 3 and 4, we use Freedom House's political rights index[11] and Vanhanen's (2003) measures of political participation as alternative measures of political development.[12] Again, both coefficients of FDI and its interaction term have the predicted signs and are statistically significant. Our findings are robust to alternative specifications and modeling strategies. They strongly support the hypotheses that the effects of FDI on corruption depend on the underlying economic and political conditions in the host country.

A.6.2 Economic and Political Development

We have present two different mechanisms through which economic and political development would affect the marginal effect of foreign investment on corruption and tested them separately. Yet, economic development is found to be both a pre-condition for political development and a consequence of good governance (Przeworski, Alvarez, Cheibub, and Limongi 2000). Hence higher GDP per capita could be capturing better governance and institutions. The reverse interpretation is also possible: our measure of institutional development is capturing the effect of economic development and diversified markets. Ideally we would introduce the interaction terms between FDI and GDP per capita and democracy and a three-way interaction in the same equation. The exercise is, however, not practical in the current setting for two main reasons. Firstly, per capita GDP, democracy, and their interaction term are highly correlated (see Table J). Multicollinearity makes it hard to precisely estimate the coefficients and standard errors. Secondly, given the small sample size, purging the three-way interaction term is challenging using the techniques discussed before. Thus, we adopt an alternative strategy.

[9] *Parcomp* measures the extent that non-elites are able to access institutional structures for political expression. The greater the extent of the franchise and the more that alternative preferences for policies and leadership can be pursued in the political arena, the higher the *Parcomp* score. *Parcomp* ranges from 0 (unregulated) to 5 (fully competitive), with 5 indicating open competition for political leadership. *Polcomp* is a concept variable created by combining *Parcomp* with *Parreg*, which codes the degree of regulation of political participation ranging from unregulated and fluid to regulated where no groups are excluded from participation. The concept variable *Polcomp* ranges from 1 (suppressed) to 10 (institutionalized electoral competition). See Marshall et al. (2004).

[10] The data sources are, respectively, Freedom House (2008) and Vanhanen (2003, 2000).

[11] Note that in the Freedom House index of political rights, higher values reflect lower degrees of freedom. To ease the interpretation of the results, we reverse the values.

[12] For political participation we use data for 2000 which is the latest year available.

Table E: Robustness Checks: Alternative Measures of Democracy

Models	(1)	(2)	(3)	(4)	(5)
FDI stock/capita	0.67**	0.44*	0.47**	0.48**	0.14
	(0.28)	(0.24)	(0.22)	(0.22)	(0.11)
Political-Economic					-2.33***
Development					(0.77)
Democracy					
Parcomp	-0.45**				
	(0.18)				
Polcomp		-0.10			
		(0.06)			
Political Rights			-0.22**		
			(0.10)		
Participation (2000)				-1.77	
				(1.17)	
Interactions					
(FDI/cap) ×	-0.15***	-0.06**	-0.08***	-0.92***	
Democracy	(0.05)	(0.02)	(0.03)	(0.33)	
(FDI/cap) ×					-0.16***
Pol-Econ. Development					(0.05)
Controls					
Ln(GDP/cap)	-0.87***	-0.98***	-0.94***	-1.13***	
	(0.22)	(0.20)	(0.21)	(0.22)	
Fuel, metal, and	0.53	0.93*	0.65	0.90*	0.23
minerals exports	(0.55)	(0.48)	(0.51)	(0.51)	(0.72)
Ln(Openness)	-0.62	-0.25	-0.37	-0.61	0.21
	(0.45)	(0.37)	(0.37)	(0.45)	(0.39)
Ethno-ling.	0.53	0.45	0.66	0.42	-0.18
fractionalization	(0.55)	(0.51)	(0.52)	(0.56)	(0.92)
Religion					
Catholic	0.12	0.30	0.37	0.10	0.77
	(0.54)	(0.50)	(0.50)	(0.55)	(0.69)
Muslim	-0.96	-0.82	-0.91	-0.95	-2.22**
	(0.60)	(0.57)	(0.57)	(0.61)	(1.07)
Protestant	-2.65***	-2.77***	-2.69***	-2.90***	-1.83*
	(0.76)	(0.71)	(0.71)	(0.75)	(1.01)
Legal Origin					
British	-0.30	-0.25	-0.41	-0.69	0.03
	(0.44)	(0.41)	(0.42)	(0.47)	(0.55)
French	-0.06	-0.09	-0.21	-0.43	0.22
	(0.48)	(0.45)	(0.44)	(0.48)	(0.06)
Constant	10.60***	8.17***	8.98***	9.70***	5.15***
	(2.25)	(1.74)	(1.79)	(2.09)	(1.69)
N	93	93	93	93	93
R^2	0.78	0.81	0.80	0.77	0.67
Adj. R^2	0.74	0.78	0.77	0.74	0.63
	2SLS	2SLS	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses
* significant at 10%, ** significant at 5%; *** significant at 1%

