Corruption for Sales

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Abstract

This paper investigates the impact of corruption on foreign affiliates' sales of German multinationals that differ in their level of experience in the foreign market. We exploit the panel dimension of a detailed firm-level dataset to show that more experienced firms are less likely to suffer from the costs related to corruption. Controlling for persistent and unobserved factors at the country and firm levels, we show that corruption reduces unambiguously the sales of new entering firms, while having no impact on the sales of incumbents.

1 Introduction

An extensive literature in international economics seeks to identify the effects of corruption on the activity of multinational firms. The empirical literature has reached two opposite conclusions. On the one hand, corruption reduces multinational activities because of the additional cost it presents.[1] On the other hand, corruption may not necessarily discourage multinationals if these offer large payoffs to circumvent economic regulations and red tape, or to secure contracts.[2]

In this paper, we shed new light on the impact of corruption on foreign affiliates sales of multinational firms. We examine whether there is a difference in the impact of corruption on sales, by foreign affiliates, of new entrants vs. *incumbent* firms – or more experienced firms – in the foreign market. Various reasons explain the advantages that an experienced firm might have in corrupt countries (Rose-Ackerman (1999, 2002)). The firm can, for instance, gain political influence on the local government and alter the legal and regulatory environment. It can also avoid regulations in countries with weak institutions by organizing itself the local industry. The firm may also engage in briber to increase its output. Such activities are made possible thanks to a deep knowledge of the destination market, which is cultivated with time.

Our estimation sample tracks the sales of German multinationals by foreign affiliates from 1996 to 2006. This dataset allows us to control for a wide range of information at the levels of the firm, country and year. We use the time series and the geographic dimensions of the dataset to distinguish between firms that enter a country for the first time in a given year (new entrants), and firms that operating in the country since 1996. In our baseline cross-section estimations, we use an interaction term between the corruption variable and the incumbent status of the firm that allows the comparison between the foreign affiliates' sales of new entrants and incumbents. We use firm fixed effects to control for a broad set of unobserved firm attributes that explain the differences in the levels of foreign affiliate sales: the firm's productivity, ability to manage corruption, its corporate and managerial practices with respect to corruption, or its perception of corruption. We therefore identify the effect of corruption of foreign affiliates' sales by exploiting the within-firm variation across foreign markets. The use of firm fixed effects along with the interaction term allows us to compare the differential effect of corruption on foreign affiliates' sales of incumbents and new entrants respectively, across countries.

Our main finding is that corruption has an effect on foreign affiliates' sales of multina-

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[1]In the Enterprise Survey conducted by the World Bank, 36% of firms identify corruption as a major constraint worldwide. The share goes to 65% for the region of Middle East and Northern Africa.

[2]An example is Siemens, which "ended up paying $1.6 billion in 2008, in the largest fine for bribery in modern corporate history" (New York Times, 20 December 2008). The company spent an annual bribery budget of about $40 million to $50 million from 2002 to 2006 to corrupt government officials worldwide. It paid $5 million in bribes to win a mobile phone contract in Bangladesh, at least $40 million in bribes to win a $1 billion contract to produce national identity cards in Argentina, $20 million to senior government officials to build power plants in Israel, $16 million for urban rail lines in Venezuela, $14 million for medical equipment in China (···). The Siemens case is notable for its unique breadth, but it is not isolated. In numerous sectors and across recent years, there are various examples of multinational firms that have used bribes to secure contracts (See the Wal-Mart case in Mexico, New York Times, December 2012).

tionals that varies according to their level of experience in the foreign market. This finding is robust to the introduction of the main driving forces of foreign affiliate sales listed in the literature, as well as to the inclusion of the foreign market experience of the firm.[3] We show that corruption reduces unambiguously the sales of new entering firms but it has no impact on the sales of German incumbents. These findings hold when we use the panel dimension of the dataset. We show, moreover, that corruption has a positive impact on the foreign sales of incumbent firms when we control for persistent and time-invariant unobserved country characteristics.

This paper contributes to the literature on the effect of corruption on multinational activities in several respects. A few papers have focused on the impact of corruption on foreign direct investment (FDI). Instead of measuring the activity of multinational firms by using foreign direct investment, we use the foreign affiliates' sales. A limitation of FDI data is that they are not only made up of equity, but also of debts from affiliated firms that inflate the value of the flows (Terrien 2009). Measuring the real activities of foreign affiliates circumvents this issue.

The effect of corruption on multinational activities has been a topic of intense research interest. Beside the important contributions of Hines (1995) and Wei (2000a,b, 1998) many papers have found evidence that more corruption leads to less aggregate foreign direct investment (FDI) flows or stocks (Busse & Hefeker (2007), Egger & Winner (2005), Habib & Zurawicki (2001); Drabek & Payne (2002)) or to less foreign local affiliates' sales (Javorcik & Wei 2009, Hakkala et al. 2008). Both papers provide interesting findings on foreign sales at the firm level. Javorcik & Wei (2009) show that corruption affects the structure of ownership by increasing the probability of joint-venture.[4] Hakkala et al. (2008) find an asymmetric effect of corruption concerning horizontal and vertical multinational activity. None of these papers addresses the effect of experience of the foreign market. Other papers have found that corruption encourages the foreign activities of multinational firms (Shleifer & Vishny 1993, Kaufmann & Wei 1999, Egger & Winner 2005, Bjorvatn & Soreide 2005, Wu 2006, Barassi & Zhou 2012). Using firm-level information on foreign sales and taking into account the foreign market experience of multinational firms allows us to reconcile this seemingly opposing evidence found in the prior literature.

