# The Effect of Local Corruption on Ownership Strategy

# in Cross Border Mergers and Acquisitions

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**Abstract**
This paper focuses on how corruption affects an important internationalization behavior of firms: the extent of control - wholly owned subsidiary or equity participation - exercised by firms involved in cross-border mergers and acquisitions.
We analyze individual data on cross-border M&A carried out by firms located in the seven largest European countries, and operating in the 10 SIC divisions. We thus consider 20,034 international M&A deals completed in 137 host countries over the period 2000-2012.
We find that the relationship between the level of corruption in the host country and the firm's probability of opting for full control mode in cross-border M&A is U-shaped. Moreover, we add to the literature by demonstrating that industry relatedness between acquirer and target and the level of connectivity between home and host countries moderates the relationship between corruption in the host country and the level of control.

**1. Introduction**

Multinational companies constantly need to evaluate foreign market entry strategies (both whether and how to enter). From this perspective, cross border mergers and acquisitions (M&A) are an important strategic corporate initiative that enables firms to extend their businesses, leverage their capabilities, and sometimes diversify into related markets. Among various strategic choices, corporate control is a key element in the implementation of an international acquisition strategy (Ruiz-Moreno et al. 2007). Indeed, cross-border M&A can be carried out on full control modes based on sole ownership and shared control modes based on collaboration (Anderson and Gatignon 1986). These decisions are particularly critical because they often involve significant resource commitments, including managerial expertise and coordination time, and, once established, have long-term consequences for the company (Brouthers and Hennart 2007).

A review of research in international M&A domain shows that firm's decision control-wise depends to a considerable extent, on the level of external uncertainty in the target country.

Recently, scholars have recommended studying the effect on ownership entry mode of the quality of the target country's overall governance infrastructure, or of its most important dimensions (Slangen and Van Tulder 2009). Among these dimensions, one of the most relevant, due to its broad effect on the economy, is corruption.

Corruption can be thought of as anything that counters the legal system or that can be viewed as an inappropriate business practice (Lambert-Mogiliansky et al. 2007). There have been important works done in the area, both conceptual and empirical. Some of them have taken corruption as an economic externality that raises the cost of doing business abroad in general (e.g. DiRienzo, Das, Cort and Burbridge, 2007 and Chen, Ding and Kim, 2010) and specifically in the realm of M&A (see Weitzel and Berns, 2006), while others have discussed it comparatively to other host-country-level variables (e.g. Rodriguez, Siegel, Hillman and Eden, 2006). The increasing trend toward international acquisitions has created the need to address whether the extant conceptual framework and empirical evidence on international acquisitions and corruption are adequate in explaining the firm's decision control-wise.

In this vein, this paper analyzes how corruption affects an important internationalization behavior of firms: the extent of control - wholly owned acquisition (WOA) or equity participation - exercised by firms involved in cross-border M&A.

The role of corruption in the case of cross-border M&A and ownership choice shows contradictory results. Smarzynska and Wei (2002) find that the level of corruption of the host country increases the risk perceived by foreign investors and thus reduces their tendency to invest through WOA. However, Uhlenbruck et al. (2006) show that the more pervasive the level of

perceived corruption in the host country, the greater the control parent companies exert over their subsidiaries. Finally, and in sharp contrast with the above, Asiedu and Esfahani (2001) do not detect any significant impact of corruption on ownership choice for US multinational companies. These ambiguous findings imply that the theory is in need of careful reexamination and that the linear relationship between the level of corruption of the host country and the behavior related to corporate control should be reconsidered.

Moreover, as researchers have emphasized (Canabal and White 2008; Freckleton et al. 2012), moderating variables may help explain these inconsistent findings. Corruption, when considered, has been analyzed in the literature on entry mode choice, almost always in an isolated way, therefore ignoring the existence of potential interaction effects between corruption and other external variables, such as the level and intensity of cultural and economic connections between the home and host countries. In other words, the moderating and intensifying effect of one of these variables on the role played by the other variable has been overlooked.

The effects of corruption on the extent of target control are analyzed in this study by considering firm individual data on cross-border M&A carried out by companies located in the seven largest European countries and operating in the 10 SIC divisions: Germany, France, Italy, the Netherlands, Spain, Sweden and the United Kingdom. We thus consider 20,034 international M&A deals completed in 137 different host countries between 2000 and 2012.

With respect to extant knowledge, the paper offers three main contributions.

First, we find that the relationship between the level of corruption in the host country and the firm's probability of opting for full control mode in cross-border M&A is U-shaped. Such a non-linear relationship suggests that ownership strategy will change depending on whether the corruption is low, moderate or high. More specifically, we argue that although firms prefer investing through a wholly-owned subsidiary at both low and high levels of corruption, firms opt for equity share at moderate levels of corruption.

Second, we add to the literature by demonstrating that the extent to which the industry of the acquirer is related or unrelated to that of the target firm (i.e. industry relatedness) and the level of connectivity (in terms of trade intensity, historical linkage, and geographic proximity) between home and host countries moderates the relationship between corruption in the host country and the level of control. Thus, with a high level of industry relatedness between acquirer and target and in highly connected countries, acquiring firms favor a WOA mode, whereas equity participation is preferred for low levels of industry relatedness and in the case of loosely connected countries. These conditions are geared toward allowing multinational enterprises to tackle information asymmetries more effectively. In addition, controlling for a wide range of firm (status, industrial

sector, past experience, ownership structure) and country (culture, legal strength, risk, democracy, and business easiness) features, we find that trade intensity exerts the strongest moderating effect on corruption.

From this perspective, our study complements economic choice-based location research by adding contextual dimensions at the macro level that affect decisions on ownership structure at the firm level. By doing so, we hope to offer insights for multinational corporations and managers involved in cross-border M&A.

Third, by adopting an estimation strategy based on acquirer country samples we account for the well-documented heterogeneity of countries. Accounting for this heterogeneity enables us to avoid imposing the restrictive assumption of equality of explanatory variable coefficients across countries and we therefore provide evidence of how each explanatory variable exerts varying effects on the probability of performing a full acquisition depending on the country analyzed.

The paper is structured as follows. We present the central concepts, discuss the related literature and introduce the hypotheses in section 2. We then describe the dataset and the empirical methodology in section 3. We present our main results in section 4, and discuss the implications of our findings and possibilities for future research in section 5.

## 2. Theory and hypotheses

Corruption, defined as any action against the legal system leading to inappropriate business practices, is widely recognized to affect nearly all aspects of social and economic life (Kaufmann and Kraay, 2008). Examples of corruption include the embezzlement of public funds, the sale of government property by public officials, bribery, patronage and nepotism. Corruption, which is present at all levels of society, is found to inhibit economic growth (Mauro 1995), reduce the legitimacy of government (Anderson and Tverdova 2003), and affect political and societal stability (Abed and Gupta 2002). Available data indicate clearly that corruption represents a challenge not only for many emerging economies but also for many wealthy countries (Bellos and Subasat, 2012). The World Economic Forum estimates that the cost of corruption equals more than 5% of global GDP (US$ 2.6 trillion) and increases the cost of doing business by up to 10%, on average (OECD, 2013). For this reason, when considering cross-border M&A, host country corruption is viewed as an additional cost of doing business in that country, and it is taken into account in making strategic decisions. Habib and Zurawicki (2002) suggest that although foreign investors may shun corruption because they believe it is morally wrong on ethical grounds, they may also attempt to avoid corruption because it renders local operations risky, difficult to manage, and costly. Shleifer and

Vishny (1993), Bliss and Di Tella (1997) and Aidt (2003) claim that corruption in an economy acts like a "grabbing hand" that increases the costs of carrying out business activities.

On the other hand, Lui (1985), Beck and Marher (1986), Bjorvatn and Soreide (2005) argue that under certain circumstances, bribes can allow international firms to circumvent bureaucratic obstacles at relatively little expense and thus function more efficiently. Bjorvatn and Soreide (2005) show that rather than an obstacle to business, corruption could be an efficient "lubricant" for rigid economic regulation and red tape and will not necessarily discourage foreign investment.

The sharp increase in cross-border M&A in the last few decades has motivated many theoretical analyses of optimal business strategies, control-wise. International management researchers (Chari and Chang 2009) maintain that uncertainty, risk, expected cost and revenues are the main criteria that firms use to make educated choices in cross-border M&A. Generally, a full control mode implies high commitment and high business risk but allows for the highest share of return on investment (Ekeledo and Sivakumar 2004). Full control mode grants acquiring firms the power to avoid a partner's potential opportunistic behavior but can increase the cost of contracting (Egger and Winner 2005). A shared control, on the other hand, may be chosen because it brings less commitment and risk and allows for an easier and faster reversion of the investment choice.

The relationship between corruption and ownership choice in cross-border M&A has not received enough attention, and the literature on this topic is still limited.

One of the earliest studies on this topic was conducted by Smarzynska and Wei (2002). In their cross-sectional analysis of international investments in Eastern Bloc countries, high corruption of the host country resulted in a preference for shared control over WOA. The authors argued that choosing a lower level of ownership helps reduce commitment and associated risk in the invested projects and suggest that it may be a sensible reaction to the unstable and risky economy of Eastern Bloc countries in the transition environment of the 1990s.

Building on institutional theory, Uhlenbruck et al. (2006) show that multinational companies respond to pervasive and arbitrary corruption in host countries by selecting particular types of equity and non-equity modes of entry. Using data on 220 telecommunications development projects in 64 emerging economies, they find that firms adapt to the pressures of corruption by entering into joint ventures and that firms use partnering as an adaptive strategy to participate in markets despite corruption.

Tekin-Koru (2006) found that firms from less corrupt countries, compared to their peers from equally or more corrupt countries, prefer WOA to shared control as their entry strategy. Duanmu (2011) examined how corruption distance influences the choice between WOA and joint ventures in the case of multinational companies in China and found that acquiring firms from

countries that are less corrupt than China prefer WOA to joint ventures. Duanmu found that the larger the corruption distance between their home countries and China, the more likely it was that acquiring firms would favor WOA.