We conduct a principal factor analysis of GDP per capita and democracy and obtain a factor score as a measure of political-economic development.[13] Then we use each country's absolute latitude to instrument for this measure of political-economic development variable. We use the instrumented measure of political-economic development in an interaction with instrumented FDI. These results, presented in Model 5 of Table E, provide additional support to our hypotheses. The results show that in less developed and autocratic countries inward FDI is associated with higher corruption levels. In countries with higher scores in the composite measure of political-economic development, FDI is associated with lower levels of corruption.

A.7 Robustness Checks: Alternative Measures of Corruption

In this section, we present results using two alternative subjective measures of corruption from the World Bank and the PRS group. In Models 1 and 2 of Table F, we use corruption scores from the International Country Risk Guide created by the PRS group based on expert accounts and home country surveys.[14] Models 3 and 4 use the measure of corruption obtained from the World Bank.[15] We instrument FDI and interact it first with instrumented per capita GDP and next with democracy. The results are consistent with our earlier findings. The coefficients on instrumented FDI per capita are positive. The coefficients on the interaction terms (FDI and GDP per capita in Models 1 and 3 and FDI and democracy in Models 2 and 4) are all negative and statistically significant beyond conventional levels.

A.8 Robustness Checks: Economic Concentration

We have shown that inward FDI tends to increase corruption in less developed countries. The effect is likely to be stronger in countries with less productive firms and concentrated markets. Thus we explore whether the effect of FDI is dependent upon the level of market concentration. Although the level of economic development is closely related to economic diversification, GDP per capita may not be the best proxy for countries with large endowments of oil and natural resources such as Saudi

[13] We do principal component analysis and obtain one component with an eigenvalue greater than 1. This component explains 78.40% of the two variables' combined variance.

[14] Corruption scores from International Country Risk Guide are ranked from 0-6. We re-scaled the score to a range of 0-10 and reversed the scores so that higher scores represent higher levels of corruption. We average the corruption scores for the 2000-2004 period.

[15] We took the reverse of the World Bank's corruption scores in order to better interpret the results.