This paper is related to another vein of research that investigates the relationship between corruption and competition.[5] An interesting paper by Campos et al. (2010) shows that corruption helps domestic firms to protect from the entry of new firms.[6] Other papers have

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[3]We follow the extended gravity approach of Morales et al. (2015) and define foreign market experience as the number of similar foreign markets that the firm already serves. As in the studies of Albornoz et al. (2012) and Araujo et al. (2016), we therefore capture the importance of past experience in geographically close and culturally similar markets.

[4]In a similar vein, Kesternich & Schnitzer (2010) show that political risk in a broader sense affects the leverage and the ownership structure of the foreign affiliate.

[5]Starting with Johnson et al. (2002) and Shleifer & Vishny (1993), a vast literature investigates the role of competition on corruption (see for instance the studies of Tella & Ades (1999), Emerson (2006) and Alexeev & Song (2013)).

[6]Their findings rest on a very detailed survey of 98 Brazilian domestic firms in two sectors (consumer electronic sector and textile sector).

examined the effect of corruption on firm's behavior. Using detailed data on the shipments that go through the ports of Durban and Maputo, Sequeira & Djankov (2014) show that firms adapt to different types of corruption by adjusting their transport strategies. Other papers have shown that corruption affects the performance of firms. Svensson (2003) documents that over 80 percent of Ugandan firms reported having to pay bribes. Fisman & Svensson (2007) show moreover that corruption has a deeper negative impact on Ugandan firms' growth than taxation.

The paper is also inspired from a broader line of recent research on the effect of institution on globalization at firm-level. This research, which focuses mostly on firm-level exports, suggests that weak foreign market institutions reduce the likelihood of export and firm-level trade (Söderlund & Tingvall (2014)). In a recent paper, Araujo et al. (2016) show that a firm's prior experience in the foreign market and the country's contractual environment increase initial foreign sales and the survival rate in export markets. However, the quality of the country's institutions impacts negatively export growth of surviving exporters.

The remainder of this paper is structured as follows. Section 2 describes the data sources, the construction of the dataset and also describes the empirical methodology. In section 3, we present the econometric results and a series of robustness checks. Section 4 concludes.

2   The Data and Estimation Strategy

The German MiDI database.   With the exception of Hakkala et al. (2008), Javorcik & Wei (2009) and Thede & Gustafson (2009), the existing empirical literature is based primarily on cross-country FDI flows or stock data. We examine the links between corruption and foreign affiliates' sales by using firm-level information on German multinationals' activities. The data are taken from the *MIDI* database (Microdatabase Direct Investment) of the *Deutsche Bundesbank*. Generally, the German case is interesting because Germany is one of the largest source country for foreign affiliate sales. At the beginning of the XXIth century, Germany's share in outward foreign affiliates sales is about 14%, classifying Germany as the third biggest investor country after the United States and Japan.[7]

The *MIDI* dataset reports information on foreign affiliates' activity in each country at the firm-level.[8] The data are available in a firm-level panel dimension from 1996 onward.

For each multinational firm, we aggregate the sales of foreign affiliates in each country. We end up with an unbalanced estimation sample that has information on the foreign affiliates sales of 8,839 German firms in 117 countries over the period 1996 to 2006. Each observation has a firm-country-year dimension.

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[7]Aggregate information on outward foreign affiliates sales is very scarce and usually does not allows to classify countries. The computation relies on a bilateral dataset recently made available by Rodriguez-Clare et al. (2015).

[8]For a description of the database see Lipponer (2009).The MiDi database covers most of the multinational activity of German multinational firms, because the reporting limits are fairly low. Up to 2002, the activities of foreign affiliates with a balance sheet total of more than 1 million DM (500.000 Euro in 2001) must be reported to the German Bundesbank. In 2002, the reporting thresholds were raised to a balance sheet total of 3 million Euros.

New entrants and incumbents.   We use the time series as well as the geographic dimensions of our data to distinguish between firms that are new entrants into a foreign market and firms that are incumbents. The group of new entrants is composed of firms that enter a country for the first time in a given year. We consider only their sales at the time of entry in a country. The incumbent firms are defined as being present in a country since 1996, the first year covered in the data. According to this definition, the incumbent firms might exit the sample at some point in time. We do not consider them as new entrants if they re-enter the same country after having left it. Alternatively, we use a more restrictive definition of incumbents by considering only those firms that are present in a country over the full period of time from 1996 to 2006.

Corruption.   We use the dataset of the International Country Risk Guide (ICRG) that proposes an index on the level of corruption "*within the political system*". Contrary to other perception-based measures which are more closely related to "*petty*" corruption, the ICRG index captures "*grand*" corruption and is more suited to the analysis in this paper. The index captures the extent of bribes and special payments, patronage and close ties between politics and businesses. Such corruption is a threat to foreign multinational firms as it directly affects the efficiency of the firm through demands for special payments and bribes.[9] The higher the ICRG index value, the less corrupt the country. For expositional reasons, we invert and normalize the corruption index, which is therefore scaled from 0 (low levels of corruption) to 1 (high level of corruption). In subsequent tests, we propose other specifications where we measure corruption based on the Heritage Foundation index and the The Corruption Perception Index from Transparency International. These indexes are, however, less suited for our analysis as they are more closely related to "*petty*" corruption.[10]

Table 1 lists all countries included in the sample, the average level of corruption, the total number of new entrants, the total number of incumbents and the sum of foreign affiliate sales from our sample of firms over the sample period.