Finally, Asiedu and Esfahani (2001) do not detect any significant impact of corruption on ownership choice for US multinational companies.

Based on the international ownership strategy literature, firms' decisions depend on the trade-off between the benefits of shared ownership and the costs of whole integration (Anderson and Gatignon 1986; Hennart and Reddy 1997). Costs and benefits are linked with perceived external uncertainty. As researchers have found, governance quality dimensions, such as corruption, predominantly measure variations in the external uncertainty associated with WOA, and not variations in the internal uncertainty associated with shared ownership (Slangen and Van Tulder 2009). We argue that at low levels of corruption, the benefits of total ownership balance its costs (I feel safe and I am available to buy all). Indeed, a higher level of control is necessary to reduce costs involved in cross-border acquisitions (Madhok 1997) and allows foreign investors to acquire and access complex and organizationally embedded knowledge (Barkema and Vermeulen 1998). Despite these considerations, from low to moderate level of corruption, the costs outweigh the benefits. Such costs are a result of the greater "environmental uncertainty" associated with higher levels of corruption. Studies on corruption and international investment assume that foreign firms are outsiders in host country corruption and sometimes seek local partners to gain access to the host market (e.g. Smarzynska and Wei 2000; Uhlenbruck et al. 2006). Lambsdorff (2002), who argues that firms in corrupt environments often use brokers, intermediaries and local partners, supports this assumption.

Moreover, it is costly for acquiring firms to develop expertise on how to address bribery in the host country because there are no visible guides that can provide knowledge about how to bribe successfully, and the know-how is embedded and specific to the local system. In addition to being illegal, corruption is opaque; it requires secrecy to be effective (Shleifer and Vishny 1993). Thus, engaging in bribery requires an understanding of the host country (Donaldson 1996).

From this perspective, cross-border acquiring companies can opt for share control to seek local partnerships as a means of obtaining the necessary "skills" and "networks" to navigate a corrupt local environment (Canabal and White 2008; Brada et al. 2012). These actions would reduce the costs of learning how to manage corruption in the country.

When the level of corruption rises from moderate to high, the cost of maintaining a local partner and deciding on a shared form of control outweighs the benefits. On one hand, the high level of corruption means that corruption is institutionalized (Gabbioneta et al. 2013). Public and

government officials establish or maintain regulations and controls with the intent to facilitate corruption, which then becomes a source of income for them (Cheung, 1996). Acquiring firms prefer to opt for full ownership entry mode because the institutional context encourages forms of "direct" corruption, by facilitating its occurrence and providing opportunities (Gabbioneta et al. 2013; Neu el al. 2013). Moreover, in this contest, the intermediation of the local partner is less important and his presence represents for the firm additional costs of monitoring without specific advantages.

On the other hand, acquiring firms with full control can more easily swap existing managers and systems for its own people and systems that are more likely to identify with the goals of the foreign parent firm (Gaur and Lu 2007). From the acquiring firms' perspective, particularly those firms from transparent countries, a WOA provides them with more control over the way their business and operations are organized and conducted. The extra costs the acquiring firms may incur in addressing corrupt environments can be justified by considering the significant implications of protecting and sustaining their global image.

Firms choose tighter forms of control, such as WOA, in response to conditions of either low external uncertainty (Gooris 2014) or high external uncertainty in foreign markets (Erramilli et al. 2002). The share of control can serve as a risk-reduction strategy (Gatignon and Anderson 1988; Erramilli et al. 2002; Tihanyi et al. 2005) but only up to a specific threshold of corruption in the host country. These arguments suggest the following hypothesis:

*H1. The relationship between the probability of choosing the full control mode and the host country corruption level is U-shaped. As the corruption level increases, the probability of a whole share acquisition decreases up to a point, after which the relationship becomes positive.*

The relationship between the level of corruption in the host country and the control mode selected by acquiring firms in cross border M&A may be moderated by multiple factors related to both the companies and the context (Weitzel and Berns, 2006). Literature on cross-border M&A has shown that the choices between full or partial acquisitions are influenced by firms characteristics (Brouthers and Hennart 2007), as well as features of the target country characteristics (Hakkala and Svaleryd 2008; Canabal and White 2008). These may be referred to as internal (endogenous) and external (exogenous) factors (Di Guardo and Valentini 2007). Internal factors are organizational characteristics that are expected to reduce or increase the benefits of shared ownership and the costs of integrating the business strategy and operations of the target firm with the acquiring firm.

External factors are related to environmental characteristics that encourage organizations to operate more efficiently and effectively in the integration process (Damanpour et al. 2009).

Multiple studies dealing with the internal factors address relatedness as an antecedent of the control structural choice of M&A (Shimizu et al. 2004; Javorcik and Saggi 2010). In this perspective, the degree of similarity, or the industry relatedness, between the business activities of firms that are involved in the deal can affect the efficacy of the integration process. When an acquiring firm operates in the same markets of the target, they share similar knowledge and resource endowments, and they exhibit familiarity with each other's business capabilities and operations (Tang, Fisher, and Qualls, 2016).

Past knowledge of the acquiring firm may be, in the case of relatedness, more easily translated into a new business environment (Liu 2008; Iršová and Havránek 2013): in the case of a high level of industry relatedness the two firms may offer similar products and exhibit similar knowledge-sharing routines. On the contrary, when the acquiring firm and the target are in a different industrial setting the acquiring firm has to deal with both the country and the industry unfamiliarity (Yin and Shanley, 2008; Contractor, Lahiri, Elango and Kundu, 2014). Therefore, industry relatedness, which in some instances may reduce cultural and organizational barriers, may have an impact on the M&A cross-country acquisition choice. Chari and Chang (2009), for example, show that a lower level of industry relatedness, or sectoral distance, leads to lower shares of equity sought in host nations, and Contractor et al. (2014) emphasized that when acquisition takes place in related industries, the likelihood of a full acquisition is greater.

In light of these findings, we introduce industry relatedness between target and acquirer firms as a moderating variable for corruption. Indeed, acquiring firms should perceive acquisitions of industry related firms as less risky than acquisitions of industry unrelated firms. Full control entry mode is best suited for a firm entering a market with a business unit that is highly related to the core business of the parent firm. When the corruption level is low or when it is very high, the risk of full ownership is perceived less by acquiring firms if the acquisition is characterized by industry relatedness. These arguments suggest the following hypothesis:

*H2. Industry relatedness in cross-border M&A moderates the relationship between the level of corruption in the host country and the choice of whole acquisitions. For a high level of industry relatedness between the target and the acquirer, it is more likely that acquiring firms will favor a full control mode on an equal corruption basis. For a low level of industry relatedness between target and acquirer, acquiring firms are more likely to choose a shared control mode.*

Among the external factors that affect control-wise decisions in cross border M&A, environmental characteristics, such as cultural and economic connections between home and host countries and, specifically, trade intensity, historical linkage and geographic proximity, play important roles. We suggest that, with regard to the relationship between host country corruption and ownership choice, these environmental factors also act as moderating variables because: (1) existing linkages between home and host countries can have a direct effect on the risk perceived by acquiring firms; (2) the external context directly affects the costs and benefits associated with the integration process, and (3) the intensity of those linkages could either increase or decrease the ex-post costs associated with shared ownership at different host country corruption levels. As argued in the literature, the more we know or think we know about a country, the less uncertainty we experience as a result of our (presumed) lack of local knowledge (Habib and Zurawicki 2002).

Trade intensity, for example, is a measure of the openness in the business relationship between home and host countries. Openness is likely to favor entrants because it facilitates operations in the market, therefore making full ownership more attractive (Álvarez and Marin, 2010). When the home and host countries are characterized by a dense business connectivity, in terms of trade intensity, companies may be more likely to choose a strong resource commitment (Dunning and McQueen 1982) and opt for a WOA rather than shared control at the same level of corruption. Moreover, in countries whose economies are open to international trade, there is likely to be a higher percentage of foreign companies that may prefer conducting business with well-known companies or long-term suppliers. This makes full ownership in this country more attractive (Dunning and McQueen 1982; Contractor and Kundu 1998). Along the same line, organization theory suggests that the prior strategic choices of other firms provide information that firms can use to inform the formulation of their own strategies (Argote et al. 1990; Lieberman and Asaba 2006). Firms learn beyond their organizational boundaries by observing the behavior of other firms (Huber 1991), and the potential benefits of vicarious experience arise because private information is not always available (Jiang et al. 2013). The actions of other firms reveal information regarding the environment and the knowledge base of those firms (Argote et al. 2000). Thus, firms may directly acquire new practices or refine their own routines based on the perceived outcomes of other firms' actions (Haunschild and Miner 1997; Ingram and Baum 1997). Referring to the specific aim of our analysis, such firms' actions are related not only to ongoing trade relationships between acquirer and target countries but also to previous M&A activity conducted in the host country by firms located in the focal acquirer's country.

Given a choice between a familiar and a less familiar environment, firms will prefer the former (Davidson and McFetridge 1985); in this perspective, the greater the connectivity between

the two countries, the greater the likelihood that the acquirer's know-how about host country would reduce the perception of the magnitude of corruption.

In addition, engaging in known and similar markets reduces uncertainty to a point that when home and host country share strong historical linkage (measured, for example, by same language), they share a form of social capital that promotes economic contracting and trade (García et al. 2013). In fact, the uncertainty that decision makers experience related to a foreign country may stem not only from actual knowledge or information flows but also from the perception of familiarity with a foreign market. These perceptions are more important when it is more costly to obtain information about the potential trading partner and where it is more difficult to navigate the bureaucratic and commercial environment of the potential partner (Dunlevy, 2006). This gives rise to an important consideration: historical linkages between home and host countries are more valuable when destination markets are less transparent or more subject to corruption. This means that acquirers from countries strongly and historically linked with the host country can be less reactive and more tolerant to corruption in the hosting economy. Thus, given that connectivity decreases the perceived level of risk, a WOA mode becomes more likely for all levels of corruption.