Table F: Robustness Checks: Alternative Measures of Corruption

Model	(1)	(2)	(3)	(4)
DV	ICRG	ICRG	WB	WB
FDI stock/capita	0.20*	0.33**	0.05	0.10**
	(0.12)	(0.14)	(0.04)	(0.05)
Ln(GDP/cap)	-1.18*	-0.55**	-0.67***	-0.46***
	(0.69)	(0.26)	(0.16)	(0.08)
Democracy	-0.03	-0.01	-0.01	0.00
(Polity IV)	(0.05)	(0.04)	(0.01)	(0.01)
Interactions				
(FDI/cap) ×	-0.12***		-0.06***	
Ln(GDP/cap)	(0.03)		(0.01)	
(FDI/cap) ×		-0.04***		-0.02***
Democracy		(0.01)		(0.00)
(FDI/cap) ×				
Controls				
Fuel, metal, and	1.51**	1.39**	0.63***	0.61***
minerals exports	(0.62)	(0.57)	(0.22)	(0.22)
Ln(Openness)	-0.21	-0.64	0.11	-0.10
	(0.37)	(0.40)	(0.12)	(0.14)
Ethno-ling.	0.26	1.06*	-0.05	0.26
fractionalization	(1.01)	(0.61)	(0.26)	(0.21)
Religion				
Catholic	-0.13	-0.22	0.25	0.22
	(0.64)	(0.60)	(0.23)	(0.22)
Muslim	-1.00	-1.11	-0.28	-0.35
	(0.77)	(0.69)	(0.25)	(0.24)
Protestant	-2.99***	-3.58***	-0.80**	-1.13***
	(0.89)	(0.84)	(0.31)	(0.31)
Legal Origin				
British	-0.31	-0.41	0.07	-0.07
	(0.53)	(0.49)	(0.17)	(0.18)
French	-0.54	-0.75	-0.01	-0.20
	(0.60)	(0.55)	(0.20)	(0.20)
Constant	6.96***	8.91***	-0.52	0.56
	(1.67)	(1.77)	(0.52)	(0.63)
N	91	91	99	99
R^2	0.60	0.64	0.81	0.80
Adj. R^2	0.54	0.59	0.78	0.78
	2SLS	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

Table G: Robustness Checks: Economic Concentration and Integration

Model	(1)	(2)	(3)
DV	TI	TI	TI
FDI stock/capita	-1.81***		
	(0.56)		
Ln(GDP/cap)	-1.35***	-2.15***	-1.39***
	(0.22)	(0.40)	(0.28)
Econ. Integration		0.13	1.24
(Factor Score)		(0.37)	(0.97)
Concentration	-2.20**		
(ECI)	(0.95)		
Democracy	-0.03	0.04	-0.03
(Polity IV)	(0.03)	(0.04)	(0.04)
Interactions			
(FDI/cap) ×	11.32***		
Concentration	(4.10)		
Integration ×		-0.15	
Ln(GDP/cap)		(0.17)	
Integration ×			-0.21**
Democracy			(0.10)
Controls			
Fuel, metal, and	1.13**	1.13**	1.00
minerals exports	(0.54)	(0.56)	(0.63)
Ln(Openness)	0.35		
	(0.30)		
Ethno-ling.	0.62	-0.74	0.03
fractionalization	(0.53)	(0.81)	(0.72)
Religion			
Catholic	0.49	0.49	0.19
	(0.51)	(0.57)	(0.64)
Muslim	-0.59	-0.74	-0.74
	(0.58)	(0.66)	(0.76)
Protestant	-2.88***	-2.86***	-3.37***
	(0.75)	(0.82)	(0.93)
Legal Origin			
British	-0.10	-0.45	-0.76
	(0.43)	(0.45)	(0.53)
French	0.16	-0.50	-0.72
	(0.47)	(0.51)	(0.59)
Constant	4.88***	6.44***	7.18***
	(1.29)	(0.49)	(0.79)
N	93	93	93
R^2	0.79	0.76	0.68
Adj. R^2	0.75	0.73	0.64
	2SLS	2SLS	2SLS

Notes: Standard errors in parentheses

* significant at 10%, ** significant at 5%; *** significant at 1%

Arabia, the United Arab Emirates, and other Middle Eastern countries. To deal with this concern, we use the Export Concentration Index (ECI) constructed by UNCTAD as a proxy for economic concentration. We interact this measure with instrumented FDI per capita.[16] To deal with possible reverse causality, we lag ECI one five-year period. Note that high values in ECI represent more concentrated exports. Therefore, we should expect the coefficient on FDI to return a negative sign and the coefficient on the interaction term to be positive. The results presented in Model 1 in Table G strongly support the non-linear hypothesis. FDI has a negative coefficient while ECI has a positive coefficient, both of which are statistically significant. The interaction term between FDI and ECI is positive and significant at the 1% level. The results show that inward FDI is associated with higher levels of corruption in countries with concentrated markets, as proxied by their export portfolios; the effect disappears in countries with more diversified economies.