– Insert Table 1 about here –

The countries are classified according to their level of corruption, in descending order. There is no clear correlation between the level of corruption and the foreign activities of

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[9]We consider corruption and briberies of official agents that have the power to limit the entries and the level of sales on a market thanks to barriers such as licenses, permits, taxes or customs. Our index takes a definition that is very close to the one given by Shleifer & Vishny (1993): *"(...) government officials often collect bribes for providing permits and licenses, for giving passage through customs, or for prohibiting the entry of competitors."*

[10]The Corruption Perception Index from Transparency International captures corruption in both public and private sectors and more exactly, the abuse of public office for private gain. But this measure does not distinguish between political and administrative corruption. It comes exclusively from expert perception of corruption. It is an aggregate indicator from many sources (12 dependent institutions) which limits the influence of measurement bias but is loose in conceptual clarity. All sources measure the overall extent of corruption (frequency and size of bribes). This index focuses mainly on petty corruption and bribery. Data from Heritage Foundation defined corruption as dishonesty or decay. This indicator is based on CPI and assessment of the US Department of Commerce, Economist Intelligence Unit, Office of US Trade Representative and official government publications of each country.

German firms. It might seem that there is less entry in the more corrupt countries, but this might be due to country-specific factors, in particular the political and business environment.

Other controls. The level of foreign affiliate sales is determined by a number of factors that are well identified in the literature. Since our measures of corruption are subjective indices, they might also reflect the business climate, political setting or institutional quality in the country. To control for this, we follow Hakkala et al. (2008) and introduce another index from the International Country Risk Guide. This variable measures the general investment climate in the country with respect to law and order and quality of the public administration.

We also introduce a set of gravity determinants that are well identified in the literature on multinational activity. We include the log of GDP to approximate for *Market Size.* The series for GDPs are taken from the World Development Indicator database. We also include the log of *Distance* between the main cities of the destination country and the state of registration of the multinational in Germany. The data on distance has been constructed using information on the latitude and the longitude of both the German state and the destination country. We also introduce a dummy variable that indicates whether the German state of origin shares a border with the destination country. We also include a dummy variable that takes the value of one if the destination country shares a regional trade agreement with Germany and a dummy variable that indicates whether the destination country shares the same currency.[11] We follow Melitz & Toubal (2014) and add their common language index.

Another important characteristic that might influence the level of foreign affiliate sales is the firm's foreign market experience. The firm's acquired knowledge and experience on a foreign market might increase the foreign sales in countries that share similar characteristics. Along the works of Albornoz et al. (2012) and Araujo et al. (2016) which focus on export dynamics, we define foreign market experience at entry as the number of similar destinations that the firm already serves. The concept of similarity between two destinations is based on the *extended gravity* variables proposed by Morales et al. (2015), which incorporate cultural, geographical and economic characteristics. Hence, the foreign market experience variable has variation at the levels of firm, year and destination.

In Table 2, we present the descriptive statistics of the baseline samples which use the alternative definitions of incumbents. We show that the descriptive statistics are similar across both samples.[12]

– Insert Table 2 about here –

Estimation Strategy. We use the cross-country variation in the data to identify the effect of corruption on foreign affiliates' sales. In our empirical estimation, we make use of an interaction term between the corruption variable and the indicator of the incumbent status that is equal to 1 if the multinational firm is incumbent in the country. As mentioned

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[11]Both series are taken from José de Sousa webpage: http://jdesousa.univ.free.fr/data.htm.

[12]Notice that we center the corruption variables around their mean in the estimations as we interact them with the incumbent dummy variable.

above, we have two alternative definitions of this indicator. The interaction term allows us to compare the foreign affiliates' sales of new entrants and incumbents. Moreover, our empirical model includes a set of firm fixed effects. The use of firm fixed effects accounts for a broad set of firm attributes that might explain the difference in the levels of foreign affiliate sales, such as the ability to manage corruption, different corporate and managerial practices with respect to corruption, or different perceptions of corruption. More importantly, the use of firm fixed effects along with the interaction term allows us to compare the difference in foreign affiliates' sales between incumbents and new entrants across countries. Given the set of controls, the estimated interaction coefficients in the firm fixed effect strategy indicates whether the difference across countries between the level of foreign affiliates' sales of incumbent and new-entrants is due to corruption. Using a year-to-year estimation procedure, we then compare the difference between the level of foreign affiliates' sales of incumbent and new-entrants in one country, to the difference between those sales in another country.

The empirical strategy involves estimating the following model on a year-to-year basis:

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\begin{aligned}
ln\big(\text{SALES}_{kj}\big) \;=\;& \alpha 0 + \alpha_1 \text{CORRUPT}_j + \alpha_2 \text{INCUMBENT}_{kj} + \alpha_3 (\text{INCUMBENT}_{kj} \times \text{CORRUPT}_j) \\
& + \alpha_4 \mathbf{X}_j + \alpha_5 X_{kj} + \alpha_6 \nu_k + \mu_{kj}
\end{aligned}
$$

where $ln\big(\text{SALES}_{kj}\big)$ is the log of foreign affiliates sales of German firm k in country j. The variable CORRUPT_j is our centered measure (around their average) of corruption in country j and INCUMBENT_{kj} is coded 1 if foreign affiliates of German firm k is incumbent in country j. The controls include the country-specific variables, X_j, described above, the firm and country-specific variables such as the firm's market experience (X_{kj}). Our specifications also includes a set of firm fixed effects (ν_k). μ_{kj} is the error term. The standard errors are allowed to be adjusted for clustering at the country and firm levels.[13]

We also provide a set of panel regressions where we control for firm×year and/or country fixed effects. The country fixed effects control for persistent and unobserved differences in the nature of corruption across countries. These differences are related not only to various persistent cultural and/or social norms but also to the perception of corruption itself which is differs from one country to another (Abhijit et al. 2012).[14] The country fixed effects also capture non linearity effect of corruption coming from the form/administrative tiers (Fan et al. 2009).