Finally, several authors categorized "psychic distance" to assert that companies enter markets perceived to be psychologically closer before considering the remote ones (Johanson and Vahlne 1990). The literature suggests that geographic distance increases information asymmetry, impacting both ex-ante and ex-post negotiations between two cross-border parties (Grote and Rücker 2007; Ragozzino 2009) and, from this perspective, increasing the costs related to full control ownership. Moreover, high asymmetric information between acquiring and target firms affect the level of perceived corruption. However, geographic proximity can compensate for the difficulty in integrating firms from two distant countries, and reduces the costs and risks related to choosing a WOA (Malhotra and Gaur 2014).

These arguments suggest the following hypothesis:

*H3. The level of connectivity (trade, historical linkage and spatial proximity) between home and host countries moderates the relationship between the level of corruption in the host country and the choice of whole acquisitions. For a high level of connectivity between the host and home countries, acquiring firms are more likely to favor full control mode on an equal corruption basis. For a low level of connectivity, acquiring firms tend to prefer the equity participation mode on an equal corruption basis.*

Having stated our hypotheses, we now present the dataset, the empirical model and the estimation strategy.

## 3. Methodology

### 3.1 Sample description and data

We analyze international M&A completed between 2000 and 2012 and carried out by acquiring firms located in the seven largest European countries: France, Germany, Italy, Netherlands, Spain, Sweden and the United Kingdom. These countries are highly representative of the M&A activity of European firms. Moreover, over the last two decades, these countries have ranked within the top 15 countries in the world negotiating international M&A (Ahern et al. 2012; Malhotra et al. 2011), with the United Kingdom consistently ranked second after the US.

The sample data are collected from the Securities Data Corporation (SDC) Platinum database, which contains information on M&A deals and is updated daily using over 200 English and foreign language sources. We consider as target countries only the independent states, thus eliminating the overseas territories of the acquirer countries. To select only genuine cross-border deals, we eliminate all of the transactions that can be considered as internal reorganization operations of the multinational ownership structure. More specifically, we exclude the deals in which the target ultimate parent belongs to the acquirer's nation. As a matter of fact, preliminary investigation showed that in many cases, the ultimate parent for both the target and acquirer firms was the same multinational group (for instance Renault, Danone and Michelin for France; Bayer and Siemens in Germany; Barclays and HSBC for United Kingdom). In the same vein, we exclude the deals in which the acquirer ultimate parent company is foreign.

In the next step, we exclude the M&A deals for which the acquirer cannot be identified (i.e., investor group, creditors, undisclosed acquirer) or for which the information on the acquired shares is missing. The selection procedure yields a sample of 20,034 international M&A deals performed in 137 target countries. Table 1 reports the distribution over time and across countries of the cross-border transactions. The most acquisitions were completed by companies located in the United Kingdom (6656), followed by firms in Germany (3,528) and in France (3,369). The lowest number of foreign acquisitions was observed for Italian (1,099) and Spanish (1,261) companies.

Note that in the regression analysis, we consider the 12,546 deals completed between 2005 and 2012, whereas the deals completed between 2000 and 2004 are used to measure the past experience of the acquirer firms and the economic connection based on past M&A activity for acquirer-target

country pairs. The detailed description of each variable included in this study is reported in the Appendix.

## 3.2 Dependent variable

Following previous studies (Malhotra et al. 2011), the dependent variable in our empirical models is a binary variable that takes the value of 1 when at least 95% of the target ownership in the cross-border deal is acquired and zero otherwise. In 70% of the cases the M&A deals entail a full acquisition, but with a certain degree of variability across countries. Italy exhibits the lowest proportion (60%) and Sweden the highest (76.1%).

For robustness, we consider alternative definitions of the dependent variable: 1) the binary variable taking the value of 1 only for total acquisitions (100%) and zero otherwise, and 2) the binary variable taking the value of 1 for shares not less than 95% and zero for shares included in the range of 10% to 95%. In this way, we control whether our main results are maintained when we exclude the very low share acquisitions, which may be more related to financial and portfolio choices than to genuine productive purposes.

## 3.3 Explanatory variables

### 3.3.1 Corruption

The main explanatory variable of interest is the level of corruption in the target country. More precisely, we focus on the degree of corruption in the public sector as perceived by business people and country analysts. We employ the Corruption Perception Index (CPI) collected by Transparency International, which is an aggregate indicator that combines data on corruption from 13 independent and prominent institutions worldwide. Despite some researchers have emphasized the need to use more experience-based measures of corruption than the one collected by Transparency International, this index still offers a reliable measure of perceived corruption in different countries, which proved to significantly affect investors' decisions (Mauro, 1995; Treisman, 2007).

For the sake of clarity, we use the inverse of the original index so that low values indicate low levels of corruption (the best performers are Sweden, New Zealand and Denmark), and high values indicate a high degree of corruption (the worst situation is found in the Democratic Republic of Congo, Guinea and Iraq). Among the acquirer countries considered in this study, Italy is ranked the lowest, its ranking being 46 out of the 132 countries included in the index.

In Table 2, we report the ranking of the seven acquirer countries and the top and bottom three positions of the CPI distribution for all 137 countries in our sample.

As stated in the introduction, although we acknowledge that corruption may be related to the cultural features of a country, in this study we prefer to focus on corruption rather than on general measures of culture. The inherent economic dimension of corruption makes it more directly related to managerial decisions and practices, whereas cultural measures, if not specifically tailored for the study at hand, may capture any form of unobservable heterogeneity among countries (Tung and Verbeke 2010, Contractor et al. 2014).

For robustness, we consider an alternative indicator for the corruption index, which is represented by the "indulgence versus restraint" index developed by Hofstede et al. (2010) and based on the World Value Survey. Indulgence is supposed to be a distinctive feature of a society that allows relatively free gratification of basic and natural human drives related to the enjoyment of life. Conversely, restraint is indicative of a society that suppresses the gratification of needs and regulates it by means of strict social norms. With respect to the other dimensions of national culture proposed by Hofstede, this index has the advantage of being more easily related to firms' acquisition decisions. Indeed, this index has a strong relationship with the corruption index described above (the correlation coefficient is equal to 0.64), suggesting that more indulgent economies are more likely to have a relatively higher degree of corruption with respect to more restrained ones. Focusing on the seven acquirer countries, we find, as expected, that Italy has the most indulgent culture (ranking 27/85), whereas the Netherlands (71°), the United Kingdom (73°) and Sweden (79°) show a highly restrained orientation.

*3.3.2 Other institutional features*

When analyzing the impact of corruption on managerial equity control choices, it is necessary to take into account the institutional and legal framework of the target country. Because the corruption degree is likely to be correlated with such institutional characteristics, their omission in an empirical investigation could lead to the overestimation of the effect of corruption. As a proxy for the legal traits of the target country, we consider the "Strength of legal rights" index developed by the World Bank as part of the Doing Business project. It measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. In our sample, the countries with the highest protection are New Zealand, Singapore, Hong Kong and the UK, and the countries with the lowest protection are Bolivia, Syria and Venezuela. The worst position among the acquiring countries is again occupied by Italy (97/133 countries).

In our robustness analysis, we also consider three additional indices as proxies for the institutional environment, namely democracy, political risk and business ease indices.

The democracy indicator is provided by the Unified Democracy Scores (UDS) recently developed by Pemstein et al. (2010). This synthetic index is computed using a Bayesian latent variable approach from ten existing democracy scales, such as participation, inclusiveness, competitiveness, coerciveness, political and civil liberties, competitive elections, party competition, civilian supremacy, national sovereignty, freedom of organization, freedom of expression, and pluralism in the media. The highest scores are found for Switzerland, Denmark and the Netherlands, and the lowest for Libya, Qatar and Saudi Arabia.

Another important country feature that may influence cross-border M&A decisions is the degree of risk associated with each country. The indicator we use, computed by the Political Risk Service (PRS) group, is a composite index including several dimensions, such as government stability, socioeconomic conditions, investment profile, internal and external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. The lowest degree of risk is shown by Norway, Luxembourg and Switzerland, and the most unstable situation is found in Liberia, the Democratic Republic of Congo and Zimbabwe. Among the acquirer countries, Spain displays a relatively high degree of risk (56/121).

The "Ease of doing business" index, developed by the World Bank, ranks economies according to their capability to render the regulatory environment conducive to business activity (with low values indicating more favorable contexts). This is a composite index based on several components, such as starting a business, dealing with construction permits, getting electricity, registering property, getting credit protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. Countries where it is easier to perform business activities are Singapore, Hong Kong and New Zealand. Overall, the acquirer countries considered in this study have a good ranking, with the exception of Italy (67/134).

Table 2 reports the ranking information for each institutional characteristic discussed above. It is worth noting that the four institutional indices are highly correlated because they have in common the fundamental institutional features of the host country. However, being composite indicators, they also have their own distinctive dimensions, which to some extent overlap with the cultural national characteristics, particularly for the Democracy indicator. This aspect of the data allows us to account, at least indirectly, also for the cultural features of the countries, thus providing us with an additional way to assess the robustness of our results.

*3.3.3 Industry relatedness*

As highlighted in section 2, an important determinant of the acquirer's choice between full or partial ownership is the degree of connectivity between the firms or countries involved in the deal. At the firm level, such connectivity is related to internal organizational characteristics, which are expected to reduce the cost of integration between acquirer and target firms, consequently, to moderate the effect of corruption. Among such internal factors, a prominent role is expected to be played by industry relatedness. Industry relatedness measures whether the acquirer industry is similar to the target's one.

The indicators of industry relatedness are constructed on the basis of the economic activity of the bidder and the target firms making use of the Standard Industrial Classification (SIC) information. More specifically, we basically distinguish between two extreme cases, the acquirer and target firms are considered:

- highly industry related if they operate in the same industry, so they have the same 4-digit SIC code;
- industry unrelated if they operate in different economic divisions, so they have different 1-digit SIC code.

The intermediate cases represent the reference group.