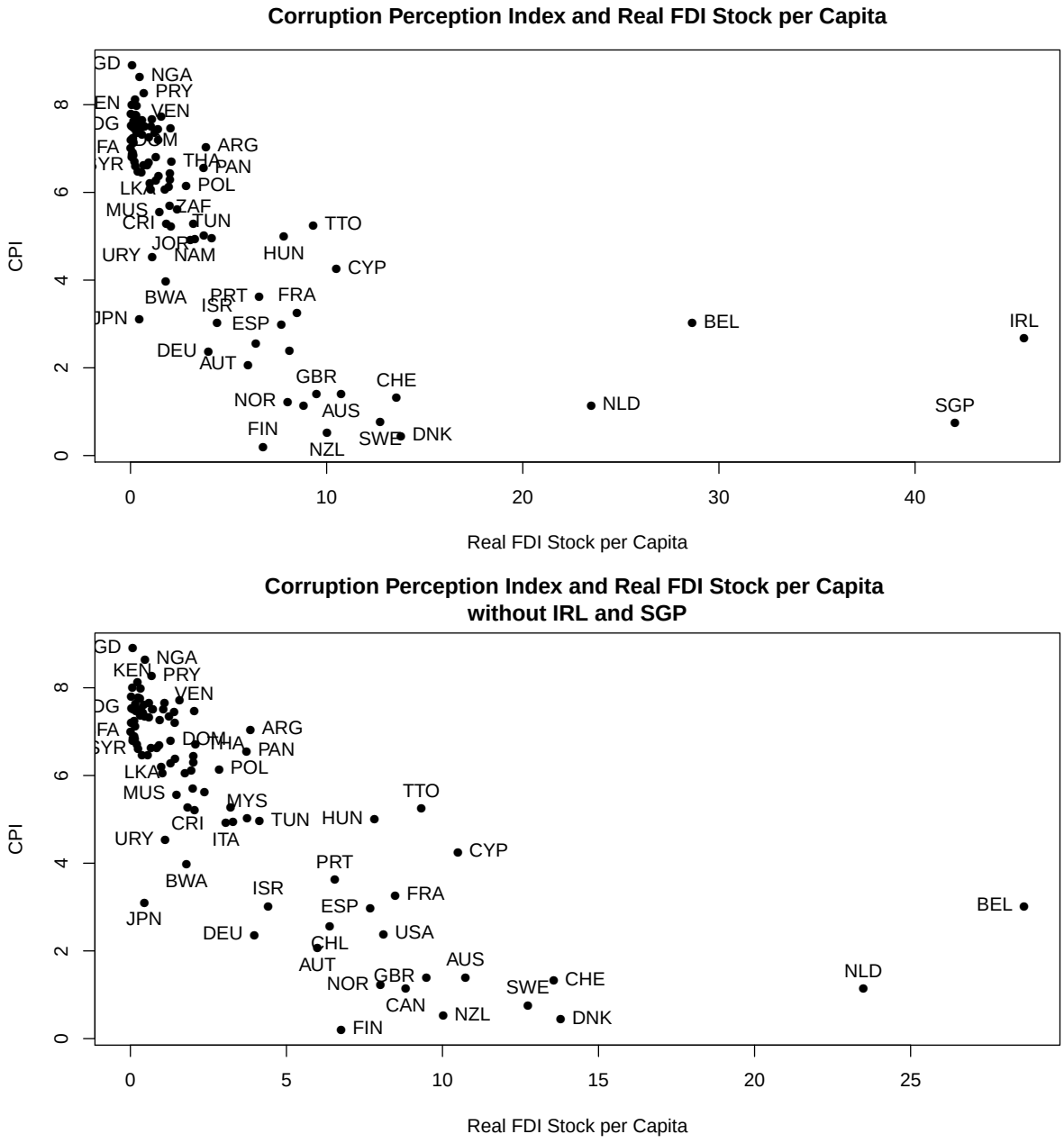
A.9 Robustness Checks: Economic Integration