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[13]Alternative clustering at firm-level or country-level alone does not change our findings (Table 7).

[14]Fisman & Miguel (2007) show that social norms and legal enforcement are both important determinants of corruption by studying parking violations by United Nations officials in New York City. In an experimental framework, Cameron et al. (2009) find variation across countries in corrupt behavior (and punishment of corrupt behavior) but not always correlated to the perception index of corruption. In a different setting, Barr & Serra (2010) show that undergraduate students from Oxford act corruptly according to the level of corruption in their origin country. This effect vanishes over time as students remains in the U.K.

3 Empirical Results

Baseline results. Table 3 displays the results. Columns (1) to (5) present the yearly effects of corruption on foreign sales. In column (6) and (7), we report the estimate using panel regressions (LSDV). The introduction of firm×year fixed effects along with the interaction term in column (6) allows us to use the same source of identification as in the yearly cross-section regressions. In column (7), we add country fixed effects and postpone the related discussion of the results to the end of this section. We rely on the panel results of column (6) to summarize our annual results.

As expected, we identify a significantly large and positive foreign sales premium for incumbent firms, which is robust across years. We quantifiy the impact of the incumbent dummy variable using the approximation suggested by Kennedy (1981).[15] The foreign sales premia of incumbent firms vary between 136% and 199% across specifications. These premia are the average differences between incumbent and new entering firms in a foreign country with an average corruption score.[16]

– Table 3 –

To interpret the impacts of corruption on both types of firms, we need to compare the coefficients of the corruption variable and of the interaction term. The coefficients of the corruption variable measure the effects of corruption on the foreign affiliate sales of new entering firms. The effects are neither huge nor trivial. For example, considering the point estimates, if Brazil (corruption = 0.54) had an average level of corruption like China (corruption = 0.72), new entering firms would sale to Brazil with a 6.2% less initial sales value.[17] This impact varies from about 8.6% to 11.9% when significant in the cross-section regressions. In order to evaluate the effects of corruption on the sales of incumbents, we add the corruption coefficient and the coefficient of the interaction term and test whether this sum is not statistically significantly different from zero. The F-Tests are reported at the bottom of Table 3. We find that corruption has no effect on the sales of incumbents.

The estimates are robust to the inclusion of other potential confounding factors such as insecurity and uncertainty into economic relationships measured by the investment risk index. This variable which is the sum of three subcomponents such as expropriation, profits repatriation and payment delays, is as expected positive and generally statistically significant at conventional levels. These results are align with the common wisdom that more corrupt countries have lower foreign affiliate sales. The magnitude of the effects is similar to the one found in other firm-level studies.

The experience of firms in different foreign environments is an important factor that influences foreign sales. We find a positive and robust impact of the market experience

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[15]As indicated by Kennedy (1981), the percentage change of the dependent variable in response to a dummy variable $incumbent_{kj}$ is $100 \times (e^{\hat{\alpha}_2 - 0.5\hat{V}(incumbent_{kj})} - 1)$, where $\hat{V}(incumbent_{kj})$ is the the variance of $\hat{\alpha}_2$.

[16]The corruption variable is centered around its mean.

[17]The computation, based on the estimate of column (6), is as follow: $100 \times (\exp(-0.356 \times (0.72 - 0.54)) - 1)$.

variable across specifications. A firm that has average experience in similar markets (around the 7.4 markets) would start with sales 4.8% higher than a firm without such experience. This effect is robust across years.

Moving to the gravity variables, we find significant effects of market size, distance, adjacency and common language that are align with our expectations. The direction of the effect of regional trade agreements depends on the nature of multinational firms. It is positive in case of vertical or complex relationships between the parent and the affiliates, and negative when low trade cost destinations foster trade. We find a negative effect of regional trade agreements on German foreign affiliates' sales. However, this impact is not robust across years and not significant in the panel regressions. We do not find any significant effect of the participation in the currency union.

One relevant issue raised in the corruption literature concerns the differences in the nature of corruption across countries. We capture the persistent and unobserved corruption factors by adding a set of country fixed effects. We exploit therefore the within country variability of corruption over time. Our findings are reported in column (7) of Table 3.[18] In contrast to our previous findings, we find a positive and statistically significant impact of corruption on the foreign sales of experienced firms. As an example, the increase of corruption in Brazil from 1997 to 2006 has led to an increase of the sales of incumbents by almost 3%.[19] however, we still find a negative effect of corruption on the foreign affiliates' sales of new entering firms.

Robustness checks. The baseline results in Table 3 illustrate the differential impact of corruption on incumbent and new entering firms. Before concluding, we perform a set of robustness checks. We show that the findings are confirmed with alternative codings of the incumbent dummy variable, different samples and different definition of the corruption variables.[20]

In Table 4, we define incumbents as multinational firms that remain in the country over the full sample period (1996-2006). The findings are qualitatively similar while the magnitude of the effects of corruption on foreign affiliates' sales of new entering firms are slightly larger than in the baseline sample. In Table 5, we report the estimates in both samples of incumbent and new entering firms. We show that corruption has no effect on foreign affiliates' sales in the sample of incumbent firms, while it has a negative and significant impact on new entering firms. These findings are robust to alternative definitions of the incumbent dummy variables.

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[18]Notice that we cannot identify the effect of the common language variable due to the inclusion of country fixed effects.

[19]This is computed as: $100\times(\exp(0.436-0.265)\times(0.67-0.5))-1)$.