Table 3 shows that, 33% of the deals in the entire sample are carried out at the same 4-digit SIC level, and this suggests that they are horizontal acquisitions. These types of deals are more common in countries such as Italy (42.3%) and Spain (40.6%), which are characterized by the existence of small- and medium-sized firms operating in traditional sectors. On the other hand, transactions between companies that are industry unrelated represent 32% of the sample and are particularly frequent in the United Kingdom (37.4%) and the Netherlands (34.3%). In such cases, the acquirer operates in an economic division (e.g., services) different from the bidder (e.g., manufacturing), thus indicating a conglomerate acquisition.[1]

*3.3.4 Connectivity*

At the country level, connectivity is induced by environmental and contextual factors – such as previous economic relationships, common historical traits and geographic proximity – which are expected to reduce the knowledge and information "distance" between the host and the home country, and thus may act as moderating factors of the effect of corruption on equity control

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[1] In the empirical analysis, we also consider intermediate degrees of industry relatedness that occur when firms operate in the same industry group (same 3-digit SIC code), or in the same major group (same 2-digit SIC code) or in the same division (same 1-digit SIC code).

decisions. Guided by previous empirical findings, in this study we focus on trade intensity, common language and spatial distance. The former is meant to proxy the degree of economic connectivity. We improve on this aspect with respect to previous empirical studies because we also consider as a proxy for country economic connectivity previous M&A activity performed by the acquirer country's firms in the host country and M&A deals completed by the focal acquirer firm in the target country (firm's specific past experience). In what follows, we describe in detail how we operationalize the different notions of connectivity mentioned above.

### 3.3.4.1. Connectivity based on previous experience

On average, one-third of the firms were engaged in repeated deals over the period considered, suggesting that past experience is a relevant factor in influencing firms' acquisition behavior. However, it is worth mentioning that empirical studies on M&A activity have provided contradictory results on the role of previous experience (Malhotra et al. 2011).

To account for the two possible forms of past experience listed above, we consider the deals completed during the 5 years preceding the focal acquisition and compute the corresponding indicators as binary variables, as follows:

- the dummy accounting for country pairs connectivity takes the value of 1 when firms located in the acquirer country completed M&A in the same target country in the past and zero otherwise;
- the dummy accounting for specific firm experience takes the value of 1 when the focal acquiring firm completed at least one M&A deal in the same target country in the past and zero otherwise.

We also compute a dummy to account for firm generic experiences. The dummy takes a value of 1 when the focal acquiring firm carried out other deals in other target countries and zero otherwise. This variable is included in the set of controls at the firm level.

In Table 4, we report the number of deals completed between 2005 and 2012 according to the three different types of experience. The most common case is previous experience gained by country pairs, which in the total sample involves nearly 98% of total cross-border M&A deals. Interestingly, there are relevant differences among countries: the UK has the highest proportion of repeated acquisitions in the same target country (98.6%), and Italy has the lowest (95.4%).

Considering firms' behavior, we notice that 32.5% of firms experienced an international deal in a country different from the focal acquisition one in the previous five years, with France showing the highest proportion of cases (41.9%) and Italy the lowest (26.5%).

Finally, firms with specific experience, i.e., acquiring firms that carried out at least an acquisition in the same target country in the past, are located in countries very active in international markets and with a remarkable share of large multinationals. The highest values are exhibited by the UK (23.7%), followed by Sweden (22.6%) and the Netherlands (20.3%). On the other hand, Italian and Spanish companies rarely repeated an acquisition in a country where they had previously operated.

### 3.3.4.2. Connectivity for country pairs

In addition to connectivity based on previous M&A activity, economic connectivity for country pairs is also accounted for by considering international trade relationships. These are proxied by the share of an acquirer country's total exports sold in the target country market. The overall average share is 5.7% (the lowest average value of export shares is recorded for Germany, 4.7% and the highest for the UK at 6%). The larger the share, the higher the reciprocal degree of openness between any two acquirer-target countries, which is expected to be positively related to the level of knowledge of the target country's economic context that acquiring firms can access and use in defining their ownership control strategies.

Historical connectivity is represented by the presence of a common language (Child et al. 2002). This persistent feature, extensively considered by the empirical literature on international economics (international trade, foreign direct investment, M&A), is considered a relevant facilitator of cross-border exchanges because it makes easier to acquire knowledge, and reduce cultural and institutional barriers between the countries involved in the deal. On average, 24% of the acquisitions are performed by firms located in countries that share the same language. This proportion rises to 47% when the acquirer is a UK firm and drops to 4% when the acquirer is an Italian firm.

Finally, connectivity in space is considered one of the most relevant environmental facilitating factors of M&A activity, and it is expected to act as a moderator of the corruption's adverse effects. Looking at the geographic direction of the deals, we can see from Table 5 that a large share (56.5%) of the deals is completed among European countries or among other OECD countries (25.7%). This confirms that geographic closeness makes countries more likely to engage in economic relationships, which, in turn, tends to reduce a-spatial distances by producing cumulative effects on the integration process. The average distance between the acquirer and target firms included in our sample is 4,035 kilometers, with a range defined by a minimum of 187 km for acquisitions carried out by Dutch companies and a maximum of 5,288 km for acquisitions completed by British firms. It is evident in Table 5 that there are relevant differences among

acquirer countries in their spatial patterns of acquisition. In the last column of Table 5 we also report the total number of target countries considered in our database. Between 2005 and 2012, acquisitions were completed in 137 foreign countries. The most globalized country is the United Kingdom, whose firms operate in 120 of the 137 countries included in the sample, followed by France (85) and Germany (82). Italian firms completed acquisitions in fewer countries (59).

## 3.4 Controls

All estimated models include controls at the firm level to account for characteristics of the acquirer and target companies related to their organizational status (listed, private, subsidiary, and independent) and to acquirers' past experiences.

Listed firms are, on average, larger than private ones and have access to a wider range of financial means to complete their acquisitions. This makes it easier for public companies to acquire larger shares of private firms and take greater risks. Interestingly, approximately half of the total acquisitions are completed by listed companies, whereas the highest share among target firms is represented by private companies (57.6%).

Most of the deals involve companies operating in the manufacturing division (33%), followed by the service sector (28%).

A set of year dummies is also included to control for international common shocks that may have affected global M&A activity.

## 3.5 Estimation approach

Table 6 reports the descriptive statistics and the correlation matrix for the variables included in the empirical analysis. Our examination of the correlation coefficients do not indicate that multicollinearity might be a concern in the estimation stage. Table 6 also suggests that full acquisition is negatively correlated with corruption, whereas a positive correlation is found for industry related acquisitions and with respect to the different dimensions of connectivity.

The analysis of the role played by corruption in determining the choice of performing a full or a partial cross-border acquisition is based on the estimation of Probit models. These are estimated by applying the maximum likelihood estimation method. The baseline model is specified as follows:

$Prob(Y_{AT}=1|X) = \Phi(Corruption_{TC}, Instit_{TC}, Ind\_Rel_{AT}, Exper_{A,TC}, Connect_{AC,TC}, Controls_A, Controls_T, Year_{AT})$     (1)

where $Y$ is the dependent variable, which takes the value of 1 when the acquirer firm ($A$) buys at least 95% of the shares of target firm ($T$) and zero otherwise, $X$ is the complete set of regressors and $\Phi$ is the cumulative function of the normal distribution. The regressors comprise the main explanatory variable of interest, the level of corruption ($Corruption_{TC}$) in the target country, other institutional features of the target country ($Instit_{TC}$), the variables describing the industry relatedness between the acquirer and the target firms ($Ind\_Rel_{AT}$), the specific experience of the acquirer firm in the target country ($Exper_{A,TC}$), the connectivity indicators between the countries involved in the cross-border deal ($Connect_{AC,TC}$), controls for both the acquirer and the target firm, and a complete set of year dummies.

The corruption variable will enter the model linearly and with a square term. On the basis of hypothesis H1, we expect a negative sign for the linear term and a positive sign for the square one. This would yield a U-shaped relationship, indicating a high probability that a full acquisition is preferred at both low and high levels of corruption, whereas a medium level of corruption is expected to favor partnership (lower probability of observing a WOA).

The probability of a WOA is expected to increase as the industry relatedness between the acquirer and the target firm increases. This would provide support to hypothesis H2 because operating in related industrial productive sectors tends to reduce the perceived degree of risk and uncertainty for the same level of corruption.

The same reasoning applies when we consider the degree of connectivity at the country level. As detailed in the previous section, this is measured along three different dimensions of economic, historical and natural links. In general, we expect that the higher the connectivity degree between two countries, the higher the probability that full acquisitions will be performed by their firms, thus supporting hypothesis H3.

By taking advantage of the large number of observations available in our sample, model (1) is estimated on the seven different samples defined by the deals performed by acquiring firms located in each of the seven largest European countries. We recall that for each country, at least one thousand observations are available over the whole period (2000-2012) and not less than 600 hundred observations for the estimation period 2005-2012 (see Table 1). The country with the largest sample is the UK (6656, 4180 observations). Given the high variability and the large number of countries (120 out of 136) where British companies engage in M&A deals, the UK sample is considered the most informative of firms' international control strategies.

In our analysis we account for heterogeneity of target country by considering a wide set of country specific characteristics, as discussed in the previous section. The estimation choice based on acquirer country-samples enables us to account also for the heterogeneity featured by home

countries. As a matter of fact, if countries' unobservable forms of heterogeneity are present, the estimation of the model performed on the whole sample may yield biased estimates. Moreover, acquirer country-specific estimation allows us to avoid imposing the restrictive assumption of equality of explanatory variable coefficients across countries. Such an implausible assumption would mask informative differences on the varying effects that the same variable can exert on the probability of performing a full acquisition depending on the country analyzed.

Another relevant advantage of our estimation strategy is related to the fact that it makes it unnecessary to compute distance measures for the acquirer-target country pairs with respect to institutional characteristics (corruption, legal strength). When the acquirer country does not change within the same sample, it is sufficient to include only the target country's institutional characteristics. This is a valuable aspect because by allowing for countries' differences from the onset, we are not required to address the controversial issues related to how institutional distances for the whole set of country pairs have to be constructed, normalized, weighted or allowed to have asymmetrical effects depending on the direction or perspective considered (the distance perceived by a Dutch firm investing in China is not the same distance faced by a Chinese firm investing in the Netherlands, Shenkar 2001, Boschma et al. 2016). For a thorough discussion of the debate on how to measure cultural and institutional distances, see Tung and Verbeke (2010), Shenkar (2001, 2012) and Zaheer et al. (2012).