In this section, we explore whether economic integration including both inward FDI and trade is actually the driving force behind corruption. We conduct a principal factor analysis on FDI stock per capita and trade openness to obtain a factor score as a measure of economic integration, and then instrument integration using the weighted geographic distance. Results are shown in Models 2 and 3 in Table G. In Model 2, both coefficients of integration and the interaction term of integration and GDP per capita are not statistically significant, though they have expected regression signs. In Model 3, the results indicate that economic integration tends to increase corruption in nondemocratic countries while it decreases corruption in advanced democracies. Overall, these results are weaker compared to those when FDI interacts with GDP per capita or democracy, which suggests that FDI is likely to be the underlying driving force.

[16]The Pearson correlation between GDP per capita and ECI is -0.60 in the sample.

A.10 Additional Supplementary Information

Figure K: FDI Stock per Capita and Corruption (CPI)



Plots of real FDI per capita against levels of perceived corruption (CPI) with and without Ireland and Singapore.

Table H: Descriptive Statistics (CPI Sample)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Corruption - CPI (TI)	95	5.60	2.31	0.20	8.90
Corruption (WB)	92	5.35	1.96	0	9.58
Corruption (ICRG)	95	-0.15	1.07	-2.42	1.28
Real FDI Stock per capita	95	4.13	7.58	0.01	45.56
Ln Real GDP per capita (Mean-Centered)	95	0.10	1.15	-1.98	1.90
Remoteness (Inverse of)	95	199.69	183.62	51.47	980.56
Absolute Latitude	95	0.28	0.19	0.01	0.71
Export Concentration Index	95	0.28	0.19	0.05	0.88
Democracy (Polity)	95	5.53	5.41	-7	10
Democratic (1930-1995)	95	0.23	0.42	0	1
Parcomp (Polity)	95	3.80	1.14	0	5
Polcomp (Polity)	95	7.84	2.58	1	10
Political Rights (Freedom House)	95	5.15	1.84	1	7
Participation (Vanhanen)	95	0.38	0.16	0	0.7
Natural Resources	95	0.21	0.25	0.00	0.98
Ln Openness	95	4.23	0.50	3.04	6.00
Ethno-ling. Fractionalization	95	0.34	0.30	0	0.89
Catholic	95	0.35	0.38	0	0.97
Muslim	95	0.20	0.33	0	1.00
Protestant	95	0.13	0.22	0	0.98
British Legal Origin	95	0.34	0.48	0	1
French Legal Origin	95	0.49	0.50	0	1

Table I: Descriptive Statistics (WBES Sample)

Variable	Obs.	Mean	Min	Max	
Bribery Incidence (log)	102	2.37	1.29	-4.61	4.24
Bribery Depth (log)	102	2.01	1.44	-4.61	4.12
Real FDI Stock per capita	102	3.33	4.70	0	25.87
Ln Real GDP per capita (Mean-Centered)	102	0.07	1.01	-2.11	2.12
Remoteness (Inverse of)	102	192.91	205.72	54.36	1414.53
Absolute Latitude	102	23.42	16.18	0.90	62.10
Democracy (Polity IV)	102	3.92	5.54	-9	10
Natural Resources	102	25.96	28.26	0.06	97.43
Ln Openness	102	4.32	0.43	3.24	5.30
Ethno-ling. Fractionalization	102	0.50	0.26	0.01	0.92
Catholic	102	30.70	35.39	0	96.60
Muslim	102	24.04	34.61	0	99.50
Protestant	102	8.67	14.61	0	68.40
British Legal Origin	96	0.26	0.44	0	1
French Legal Origin	96	0.52	0.50	0	1