[20]One other factor that may be important for the foreign activities of multinational firms is the level of corporate tax rate (Wei (2000*a*) and Thede & Gustafson (2009)). Thede & Gustafson (2009) focus on the extensive margin of FDI by examining the impacts of corruption and the level of corporate tax rate on the probability to be present in a foreign country. Following Thede & Gustafson (2009), we use the data from KPMG's Corporate and Indirect Tax Rate Survey (2007). In unreported regressions, we show that the level of taxation does not affect the level of foreign affiliates sales. Moreover, the level of taxation does not magnify the effect of corruption as in Thede & Gustafson (2009).

As a further robustness check we examine whether the results are robust to alternative measures of corruption. In Table 6, we replicate the baseline Tables 3 and 4 with the Corruption Perception Index from Transparency International and a measure of corruption from Heritage Foundation. The correlation between the three measures of corruption is above 80% in the baseline estimation sample. We report the estimates for the corruption and the incumbent dummy variables and the interaction term. In line with the baseline results, we show that corruption has a differential impact on the foreign affiliates sales of incumbent vs. new entering firms.

4   Conclusion

We elucidate the impact of corruption on foreign affiliate sales of multinational firms by differentiating the effect according to the level of experience firms have in the foreign country. Experience in the foreign market might allow the firm certain relative advantages. The firm could gain political influence and alter the legal and regulatory environment, for example, or it could engage in bribery to prevent the entry of competitors. We argue that multinationals that have gained experience in the foreign market may not suffer in terms of sales in corrupted markets.

Our identification strategy allows us to examine whether the cross-country difference in foreign sales of incumbent and new entering firms is driven by corruption. Our result shows that the negative impact of corruption uncovered by the literature (Hakkala et al. 2008, Javorcik & Wei 2009) is driven mostly by new entrants. We find that the level of corruption does not affect foreign affiliates sales of incumbents in countries with high levels of corruption. These results hold when including a wide range of observed controls that are specific to the firms and countries. The use of firm fixed effects allows us to control for unobserved firm-level factors, such as the firm's managerial ability to deal with corruption or corporate practices with respect to corruption. Our findings suggest that multinationals that have deep knowledge of the destination market and a higher ability to manage corruption may be in a position to benefit from corruption.

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Table 1: Summary statistics by country

Country	Corruption*	Total Sales	# of new entrants	# of incumbents	Country	Corruption*	Total sales	# of new entrants	# of incumbents
Zimbabwe	.89	106746.5	xx	xx	Peru	.53	1615519	25	44
Gabon	.83	47316.1	xx	xx	Iran	.53	2482455	12	36
Papua New Guinea	.83	23856.4	xx	xx	Croatia	.53	3560550	55	41
Lebanon	.83	321231.7	xx	11	Ecuador	.52	1363972	18	47
Congo (Dem. Rep.)	.8	30697.76	xx	xx	Morocco	.51	2185671	25	78
Nigeria	.79	3417381	xx	43	Malaysia	.51	1.72e+07	85	271
Indonesia	.77	1.16e+07	58	172	Ireland	.5	2.50e+07	89	388
Russia	.74	2.78e+07	142	180	Bolivia	.5	12717.8	xx	xx
China	.72	1.42e+08	347	478	Zambia	.5	7891.867	xx	xx
Liberia	.71	1003879	xx	14	Uruguay	.5	933590.9	16	41
Bangladesh	.71	217061.6	xx	11	Korea	.5	3.75e+07	103	305
Kenya	.7	425010.9	11	31	Slovakia	.49	4.90e+07	156	195
Moldova	.7	128717.3	xx	xx	South Africa	.49	8.99e+07	178	452
Paraguay	.7	96701.45	xx	xx	Italy	.49	3.94e+08	566	2204
Egypt	.7	3411400	28	47	Dominic Rep.	.48	246152.4	xx	xx
Algeria	.7	306790	xx	xx	Israel	.47	1889926	25	32
Kazakstan	.69	246194.3	xx	xx	Belarus	.47	120110.4	xx	xx
Albania	.68	9727	xx	xx	Poland	.47	1.09e+08	424	745
Viet Nam	.68	1,13E+06	15	15	Japan	.47	3.95e+08	195	848
Azerbaijan	.68	44421.5	xx	xx	Congo	.47	385028.2	xx	xx
Panama	.67	887433.8	11	29	Nicaragua	.46	24637.47	xx	xx
Angola	.67	21149.7	xx	xx	El Salvador	.45	865756	xx	25
Ukraine	.67	2936870	44	xx	Belgium and Lux.	.44	1.46e+08	215	934
Saudi Arabia	.67	4002244	18	45	Brunei	.44	64230.7	xx	xx
Uganda	.67	59984.56	xx	xx	France	.44	6.45e+08	659	3307
Thailand	.66	1.04e+07	76	182	Slovenia	.44	5734688	36	69
Pakistan	.66	2809666	xx	72	Jordan	.44	29787.81	xx	xx
Cameroon	.65	329950.6	xx	xx	Czech Republic	.43	1.41e+08	349	949
Tanzania	.63	88197.32	xx	xx	Costa Rica	.41	855259.8	11	31
Colombia	.63	7663018	44	129	Malta	.4	802242.5	xx	22
Honduras	.63	108239.6	xx	xx	Sri Lanka	.39	201327.2	xx	xx
Cote d'Ivoire	.63	364494.3	xx	16	Estonia	.36	454431	29	xx
Ghana	.61	196734.8	xx	xx	Greece	.35	2.01e+07	87	271
Turkey	.61	5.08e+07	164	248	Chile	.35	6460959	70	128
Bahrain	.6	695367.8	xx	xx	Hungary	.34	9.46e+07	289	662
Jamaica	.6	30988.93	xx	xx	Bahamas	.33	333192.1	xx	xx
Mexico	.6	1.49e+08	190	471	USA	.31	3.16e+09	570	2726
Venezuela	.6	6,47E+06	53	96	Singapore	.3	6.31e+07	160	649
Kuwait	.6	427854.8	xx	xx	Spain	.3	3.47e+08	516	2042
Argentina	.6	2.97e+07	109	275	Cyprus	.28	825865.3	14	14
Qatar	.6	39462.3	xx	xx	Portugal	.27	6.03e+07	173	573
India	.58	3.40e+07	146	313	Austria	.25	2.99e+08	430	2241
Bulgaria	.58	2,32E+06	49	11	United Kingdom	.21	7.18e+08	591	2626
Philippines	.58	6,05E+06	40	106	Switzerland	.2	2.40e+08	401	1716
Latvia	.57	618028.9	17	xx	Australia	.19	1.04e+08	188	816
Lithuania	.57	804366.9	26	xx	Norway	.17	1.79e+07	106	243
Namibia	.57	19088.65	xx	xx	Luxembourg	.16	1.20e+07	45	186
Tunisia	.56	815062.4	15	22	New Zealand	.13	5687494	37	124
Romania	.56	7649867	106	60	Canada	.09	2.56e+08	201	645
Trinidad and Tobago	.55	2,15E+06	xx	xx	Netherlands	.07	2.74e+08	401	1674
Brazil	.54	1.66e+08	264	975	Sweden	.06	1.24e+08	225	755
Oman	.54	352528.7	xx	xx	Denmark	.04	5.03e+07	180	535
Senegal	.54	13170.65	xx	xx	Iceland	.03	39297.5	xx	xx
Guatemala	.53	1,61E+06	14	39	Finland	0	1.82e+07	112	211
Libya	.53	1.02e+07	xx	18					