## 4. Empirical results and discussion

### 4.1 Country-based models

In Table 7, we present the estimation results of the probit model (1) for each of the seven acquirer country samples. We first focus on the coefficient estimates for the corruption variable: the negative and significant coefficient for the linear term coupled with the positive coefficient for the squared term supports the existence of a nonlinear relationship between the probability of undertaking a full acquisition and the perceived level of corruption in the target country. This result is highly significant for five countries out of seven. The squared term is marginally relevant for only two countries, France and Spain. Focusing on the magnitude of the estimated coefficients for the corruption variables, it is worth highlighting the remarkable differences that they exhibit across the seven countries. The linear term ranges from -10.7 for the Netherlands to -4.69 for France, and the squared term from 3.13 for France to 14.7 for the Netherlands. Such high variability in the parameters confirm the sizeable differences that exist across countries, which would be concealed if estimation were performed on the whole sample. Such estimation would yield an estimate of -6.14

for the linear term and 6.10 for the squared term. These findings confirm the appropriateness of the subsamples estimation strategy that enables us to account for the high degree of country heterogeneity.

To enhance our understanding of the relationship between the extent of equity control and corruption, on the basis of the estimated models of Table 7, we compute the probability of performing a full acquisition for the whole spectrum of values that the level of corruption can take (from 0=low to 1=high corruption). This is expected to provide a more comprehensive picture with respect to the computation of marginal effects for just some specified corruption values. Figure 1 depicts how the probability of undertaking a WOA changes as the level of corruption increases. The curvilinear behavior is confirmed for all countries and, again, it is worth underlining the noticeable differences in the shape of the seven relationships. In particular, it is evident that the turning point varies across countries, indicating that the change in the full vs. partial (or vice versa) acquisition strategy crucially depends on the different perception of corruption that acquiring firms from different home countries have, on average. Therefore, although for very low or very high levels of perceived corruption all firms favor a WOA strategy, the middle regime is characterized by a considerable degree of variability.

The results discussed thus far provide strong empirical support for hypothesis H1, which is confirmed even when we allow for the highest possible degree of varying coefficients across countries. Therefore, when the level of corruption in the target country is low, the benefits of business integration prevail and the full acquisition strategy dominates. As the corruption level increases, the opposite occurs, making necessary a local partner to effectively face the external context so that the probability of undertaking a WOA decreases, but up to a threshold (the estimated minimum probability ranges from 0.36 for France to 0.55 for the Netherlands), after which it begins increasing again. This occurs because, as discussed in section 2, for high levels of corruption, the whole ownership mode allows the acquirer firm to have full management control, limiting the adverse effects induced by the opportunistic behavior of local partners and protecting the firm's global reputation.

Turning to the other institutional variable included in the models reported in Table 7, the legal rights strength indicator exhibits very different coefficients across countries. The expected positive effect on the probability of observing a full acquisition is highly significant for France and Sweden and marginally significant for Germany and Italy (p-value equal to 0.14). The strength of legal rights is ineffective for the Netherlands and Spain and has an adverse effect for the UK. This unexpected result may be because the indicator used may also proxy general forms of business and

administrative rigidities when referring to country pairs that include the UK, and such rigidities may increase the firm's integration costs.

The industry relatedness indicator exhibits a certain degree of variability across countries. When firms involved in an M&A deal operate in the same industry, a positive and significant coefficient is found for the UK, Spain and marginally for Sweden. In the case of France and Germany, the same coefficient is negative. However, if we allow for a lower degree of relatedness - same industry group relatedness for French acquisitions and same division relatedness for German ones - we obtain a positive and significant effect of industrial similarity on the probability of performing a WOA.[2] This result highlights not only the necessity of controlling for country differences but also for the optimal level of industry relatedness, which results from a different balance between a smooth and less costly integration process and the need to allow for some degree of diversity in the business activity being acquired.

When the firms are industry unrelated, so that they operate in different SIC divisions, the expected negative coefficient is found for six countries out of seven (the exception is Spain).

Focusing on UK deals, which, as explained in section 3, are expected to constitute the most informative sample, such as before we compute the probability of performing a full acquisition for different levels of corruption, but this time assuming two extreme scenarios: a) all deals involve highly industry related firms or b) industry unrelated firms. The behavior of the estimated probabilities is depicted in Figure 2, where for comparison purposes we also report the benchmark case, which was already shown in Figure 1. From the graph it is evident that industry relatedness acts as a moderating factor with respect to the adverse effects produced by corruption. This is particularly the case for the middle range regime when the perceived level of corruption is in the interval (0.4-0.8). Thanks to industry relatedness, the expected probability of undertaking a WOA increases by nearly 5 percentage points with respect to the baseline case. Thus, this evidence corroborates hypothesis H2.

It is also worth noting that industry unrelatedness does not exert opposite symmetric effects on the WOA probability. Although in this case the effects of corruption are intensified, the decrease in the probability does not exceed two percentage points.

The acquirer's specific experience in the target country is a factor that exhibits both the internal and external traits of the determinants of firms' control strategies. It is expected to have a positive effect on the probability of observing a WOA because previous M&A operations performed in the host country increase the knowledge of the context in which the acquirer operates and thus its ability to face risk and uncertainty. This expectation is confirmed in the case of the

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[2] It is worth noticing that estimation on the whole sample yields an insignificant coefficient for the high industry relatedness term. This "average" result conceals remarkable differences across countries.

Netherlands, Spain and Sweden, whereas it finds no empirical support in the models for France, Germany, Italy (no significant coefficients) and the UK (negative coefficient). However, for UK acquiring firms, beneficial effects are obtained by means of past generic M&A experience gained in target countries different from that of the focal acquisition. A similar result is found for Dutch and Spanish firms. As mentioned in section 3, in empirical studies on M&A activity, the evidence on the role of experience is rather controversial. Although it is expected to exert a positive effect on the response variable, it frequently has a negative impact or is irrelevant (see among many studies Malhotra et al. 2011; Chakrabarti and Mitchell 2013). These puzzling results may be due to the rare event characteristic of M&A, so that positive and significant effects may be expected only when the acquiring company has accumulated experience beyond a certain threshold (Boschma et al. 2015). This issue is certainly relevant and deserves further investigation.

Turning to connectivity at the country level, all three hypothesized forms of country relations enhance the likelihood of implementing full control cross-border acquisitions. As expected, the estimated coefficient exhibits a great deal of variability across countries. We first focus on the model for the UK. British acquiring firms benefit from the joint effect of economic, historical and geographic connectivity. Economic connectivity proxied by the degree of openness related to both trade relationships and past M&A activity is an effective determinant of a firm's WOA strategy and therefore acts as a powerful moderator of the adverse effects produced by corruption in the target country. This is depicted in Figure 3[3], where the baseline average probabilities are compared with those obtained by assuming the highest and lowest level of trade connection (graph A). The two opposite scenarios are constructed by assigning to all deals the highest (21%) or the lowest (0%) trade share observed in the sample. Analogous scenarios are constructed for previous M&A operations performed by British firms in each target country (graph B). In the case of economic connectivity established through trade relationships, in the most favorable scenario, the increase in the probability of performing a full acquisition range from nearly 13 to 27 percentage points with respect to the baseline scenario, with the highest effect being when the level of perceived corruption is in the range 0.5-0.6. When there are no international trade relationships between countries, the WOA probability may decrease by 7 to 12 percentage points, with the most sizeable effect being in the middle range (0.3-0.7) of the corruption level.

Additionally in the case of past M&A activity, we found an interesting result characterized by the existence of a remarkable asymmetry. Whereas previous acquisitions in the host country did not lead to sizeable increases in the WOA probability with respect to the baseline scenario, the lack

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[3] To save space, we report the graphs on the effects of the three dimension of country connectivity only for the UK sample.

of any past experience at the country level may reduce the probability by 13 percentage points. This result confirms previous evidence on the non-straightforward role played by past M&A experience, which calls for a thorough investigation. However, this goes beyond the scope of this paper and is left for future research.

Common language, being a proxy for sharing a wide range of similar cultural and historical features, is effective in reducing the degree of uncertainty and risk between the home and host countries, and thus makes more probable a full acquisition strategy and, at the same time, moderates the adverse effects of corruption. For British firms, for which the percentage of deals performed in same-language host countries is highest in our sample (47%), this evidence is depicted in graph C of Figure 3. It is worth noting that historical connectivity has a nearly symmetrical effect in the two opposite scenarios. The increase (decrease) in probability is estimated at approximately 5 percentage points with respect to the baseline scenario when the corruption level ranges between 0.3 and 0.8.

Geographic distance makes it significantly less likely that British firms will undertake a full acquisition. When we compare the different scenarios (Graph D in Figure 3) to assess the moderating role of spatial proximity on corruption, an asymmetric behavior becomes evident. Being close in space does not yield remarkable enhancements on the WOA probability, whereas being distant makes a shared control strategy more likely, in particular in the middle range of the corruption values, where the effects of corruption are exacerbated.

Turning to the other countries, the moderating role of economic connectivity is confirmed for France, Germany, Italy and Sweden, whereas it is insignificant in the case of the Netherlands and Spain. Contrasting results are found for the historical connectivity, which exhibits a positive coefficient for the Netherlands but a negative coefficient for France and Germany. As geographic distance increases, differently from British companies, German and Swedish firms seem to favor full control over shared control. When the target firm is distant, a full acquisition is expected to grant a better management of the information asymmetries between home and host countries.

Overall, our results offer empirical support to the hypotheses developed in section 2 on the role of corruption and the moderating effects of various forms of connectivity on the probability that full acquisitions will occur. However, our analysis shows also that the effects are not uniform across acquirer countries because differences with respect to the target countries are deeply rooted in the historical and institutional national features that determine a high degree of heterogeneity. Therefore, it is crucial to choose an estimation framework that allows for country-varying coefficients while controlling for firm-level factors that, if excluded, may induce within-country heterogeneity.