Table J: Correlation Matrix: Main Explanatory Variables (CPI Sample)

Variables	FDI/cap	GDP/cap	Eco. Conct.	Dem.	Alldem95	Fuel Exports	Ln(Open)	Ethno-ling. Factionaliz.	Catholic	Muslim	Protestant	Legor (BR)	Legor (FR)
FDI/cap	1.00												
GDP/cap	0.57	1.00											
Eco. Conct.	-0.30	-0.60	1.00										
Dem.	0.23	0.54	-0.40	1.00									
Alldem95	0.45	0.57	-0.39	0.41	1.00								
Fuel Exports	-0.16	-0.21	0.44	-0.28	-0.20	1.00							
Ln(Open)	0.50	0.25	0.00	0.07	0.07	-0.11	1.00						
Ethno-ling. Factionaliz.	-0.25	-0.56	0.45	-0.28	-0.22	0.18	-0.04	1.00					
Catholic	0.13	0.22	-0.18	0.38	0.03	-0.05	-0.06	-0.19	1.00				
Muslim	-0.22	-0.43	0.32	-0.58	-0.31	0.23	-0.05	0.17	-0.50	1.00			
Protestant	0.19	0.32	-0.07	0.29	0.48	0.06	0.12	-0.07	-0.20	-0.30	1.00		
Legor (BR)	0.15	-0.09	0.14	-0.07	0.15	-0.01	0.06	0.34	-0.33	-0.02	0.13	1.00	
Legor (FR)	-0.19	-0.16	0.12	-0.04	-0.25	0.13	-0.15	-0.04	0.44	0.20	-0.41	-0.70	1.00

Table K: List of Countries

Country	GDP/cap (log)	FDI Stock/cap ($1,000)	Democracy (Polity)	Corruption (CPI)	Remoteness (Inverse of)
Albania	8.33	0.33	6.20	7.50	314.86
Algeria	8.67	0.46	-2	7.35	261.45
Argentina	9.26	3.85	8	7.04	58.29
Australia	10.21	10.74	10	1.40	51.47
Austria	10.22	6.00	10	2.06	466.93
Bangladesh	7.61	0.08	6	8.90	139.38
Belgium	10.13	28.64	10	3.02	980.56
Benin	7.17	0.07	6	6.80	114.67
Bolivia	7.99	1.57	8.6	7.72	68.12
Botswana	8.98	1.80	9	3.98	74.51
Brazil	8.87	1.75	8	6.06	72.73
Bulgaria	8.97	1.95	8.80	6.12	315.90
Burkina Faso	6.91	0.01	-0.60	7.00	126.41
Cameroon	7.86	0.32	-4	7.98	111.59
Canada	10.22	8.83	10	1.14	145.35
Chile	9.39	6.39	9	2.56	57.30
China	8.44	0.66	-7	6.62	105.87
Colombia	8.71	1.44	7	6.38	85.30
Costa Rica	9.03	1.84	10	5.28	87.36
Cote d'Ivoire	7.64	0.43	4	7.62	112.63
Cyprus	9.98	10.50	10	4.25	218.82
Denmark	10.24	13.79	10	0.44	531.16
Dominican Republic	8.83	1.29	8	6.80	107.18
Ecuador	8.38	1.09	6	7.66	78.80
Egypt	8.44	0.92	-6	6.68	204.84
El Salvador	8.47	0.99	7	6.20	89.54
Ethiopia	6.58	0.16	1	7.13	132.07
Finland	10.06	6.76	10	0.20	355.20
France	10.15	8.49	9	3.26	786.46
Gabon	9.19	0.21	-4	6.70	104.57
Gambia, The	6.84	1.24	-5	7.35	122.46
Germany	10.14	3.97	10	2.36	589.11
Ghana	7.25	0.56	5.6	6.46	111.72
Greece	9.63	2.38	10	5.62	254.51
Guatemala	8.25	0.70	8	7.50	90.01
Honduras	7.73	0.72	7	7.50	91.07
Hungary	9.43	7.82	10	5.00	554.23
India	7.94	0.12	9	7.24	156.96
Indonesia	8.28	0.23	6.4	8.12	112.01
Ireland	10.21	45.56	10	2.68	441.61
Israel	9.97	4.42	10	3.02	210.43
Italy	10.04	3.06	10	4.92	367.47
Jamaica	8.43	2.02	9	6.30	102.58
Japan	10.09	0.45	10	3.10	90.56
Jordan	8.26	2.06	-2	5.22	210.92
Kenya	7.12	0.07	4	8.00	106.22
Korea, Republic of	9.74	2.00	8	5.70	99.68
Madagascar	6.66	0.03	7	7.53	81.64
Malawi	6.66	0.15	5	6.84	86.50
Malaysia	9.36	3.74	3	5.02	207.42
Mali	7.04	0.12	6	6.90	124.27
Mauritius	9.69	1.49	10	5.56	80.74
Mexico	8.99	2.02	8	6.44	91.14
Morocco	8.27	1.29	-6	6.28	216.03
Mozambique	7.15	0.41	6	7.43	73.73
Namibia	8.58	3.29	6	4.94	75.78