Note: Descriptive statistics by country with average value of the corruption index over the period, total number of incumbents, total number of new entrants and total sales. "*xx*" when the number of incumbents or new entrants is smaller than ten.

* The corruption variable is centered in the estimation. The reported corruption index is made up of the average values computed *in-sample*. These indices differ from the transformed raw scores as the number of firms by country-year is not balanced.

Table 2: Summary statistics using alternative definitions of incumbent

Variable	Liberal Definition (44395 obs.)		Restrictive Definition (28856 obs.)	
	Mean	Std. Dev.	Mean	Std. Dev.
Log Foreign affiliates' sales	10.372	1.504	10.484	1.549
Corruption* $[0, 1]$	0.356	0.195	0.366	0.197
Investment risk $[0, 1]$	0.804	0.176	0.825	0.175
Incumbent $(0, 1)$	0.770	0.421	0.672	0.469
Corruption* $\times$ Incumbent	-0.012	0.166	-0.005	0.156
Log GDP	26.930	1.480	26.972	1.484
Log Distance	7.596	1.211	7.657	1.194
Stateborder $(0, 1)$	0.087	0.281	0.076	0.265
Common Language $[0, 1]$	0.139	0.346	0.110	0.313
Regional Trade Agreements $(0, 1)$	0.634	0.482	0.624	0.484
Common currency $(0, 1)$	0.278	0.448	0.288	0.453
Market Experience (continuous)	7.411	7.901	8.019	8.429

Note: The corruption variable is centered in the estimations.

Table 3: Effect of corruption on foreign affiliate sales (liberal definition)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005	LSDV	
Corruption	-0.724***	-0.531**	-0.368	-0.745**	-0.222	-0.356**	-0.265*
	(0.242)	(0.256)	(0.265)	(0.285)	(0.224)	(0.144)	(0.156)
Incumbent	0.893***	0.864***	1.098***	0.921***	1.081***	0.981***	0.946***
	(0.055)	(0.065)	(0.073)	(0.092)	(0.097)	(0.032)	(0.035)
Corruption × Incumbent	0.471**	0.426*	0.535**	0.897**	0.596**	0.444***	0.436***
	(0.216)	(0.231)	(0.214)	(0.343)	(0.270)	(0.133)	(0.129)
Investment risk	0.523	0.536***	0.593	0.696**	0.366	0.593***	0.104***
	(0.380)	(0.185)	(0.386)	(0.266)	(0.263)	(0.152)	(0.024)
Log GDP	0.329***	0.345***	0.354***	0.357***	0.367***	0.340***	0.605***
	(0.029)	(0.031)	(0.034)	(0.038)	(0.037)	(0.030)	(0.109)
Log Distance	-0.129*	-0.101***	-0.113***	-0.101**	-0.040	-0.107***	-0.136**
	(0.065)	(0.036)	(0.038)	(0.044)	(0.049)	(0.033)	(0.067)
Stateborder	0.098	0.164***	0.177**	0.167**	0.258***	0.173***	0.138***
	(0.060)	(0.049)	(0.076)	(0.080)	(0.095)	(0.050)	(0.050)
Common Language	0.227**	0.270***	0.201**	0.315***	0.343**	0.216**	
	(0.094)	(0.078)	(0.084)	(0.088)	(0.136)	(0.084)	
Regional Trade Agreements	-0.134	-0.187**	-0.200**	-0.240**	0.049	-0.108	-0.036
	(0.170)	(0.088)	(0.097)	(0.104)	(0.108)	(0.076)	(0.033)
Market Experience	0.057***	0.054***	0.050***	0.042***	0.063***	0.053***	0.064***
	(0.018)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.017)
Common currency		0.109*	0.026	0.089	-0.030	-0.008	-0.059
		(0.059)	(0.069)	(0.078)	(0.072)	(0.050)	(0.036)
Firm FE	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes
Observations	6,259	5,342	4,583	3,490	3,375	44,395	44,395
Adj R^2	0.496	0.506	0.503	0.510	0.559	0.516	0.539
F-Test: Corruption+Interaction=0	1.290	0.385	0.693	0.459	2.994	0.476	2.844
p-value	0.259	0.536	0.407	0.500	0.0871	0.492	0.0946

Note: Standard errors clustered at country and firm levels in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. OLS regressions for all specifications with firm fixed effects. Least Square Dummy Variable regressions with firm×year and/or country fixed effects. The number of observations reported in the table corresponds to the actual observations used in estimations, i.e., after dropping singleton groups.