*4.2 Robustness analysis*

In general, the highly parameterized specification chosen for the empirical models proves adequate in representing the fundamental features of the phenomenon studied, as summarized at the bottom of Table 7 by the percentage of correctly classified outcomes, which is, on average, 77%. However, we investigate further the sensitivity of our results by performing a robustness analysis focused on the logistic functional form, the use of the indulgence variable in place of the corruption indicator and on the inclusion of additional covariates for institutional characteristics. We also carried out a robustness analysis related to two different definitions of the dependent variable.

All of the robustness checks are performed on the UK sample and are reported in Table 8. The main results are largely confirmed when the probit functional form is replaced by the logistic one. The only noticeable difference is the lower significance (12% level) of the coefficients associated with distance and acquirer's generic past experience.

As explained in section 3, the indulgence versus restraint indicator (Hofstede et al., 2010) can be considered as an alternative proxy for corruption because a higher level of indulgence is likely to be associated with widespread tolerance toward wrongdoings related to economic activity. The results[4] (second column of Table 8) on the linear (negative coefficient) and square (positive coefficient) of the indulgence variable confirm the evidence discussed in the previous section on the nonlinear relationship between the extent of ownership control and the level of corruption. However, the latter variable should be preferred because of its more specific economic content, which is less confounded and influenced by other cultural or social characteristics of the host country.

Turning to institutional characteristics, which are related to democracy, political risk and ease of doing business, we found only that the latter two are significant and exhibit the expected sign, with political risk reducing the probability of observing a WOA and business ease increasing the full acquisition odds.[5] It is worth noting that the different specifications discussed thus far yield similar estimates for the other variable included in the model. Given the highly parameterized specification, the additional controls for institutional factors improve only marginally the model's predictive performance.

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[4] Note that in the econometric analysis, we use the inverse of the original indicator to produce a more straightforward interpretation of estimated coefficients. The inverse is also computed for the "ease of doing business" indicator.

[5] It is worth noting that, although the political risk indicator includes also information on corruption, both political risk and corruption variables exhibit significant coefficients in the model reported in Table 8. Thus, this results highlights the contribution of all the other several dimensions included in the political risk indicator.

Therefore, the robustness checks on the respondent variable are performed on the preferred specification of the model, which is the one reported in equation (1). The alternative definitions adopted for the binary dependent variable entail that it takes the value of 1 only for total acquisitions (100% of the shares) or, as before, that it take the value of 1 for shares not less than 95%, but we discard deals for which a share of less than 10% was acquired. Thus, in this latter case, we focus on the subset of M&A operations most likely to be motivated by productive purposes rather than financial or portfolio strategies. The results reported in the last two columns of Table 8 confirm previous evidence. There are no relevant differences in the estimated coefficients or in the estimated probabilities when comparing the models for the two alternative dependent variables with the preferred specification.


## 5. Discussion and conclusions

By analyzing data on the cross-border M&A carried out by firms located in the seven largest European countries (Germany, France, Italy, the Netherlands, Spain, Sweden and the United Kingdom), this paper focused on the relationship between ownership strategies in cross-border M&A and the level of corruption in the host country.

We found robust evidence suggesting that the level of corruption in the host country has a U-shaped effect on ownership strategies; whereas low or high corruption levels in the host country increase selection of WOA, and moderate corruption levels increase the selection of shared ownership.

The non-linear relationship shows the lack of one best investment strategy and implies that managers pay attention to the degree of local corruption when deciding their equity investment strategies. The costs and benefits associated with both high and low equity participation under different levels of corruption are evaluated in different ways. Thus, corruption may both encourage and discourage the selection of WOA. In terms of strategy implications, this study shows that even small changes in the corruption level matter.

Furthermore, the present study goes deeper by investigating how the proposed curvilinear relationship may be affected by industry relatedness between the target and the bidder and by the connectivity factors between the host and home countries. We empirically show that industry relatedness and connectivity factors affect the aforementioned relationship at all levels of corruption. In a dynamic business environment, considering corruption relative to other dimensions will help managers implement complex analyses and refine country evaluation procedures.

In addition, by evaluating the specific features of the firms and countries encompassed in this study, (i.e. status, industrial sector, past experience, ownership structure for firms and culture, legal strength, risk, democracy, and business ease, for countries), we find that trade intensity, among all variables, exerts the strongest moderating effect on corruption. These results agree with the literature that shows that the existence of barriers to international trade and capital flows is associated with a higher corruption but also that a country's "natural openness" affects multinationals' ownership choices.

From this perspective, our study complements economic-choice-based location research by adding insight to the contextual dimensions at the macro level that affect decisions at the firm level (ownership strategies).

Given our research design, we were able to even out the country-related heterogeneity. Using estimation strategy on seven subsets of the data sampled by acquirer country, we were able to single out those otherwise difficult to capture effects that may influence ownership strategy in cross-border M&A and to focus on the level of corruption of the host countries.

Our analysis has a series of data related limitations, which, without compromising the overall robustness of the paper, suggest the results should, in some instances, be considered cautiously. First, our sample encloses the totality of international M&A carried out by acquiring firms located in the seven largest European countries between 2000 and 2012. Therefore, we do not distinguish between the majority of firms for which cross-border M&A is a rare and unique event, and those, much smaller in number, that habitually use M&A as a growth strategy. This characteristic may explain the puzzling results obtained when testing for the effects of firms' past experiences. In fact, although the M&A literature (Malhotra et al. 2011; Chakrabarti and Mitchell 2013) shows that the effects of past experience on ownership strategy may be expected only when the acquiring company has accumulated experience beyond a certain threshold, in our samples, this effect may be masked because one-timer acquirers outweigh the rest of the firms. This issue is relevant and deserves further investigation.

Secondly, starting from our results, it is worthwhile to examine whether the impact of corruption on the choice of control varies with the size of the company or the value of the deal. Addressing these issues would allow for a more thorough understanding of the effects of corruption.

Finally, given that our sample lack a proper longitudinal dimension it was not possible to analyze how the effects of the determinants of the WOA mode change over time. Future research, by focusing on data aggregated at the country or sectoral level, might shed light on the firms' dynamic learning process which leads them to properly appraise those host country or sectoral settings that enhance the probability of a successful foreign acquisition.

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**Appendix. Variable definitions and sources**

| Variables | Description | Primary source |
|---|---|---|
| **Dependent variable** | | |
| full acquisition | dummy = 1 if the deal results in the acquisition of majority shares (95% to 100%) | SDC |
| **Institutional conditions in the Target country** | | |
| corruption | Inverse of the Corruption Perception Index (CPI, 1=high to 10=low corruption), 2008 | transparency.org |
| legal strength | Strength of legal rights index (0=weak to 10=strong), 2008 | World Bank, Doing Business |
| culture | Inverse of Indulgence versus Restraint Index (1= indulgence to 100=restraint), 2006 | geert-hofstede.com |
| risk | Inverse Political Risk Index (1=high risk to 100=low risk), 2010 | prsgroup.com |
| democracy | Unified Democracy Scores Index (UDS) (-2=low to 2=high democracy), 2008 | unified-democracy-scores.org |
| business ease | Inverse Ease of doing business index (1=most business-friendly regulations), 2011 | World Bank, Doing Business |
| **Connectivity between Acquirer and Target countries** | | |
| economic | share of export of A country to T country over total A exports, 2004 | BACI |
| economic | dummy = 1 if A country has experienced M&A in T country in the previous 5 years | SDC |
| historical | dummy = 1 for country pair with common official primary language | CEPII.fr |
| natural | spatial distance in km between A and T countries | |
| **Industry relatedness between Acquirer and Target firms** | | |
| high relatedness | dummy = 1 if A and T operate in the same SIC-4 digit industry | SDC |
| unrelatedness | dummy = 1 if A and T operate in different SIC-1 digit divisions | SDC |
| **Acquirer firm connectivity** | | |
| firm specific | dummy = 1 if A firm has past experience in the previous 5 years in the T country | SDC |
| **Acquirer M&A experience** | | |
| firm generic | dummy = 1 if A has experienced M&A in other T countries in the previous 5 years | SDC |
| **Control dummies for characteristics of acquiror and target** | | SDC |
| listed | dummy = 1 if partner status is listed | SDC |
| private | dummy = 1 if partner status is private | SDC |
| subsidiary | dummy = 1 if partner status is subsidiary | SDC |
| independent | dummy = 1 if partner status is independent | SDC |

A=acquirer; T=target

**Table 1. Completed international M&A**

| Acquirer country | 2000-2012 | 2000-2004 | 2005-2012 |
|---|---|---|---|
| France | 3369 | 1221 | 2148 |
| Germany | 3528 | 1461 | 2067 |
| Italy | 1099 | 463 | 636 |
| Netherlands | 2138 | 781 | 1357 |
| Spain | 1216 | 415 | 801 |
| Sweden | 2028 | 671 | 1357 |
| United Kingdom | 6656 | 2476 | 4180 |
| Total | 20034 | 7488 | 12546 |

**Table 2. Ranking of country institutional characteristics**

| Country | Corruption (from low to high corruption) | Indulgence (from indulgence to restraint) | Legal rights (from high to low protection) | Democracy (from high to low democracy) | Business ease (from high to low ease) | Risk (from low to high risk) |
|---|---|---|---|---|---|---|
| France | 21 | 49 | 36 | 37 | 31 | 31 |
| Germany | 14 | 38 | 36 | 8 | 18 | 4 |
| Italy | 46 | 27 | 97 | 30 | 67 | 34 |
| Netherlands | 7 | 71 | 57 | 3 | 33 | 10 |
| Spain | 26 | 43 | 57 | 14 | 40 | 56 |
| Sweden | 1 | 79 | 36 | 6 | 8 | 8 |
| United Kingdom | 16 | 73 | 1 | 24 | 6 | 37 |
| 1st | Sweden | Egypt | New Zealand | Switzerland | Singapore | Norway |
| 2nd | New Zealand | Latvia | Singapore | Denmark | Hong Kong | Luxembourg |
| 3rd | Denmark | Ukraine | Hong Kong | Netherlands | New Zealand | Switzerland |
| 3rd last | Congo, D.R. | El Salvador | Bolivia | Libya | Congo, D.R. | Liberia |
| 2nd last | Guinea | Mexico | Syria | Qatar | Guinea | Congo, D.R. |
| last | Iraq | Venezuela | Venezuela | Saudi Arabia | Congo, R. | Zimbabwe |
| Number of countries | 132 | 85 | 133 | 136 | 134 | 121 |