Continued...

Table K (cont.): List of Countries

Country	GDP/cap (log)	FDI Stock/cap ($1,000)	Democracy (Polity)	Corruption (CPI)	Remoteness (Inverse of)
Nepal	7.27	0.03	-1.2	7.20	143.58
Netherlands	10.18	23.49	10	1.14	790.73
New Zealand	9.98	10.02	10	0.52	62.15
Nicaragua	8.14	1.40	8	7.45	89.04
Niger	6.71	0.02	4	7.80	130.56
Nigeria	7.03	0.47	4	8.64	121.52
Norway	10.43	8.02	10	1.22	401.03
Pakistan	7.84	0.16	-5.4	7.63	160.07
Panama	8.99	3.73	9	6.55	88.22
Papua New Guinea	8.4	0.60	10	7.65	77.30
Paraguay	8.49	0.68	7.4	8.27	63.99
Peru	8.35	1.03	8.20	6.06	69.38
Philippines	8.22	0.60	8	7.32	121.36
Poland	9.11	2.84	9.6	6.14	477.97
Portugal	9.77	6.55	10	3.62	256.79
Romania	8.67	1.42	8.20	7.20	317.85
Senegal	7.27	0.08	8	6.86	124.90
Singapore	10.24	42.04	-2	0.74	87.38
South Africa	9.07	3.21	9	5.28	73.67
Spain	9.92	7.69	10	2.98	304.72
Sri Lanka	8.32	0.38	5.4	6.47	124.64
Sudan	7.01	0.30	-6.4	7.75	153.42
Sweden	10.16	12.74	10	0.76	398.01
Switzerland	10.27	13.56	10	1.32	605.05
Syria	7.6	0.25	-7	6.60	212.73
Tanzania	8.83	0.19	2	7.46	96.91
Thailand	9.64	2.09	9	6.70	130.97
Trinidad and Tobago	8.91	9.32	10	5.25	97.96
Tunisia	8.63	4.14	-3.6	4.96	264.51
Turkey	6.99	0.84	7	6.62	240.75
Uganda	10.15	0.25	-4	7.78	108.79
United kingdom	6.77	9.49	10	1.40	692.36
United States	10.46	8.11	10	2.38	131.11
Uruguay	9.18	1.12	10	4.53	58.42
Venezuela	8.85	2.05	6.20	7.46	95.49
Vietnam	7.77	1.05	-7	7.50	159.16
Yemen	7	0.08	-2	7.50	163.62
Zambia	6.8	0.94	4.2	7.26	84.29
Zimbabwe	7.96	0.32	-6.4	7.36	81.78

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