Table 4: Effect of corruption on foreign affiliate sales (restrictive definition)

	(1) 1997	(2) 1999	(3) 2001	(4) 2003	(5) 2005	(6) LSDV	(7)
Corruption	-0.684**	-0.458*	-0.297	-0.797***	-0.219	-0.287*	-0.312*
	(0.290)	(0.262)	(0.285)	(0.292)	(0.232)	(0.154)	(0.179)
Incumbent	1.012***	1.044***	1.290***	1.027***	1.203***	1.127***	1.085***
	(0.067)	(0.071)	(0.080)	(0.104)	(0.096)	(0.040)	(0.041)
Corruption × Incumbent	0.612**	0.501**	0.532**	0.930***	0.646**	0.504***	0.525***
	(0.260)	(0.245)	(0.244)	(0.349)	(0.303)	(0.166)	(0.162)
Investment risk	0.752*	0.793***	0.745*	0.639**	0.395	0.701***	0.106***
	(0.407)	(0.228)	(0.414)	(0.295)	(0.278)	(0.162)	(0.012)
Log GDP	0.359***	0.359***	0.363***	0.369***	0.370***	0.355***	0.664***
	(0.035)	(0.037)	(0.037)	(0.037)	(0.040)	(0.032)	(0.120)
Log Distance	-0.096	-0.123***	-0.093**	-0.103**	-0.045	-0.098***	-0.110
	(0.077)	(0.042)	(0.045)	(0.045)	(0.056)	(0.036)	(0.097)
Stateborder	0.131	0.212***	0.194	0.151*	0.267**	0.205***	0.159**
	(0.106)	(0.069)	(0.121)	(0.091)	(0.113)	(0.071)	(0.073)
Common Language	0.354***	0.328***	0.253***	0.293***	0.320**	0.284***	
	(0.074)	(0.069)	(0.095)	(0.090)	(0.128)	(0.073)	
Regional Trade Agreements	-0.035	-0.114	-0.117	-0.210**	0.049	-0.056	-0.006
	(0.191)	(0.119)	(0.106)	(0.099)	(0.119)	(0.074)	(0.037)
Market Experience	0.053***	0.048***	0.042***	0.042***	0.062***	0.050***	0.060***
	(0.017)	(0.015)	(0.016)	(0.015)	(0.015)	(0.015)	(0.018)
Common currency		0.035	-0.016	0.081	-0.060	-0.050	-0.072*
		(0.080)	(0.083)	(0.077)	(0.068)	(0.050)	(0.039)
Firm FE	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes
Observations	2,819	3,072	2,957	2,717	2,880	28,856	28,856
Adj R^2	0.575	0.559	0.551	0.540	0.583	0.559	0.580
F-Test: Corruption+Interaction=0	0.0770	0.0475	0.786	0.316	2.955	2.398	3.187
p-value	0.782	0.828	0.378	0.575	0.0892	0.125	0.0772

Note: Standard errors clustered at country and firm levels in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. OLS regressions for all specifications with firm fixed effects. Least Square Dummy Variable regressions with firm×year and/or country fixed effects. The number of observations reported in the table corresponds to the actual observations used in estimations, i.e., after dropping singleton groups.

Table 5: Samples of incumbent and new entering firms (restrictive and liberal definitions)

| | (1) | (2) | (3) |
| | Incumbent | | New Entrant |
	Liberal Definition	Restrictive Definition	
Corruption	0.0672	0.1865	-0.2232*
	(0.142)	(0.172)	(0.117)
Investment risk	0.6050***	0.7543***	0.8212***
	(0.182)	(0.229)	(0.164)
Log GDP	0.3678***	0.3977***	0.2876***
	(0.035)	(0.041)	(0.025)
log Distance	-0.1140***	-0.1024*	-0.1036***
	(0.041)	(0.053)	(0.033)
Stateborder	0.1933***	0.2260**	0.1245***
	(0.059)	(0.093)	(0.047)
Common Language	0.2046**	0.2996***	0.2673***
	(0.093)	(0.089)	(0.068)
Regional Trade Agreements	-0.1418	-0.0936	-0.0363
	(0.095)	(0.108)	(0.062)
Common currency	-0.0135	-0.0621	0.0074
	(0.057)	(0.066)	(0.049)
Market Experience	0.0542***	0.0503***	0.0179**
	(0.016)	(0.016)	(0.008)
Firm × Year FE	Yes	Yes	Yes
Observations	33079	18598	7951
Adj R^2	0.497	0.526	0.513
Firm × Year FE	Yes	Yes	Yes

Note: Standard errors clustered at country and firm levels in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. Least Square Dummy Variable regressions with firm×year and/or country fixed effects. The number of observations reported in the table corresponds to the actual observations used in estimations, i.e., after dropping singleton groups.