## Table 3. Industry relatedness between A T firms
(2005-2012; % over total M&A)

| Acquirer country | high relatedness (same SIC4) | unrelatedness (different SIC1) |
|---|---|---|
| France | 36.6 | 27.2 |
| Germany | 31.1 | 29.8 |
| Italy | 42.3 | 28.8 |
| Netherlands | 30.7 | 34.3 |
| Spain | 40.6 | 28.1 |
| Sweden | 33.7 | 30.9 |
| United Kingdom | 29.8 | 37.4 |
| Total | 33.0 | 32.3 |

A=acquirer; T=target


## Table 4. Acquirer past 5 years experience in cross border M&A
(2005-2012; % over total M&A)

| Acquirer country | Connections A-T countries | Acquirer generic experience | Acquirer specific experience |
|---|---|---|---|
| France | 98.0 | 41.9 | 17.1 |
| Germany | 98.0 | 32.7 | 12.9 |
| Italy | 95.4 | 26.5 | 11.5 |
| Netherlands | 97.3 | 29.4 | 20.3 |
| Spain | 95.3 | 32.1 | 11.3 |
| Sweden | 97.6 | 36.1 | 22.6 |
| United Kingdom | 98.6 | 28.4 | 23.7 |
| Total | 97.9 | 32.5 | 18.9 |

A=acquirer; T=target


## Table 5. International M&A by acquirer country and target nation area
(2005-2012; % over total M&A)

| Acquirer country | EU27+ | OECD (No EU27+) | BRICS | Others | N. target countries |
|---|---|---|---|---|---|
| France | 60.1 | 19.6 | 11.4 | 8.9 | 85 |
| Germany | 74.1 | 9.8 | 9.8 | 6.4 | 82 |
| Italy | 39.0 | 48.0 | 7.0 | 6.0 | 59 |
| Netherlands | 71.6 | 9.5 | 9.1 | 9.7 | 76 |
| Spain | 48.4 | 28.5 | 10.4 | 12.7 | 67 |
| Sweden | 73.0 | 15.5 | 6.3 | 5.2 | 67 |
| United Kingdom | 43.0 | 37.8 | 9.1 | 10.1 | 120 |
| Total | 56.5 | 25.7 | 9.2 | 8.6 | 137 |

Note: UE27 include also Norway and Switzerland

**Table 6. Descriptive Statistics and Correlation Matrix**

| Full sample | Mean | Std. dev. | Min | Max | Correlation Coefficients | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 Full acquisition | 0.71 | 0.45 | 0 | 1 | 1 | | | | | | | | | | | |
| 2 Corruption | 0.17 | 0.09 | 0.11 | 0.77 | -0.242 *** | 1 | | | | | | | | | | |
| 3 Corruption square | 0.04 | 0.05 | 0.01 | 0.59 | -0.222 *** | 0.971 *** | 1 | | | | | | | | | |
| 4 Legal strength | 7.14 | 2.08 | 1.00 | 10.00 | 0.147 *** | -0.511 *** | -0.469 *** | 1 | | | | | | | | |
| 5 Industry high relatedness | 0.33 | 0.47 | 0 | 1 | 0.029 *** | 0.055 *** | 0.048 *** | -0.031 *** | 1 | | | | | | | |
| 6 Industry unrelatedness | 0.32 | 0.47 | 0 | 1 | -0.080 *** | -0.015 * | -0.008 | -0.003 | -0.485 *** | 1 | | | | | | |
| 7 Acquirer's specific experience in T country | 0.19 | 0.39 | 0 | 1 | 0.016 * | -0.041 *** | -0.033 *** | 0.089 *** | -0.048 *** | 0.004 | 1 | | | | | |
| 8 Acquirer's generic experience | 0.33 | 0.47 | 0 | 1 | -0.010 | 0.081 *** | 0.060 *** | -0.085 *** | -0.005 | -0.057 *** | -0.336 *** | 1 | | | | |
| 9 Economic connectivity (trade shares) | 5.67 | 5.06 | 0.00 | 21.12 | 0.225 *** | -0.395 *** | -0.362 *** | 0.257 *** | -0.019 ** | 0.002 | 0.165 *** | -0.170 *** | 1 | | | |
| 10 Economic connectivity (past M&A) | 0.98 | 0.14 | 0 | 1 | 0.077 *** | -0.229 *** | -0.230 *** | 0.121 *** | -0.052 *** | 0.021 ** | 0.071 *** | -0.062 *** | 0.158 *** | 1 | | |
| 11 Historical connectivity (common language) | 0.24 | 0.43 | 0 | 1 | 0.048 *** | -0.159 *** | -0.132 *** | 0.246 *** | 0.007 | 0.002 | 0.061 *** | -0.095 *** | 0.149 *** | 0.047 *** | 1 | |
| 12 Natural connectivity (spatial distance, km) | 4034.80 | 4074.53 | 187.40 | 19334.54 | -0.076 *** | 0.198 *** | 0.183 *** | 0.156 *** | 0.032 *** | -0.031 *** | 0.073 *** | 0.026 *** | -0.263 *** | -0.058 *** | 0.258 *** | 1 |

A=acquirer; T=target

**Table 7. Determinants of full acquisitions**

Dependent variable: Y = 1 when acquired shares > 95%, 0 otherwise

| | United Kingdom | | France | | Germany | | Italy | | Netherlands | | Spain | | Sweden | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE |
| **Institutional conditions in T country** | | | | | | | | | | | | | | |
| Corruption | -6.25 | 0.99 *** | -4.69 | 1.67 *** | -8.32 | 1.92 *** | -6.49 | 3.08 ** | -10.72 | 2.41 *** | -6.42 | 2.99 ** | -9.52 | 2.92 *** |
| Corruption square | 5.49 | 1.64 *** | 3.13 | 2.90 | 10.07 | 3.35 *** | 9.90 | 5.27 * | 14.66 | 4.06 *** | 7.42 | 5.39 | 11.08 | 4.85 ** |
| legal strength | -0.04 | 0.02 ** | 0.05 | 0.02 *** | 0.03 | 0.02 | 0.05 | 0.03 | -0.01 | 0.02 | 0.02 | 0.03 | 0.05 | 0.03 ** |
| **Industry relatedness between A-T firms** | | | | | | | | | | | | | | |
| high relatedness | 0.20 | 0.06 *** | -0.13 | 0.07 * | -0.15 | 0.08 * | -0.02 | 0.13 | 0.00 | 0.10 | 0.26 | 0.12 ** | 0.15 | 0.10 |
| unrelatedness | -0.22 | 0.06 *** | -0.17 | 0.08 * | -0.20 | 0.08 *** | -0.21 | 0.15 | -0.12 | 0.10 | 0.17 | 0.13 | -0.05 | 0.10 |
| **Acquirer firm connectivity** | | | | | | | | | | | | | | |
| specific experience in T country | -0.16 | 0.07 ** | 0.08 | 0.10 | -0.14 | 0.11 | -0.16 | 0.18 | 0.27 | 0.13 ** | 0.38 | 0.18 ** | 0.20 | 0.13 * |
| **Connectivity between A-T country pairs** | | | | | | | | | | | | | | |
| economic (trade shares) | 0.06 | 0.01 *** | 0.03 | 0.01 *** | 0.09 | 0.01 *** | 0.04 | 0.02 *** | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 |
| economic (past M&A) | 0.40 | 0.19 ** | 0.41 | 0.22 * | -0.18 | 0.22 | -0.09 | 0.27 | 0.26 | 0.27 | 0.00 | 0.26 | 0.72 | 0.26 *** |
| historical (common language) | 0.31 | 0.08 *** | -0.16 | 0.10 * | -0.24 | 0.09 *** | -0.33 | 0.30 | 0.34 | 0.18 * | 0.25 | 0.17 | 0.02 | 0.16 |
| natural (spatial distance) | -0.13 | 0.07 * | 0.05 | 0.10 | 0.21 | 0.10 ** | -0.03 | 0.16 | 0.00 | 0.13 | -0.14 | 0.20 | 0.86 | 0.17 *** |
| **Acquirer firm controls** | | | | | | | | | | | | | | |
| past experience | 0.10 | 0.06 * | 0.05 | 0.08 | 0.12 | 0.08 | 0.12 | 0.14 | 0.20 | 0.11 * | 0.39 | 0.12 *** | 0.13 | 0.10 |
| listed | -3.76 | 0.18 *** | 0.36 | 0.35 | 0.02 | 0.63 | 3.44 | 0.48 *** | 1.60 | 0.51 *** | -0.14 | 0.20 | 1.28 | 0.54 ** |
| private | -3.86 | 0.18 *** | 0.57 | 0.35 * | 0.24 | 0.63 | 3.66 | 0.50 *** | 1.46 | 0.51 *** | 0.02 | 0.22 | 1.01 | 0.55 * |
| subsidiary | -3.59 | 0.19 *** | 0.66 | 0.36 * | 0.40 | 0.63 | 3.62 | 0.48 *** | 1.06 | 0.50 ** | -- | -- | 0.89 | 0.57 |
| independent | 0.04 | 0.11 | 0.25 | 0.11 ** | 0.27 | 0.12 ** | 0.38 | 0.18 ** | -0.34 | 0.19 * | 0.06 | 0.18 | -0.33 | 0.24 |
| **Target firm controls** | | | | | | | | | | | | | | |
| listed | -1.60 | 0.37 *** | -0.48 | 0.37 | -0.61 | 0.50 | -1.12 | 0.63 * | -1.22 | 0.85 | -0.60 | 0.47 | 2.88 | 0.33 *** |
| private | -0.15 | 0.36 | 0.89 | 0.35 *** | 0.86 | 0.49 * | -0.19 | 0.61 | 0.23 | 0.83 | 0.75 | 0.44 * | 4.60 | 0.30 *** |
| subsidiary | 0.78 | 0.38 ** | 1.58 | 0.38 *** | 1.84 | 0.53 *** | 0.98 | 0.65 | 1.15 | 0.86 | 1.73 | 0.49 *** | 5.15 | 0.37 *** |
| independent | 0.74 | 0.12 *** | 0.54 | 0.14 *** | 0.46 | 0.15 *** | 0.75 | 0.32 *** | 0.64 | 0.19 *** | 0.63 | 0.26 *** | 0.34 | 0.23 |
| | | | | | | | | | | | | | | |
| Pseudo R$^2$ | | 0.25 | | 0.16 | | 0.24 | | 0.17 | | 0.19 | | 0.15 | | 0.18 |
| Correctly classified outcomes (%) | | 79.98 | | 76.89 | | 77.85 | | 69.67 | | 80.52 | | 72.93 | | 80.87 |
| Log pseudo-likelihood | | -1871.55 | | -1072.22 | | -979.77 | | -354.33 | | -628.73 | | -437.02 | | -608.32 |
| Observations | | 4165 | | 2142 | | 2063 | | 633 | | 1355 | | 798 | | 1354 |