Appendix Not To Be Published

Table 6: Baseline regressions: Alternative definitions of the corruption index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005		LSDV
Sample				Liberal definition			
Data source				Heritage			
Corruption	-0.037	-0.006	-0.024	-0.051*	-0.012	-0.013	-0.007
	(0.025)	(0.033)	(0.024)	(0.029)	(0.021)	(0.018)	(0.015)
Incumbent	0.862***	0.869***	1.065***	0.925***	1.061***	0.976***	0.938***
	(0.053)	(0.063)	(0.073)	(0.094)	(0.098)	(0.030)	(0.033)
Corruption × Incumbent	0.023	0.025	0.052**	0.082**	0.072***	0.040***	0.039***
	(0.017)	(0.026)	(0.021)	(0.033)	(0.023)	(0.013)	(0.012)
Firm FE	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005		LSDV
Sample				Restrictive definition			
Data source				Heritage			
Corruption	-0.029	-0.002	-0.015	-0.055*	-0.015	-0.012	-0.013
	(0.027)	(0.034)	(0.026)	(0.030)	(0.022)	(0.018)	(0.016)
Incumbent	0.971***	1.047***	1.255***	1.033***	1.182***	1.124***	1.076***
	(0.069)	(0.069)	(0.081)	(0.106)	(0.097)	(0.037)	(0.039)
Corruption × Incumbent	0.016	0.015	0.063**	0.086**	0.075***	0.045***	0.045***
	(0.020)	(0.027)	(0.025)	(0.034)	(0.024)	(0.016)	(0.014)
Firm FE	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005		LSDV
Sample				Liberal definition			
Data source				Transparency International			
Corruption	-0.555**	-0.449*	-0.113	-0.561*	-0.090	-0.253*	-0.452
	(0.213)	(0.251)	(0.266)	(0.288)	(0.216)	(0.144)	(0.278)
Incumbent	0.831***	0.839***	1.055***	0.929***	1.088***	0.961***	0.925***
	(0.052)	(0.063)	(0.070)	(0.088)	(0.097)	(0.032)	(0.034)
Corruption ×Incumbent	0.290	0.326	0.493**	0.904***	0.725***	0.415***	0.435***
	(0.188)	(0.243)	(0.226)	(0.314)	(0.224)	(0.132)	(0.126)
Firm	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005		LSDV
Sample				Restrictive definition			
Data source				Transparency International			
Corruption 1 iso	-0.395	-0.384	-0.062	-0.630**	-0.114	-0.207	-0.589*
	(0.249)	(0.267)	(0.300)	(0.298)	(0.225)	(0.152)	(0.328)
Incumbent	0.944***	1.018***	1.241***	1.040***	1.210***	1.115***	1.068***
	(0.067)	(0.070)	(0.077)	(0.101)	(0.095)	(0.038)	(0.040)
Corruption ×Incumbent	0.263	0.293	0.593**	0.942***	0.761***	0.509***	0.517***
	(0.236)	(0.257)	(0.268)	(0.329)	(0.243)	(0.158)	(0.147)
Firm	Yes	Yes	Yes	Yes	Yes	No	No
Firm × Year FE	No	No	No	No	No	Yes	Yes
Country FE	No	No	No	No	No	No	Yes

Note: Standard errors clustered at country and firm levels in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. OLS regressions for all specifications with firm fixed effects. Least Square Dummy Variable regressions with firm×year and/or country fixed effects.

Table 7: Baseline regressions: Alternative clustered standard errors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005	LSDV	
Sample				Liberal definition			
Corruption	-0.724	-0.531	-0.368	-0.745	-0.222	-0.356	-0.265
country level	(0.249)***	(0.269)*	(0.284)	(0.244)***	(0.187)	(0.158)**	(0.166)
firm level	(0.204)***	(0.194)***	(0.205)*	(0.270)***	(0.235)	(0.073)***	(0.109)**
Incumbent	0.893	0.864	1.098	0.921	1.081	0.981	0.946
country level	(0.059)***	(0.060)***	(0.063)***	(0.076)***	(0.095)***	(0.030)***	(0.032)***
firm level	(0.043)***	(0.062)***	(0.075)***	(0.094)***	(0.086)***	(0.029)***	(0.030)***
Corruption × Incumbent	0.471	0.426	0.535	0.897	0.596	0.444	0.436
country level	(0.213)**	(0.234)*	(0.214)**	(0.319)***	(0.260)**	(0.139)***	(0.129)***
firm level	(0.221)**	(0.207)**	(0.219)**	(0.292)***	(0.241)**	(0.102)***	(0.106)***
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1997	1999	2001	2003	2005	LSDV	
Sample				Restrictive definition			
Corruption	-0.684	-0.458	-0.297	-0.797	-0.219	-0.287	-0.312
country level	(0.298)**	(0.279)	(0.306)	(0.249)***	(0.198)	(0.170)*	(0.194)
firm level	(0.240)***	(0.199)**	(0.219)	(0.280)***	(0.240)	(0.080)***	(0.117)***
Incumbent	1.012	1.044	1.29	1.027	1.203	1.127	1.085
country level	(0.070)***	(0.062)***	(0.067)***	(0.084)***	(0.092)***	(0.036)***	(0.034)***
firm level	(0.061)***	(0.074)***	(0.086)***	(0.109)***	(0.090)***	(0.037)***	(0.039)***
Corruption × Incumbent	0.612	0.501	0.532	0.93	0.646	0.504	0.525
country level	(0.266)**	(0.253)*	(0.237)**	(0.323)***	(0.298)**	(0.176)***	(0.173)***
firm level	(0.271)**	(0.224)**	(0.257)**	(0.311)***	(0.255)**	(0.130)***	(0.124)***

Note: Standard errors clustered at country and firm levels in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. OLS regressions for all specifications with firm fixed effects. Least Square Dummy Variable regressions with firm×year and/or country fixed effects.