A=acquirer; T=target

Estimation method: probit model

Period: 2005-2012. Year dummies included

The SE columns report robust standard errors. Level of significance: 1% ***; 5% **; 10% *

The coefficient and the SE of the natural connectivity are multiplied by 10$^4$

**Table 8. Determinants of full acquisitions: robustness analysis, United Kingdom**

| Robustness on: | Functional form | | Explanatory variables | | | | | | | | Dependent variable | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *logit model* | | *probit models* | | | | | | | | *probit models* | | | |
| | dependent variable: dummy = 1 if acquired shares > 95%, 0 otherwise | | | | | | | | | | dep var: dummy = 1 if acquired shares 100% | | dep var: dummy = 1 if acquired shares > 95%, deals for shares < 10% excluded | |
| | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE |
| **Institutional conditions in T country** | | | | | | | | | | | | | | |
| corruption | -10.34 | 1.68 *** | | | -6.07 | 1.12 *** | -4.87 | 1.17 *** | -5.85 | 1.01 *** | -6.30 | 0.97 *** | -6.10 | 1.00 *** |
| corruption square | 9.16 | 2.81 *** | | | 5.32 | 1.70 *** | 3.89 | 1.72 ** | 4.95 | 1.65 *** | 5.34 | 1.60 *** | 5.31 | 1.66 *** |
| legal strength | -0.07 | 0.03 ** | 0.02 | 0.02 | -0.04 | 0.02 ** | -0.04 | 0.02 ** | -0.05 | 0.02 *** | -0.04 | 0.02 ** | -0.04 | 0.02 ** |
| indulgence | | | -27.06 | 3.18 *** | | | | | | | | | | |
| indulgence square | | | 110.33 | 20.21 *** | | | | | | | | | | |
| democracy | | | | | 0.02 | 0.05 | | | | | | | | |
| political risk | | | | | | | -62.10 | 32.78 * | | | | | | |
| business ease | | | | | | | | | 0.44 | 0.26 * | | | | |
| **Industry relatedness between A-T firms** | | | | | | | | | | | | | | |
| high relatedness | 0.36 | 0.11 *** | 0.18 | 0.06 *** | 0.19 | 0.06 *** | 0.20 | 0.06 *** | 0.20 | 0.06 *** | 0.19 | 0.06 *** | 0.18 | 0.06 *** |
| unrelatedness | -0.39 | 0.10 *** | -0.22 | 0.06 *** | -0.22 | 0.06 *** | -0.22 | 0.06 *** | -0.22 | 0.06 *** | -0.22 | 0.06 *** | -0.22 | 0.06 *** |
| **A firm connectivity** | | | | | | | | | | | | | | |
| specific experience in T country | -0.31 | 0.11 *** | -0.14 | 0.07 ** | -0.15 | 0.07 ** | -0.15 | 0.07 ** | -0.16 | 0.07 ** | -0.13 | 0.06 ** | -0.14 | 0.07 ** |
| **Connectivity between A-T country pairs** | | | | | | | | | | | | | | |
| economic (trade shares) | 0.10 | 0.01 *** | 0.06 | 0.01 *** | 0.05 | 0.01 *** | 0.05 | 0.01 *** | 0.05 | 0.01 *** | 0.05 | 0.01 *** | 0.05 | 0.01 *** |
| economic (past M&A) | 0.67 | 0.33 ** | 0.96 | 0.35 *** | 0.39 | 0.19 ** | 0.32 | 0.22 | 0.40 | 0.19 ** | 0.35 | 0.19 * | 0.44 | 0.19 ** |
| historical (common language) | 0.51 | 0.14 *** | 0.23 | 0.08 *** | 0.31 | 0.08 *** | 0.35 | 0.08 *** | 0.29 | 0.08 *** | 0.31 | 0.08 *** | 0.31 | 0.08 *** |
| natural (spatial distance) | -0.19 | 0.12 | -0.29 | 0.07 *** | -0.13 | 0.07 * | -0.15 | 0.07 ** | -0.15 | 0.07 ** | -0.11 | 0.07 * | -0.15 | 0.07 ** |
| **A individual controls** | | | | | | | | | | | | | | |
| past experience | 0.16 | 0.10 | 0.13 | 0.06 ** | 0.10 | 0.06 * | 0.11 | 0.06 * | 0.10 | 0.06 * | 0.11 | 0.06 ** | 0.08 | 0.06 |
| listed | -12.20 | 0.65 *** | -3.53 | 0.19 *** | -3.76 | 0.19 *** | -3.60 | 0.19 *** | -3.59 | 0.19 *** | -3.78 | 0.19 *** | -3.85 | 0.19 *** |
| private | -12.38 | 0.65 *** | -3.57 | 0.19 *** | -3.87 | 0.19 *** | -3.69 | 0.19 *** | -3.69 | 0.19 *** | -3.87 | 0.19 *** | -3.93 | 0.19 *** |
| subsidiary | -11.94 | 0.68 *** | -3.26 | 0.19 *** | -3.60 | 0.19 *** | -3.42 | 0.19 *** | -3.44 | 0.20 *** | -3.62 | 0.19 *** | -3.64 | 0.19 *** |
| independent | 0.06 | 0.20 | 0.09 | 0.11 | 0.05 | 0.11 | 0.05 | 0.11 | 0.04 | 0.11 | 0.03 | 0.11 | 0.07 | 0.11 |
| **T individual controls** | | | | | | | | | | | | | | |
| listed | -2.73 | 0.63 *** | -1.73 | 0.44 *** | -1.62 | 0.37 *** | -1.63 | 0.41 *** | -1.54 | 0.39 *** | -1.63 | 0.37 *** | -1.37 | 0.40 *** |
| private | -0.30 | 0.61 | -0.27 | 0.43 | -0.16 | 0.36 | -0.17 | 0.41 | -0.09 | 0.38 | -0.17 | 0.37 | -0.18 | 0.39 |
| subsidiary | 1.35 | 0.64 ** | 0.65 | 0.45 | 0.78 | 0.38 ** | 0.77 | 0.42 * | 0.84 | 0.40 ** | 0.74 | 0.38 ** | 0.76 | 0.40 * |
| independent | 1.31 | 0.21 *** | 0.72 | 0.12 *** | 0.76 | 0.12 *** | 0.75 | 0.12 *** | 0.75 | 0.12 *** | 0.72 | 0.12 *** | 0.76 | 0.12 *** |
| | | | | | | | | | | | | | | |
| Pseudo R$^2$ | | | 0.25 | | 0.25 | | 0.25 | | 0.25 | | 0.25 | | 20.60 | |
| Correctly classified outcomes (%) | 80.24 | | 80.56 | | 80.11 | | 80.15 | | 80.24 | | 79.57 | | 80.45 | |
| Log pseudo-likelihood | -1868.69 | | -1799.59 | | -1852.78 | | -1856.63 | | -1869.75 | | -1891.57 | | -1782.62 | |
| Observations | 4165 | | 4033 | | 4132 | | 4146 | | 4165 | | 4165 | | 3970 | |

A=acquirer; T=target

Estimation method: probit model

Period: 2005-2012. Year dummies included

The SE columns report robust standard errors. Level of significance: 1% ***; 5% **; 10% *

The coefficient and the SE of the natural connectivity are multiplied by $10^4$

# Figure 1. Full acquisition and level of corruption in the target country

Y axis: probability of observing a WOA;   X axis: corruption level from 0 (low) to 1 (high)
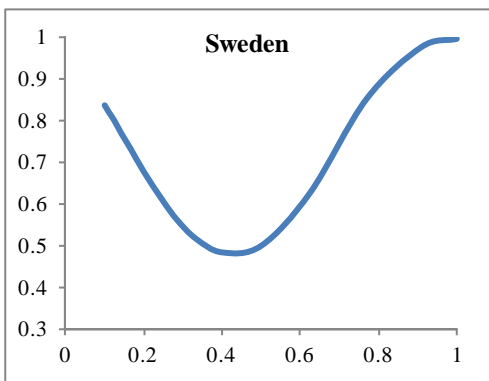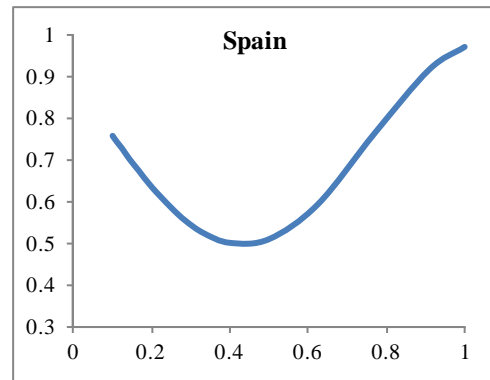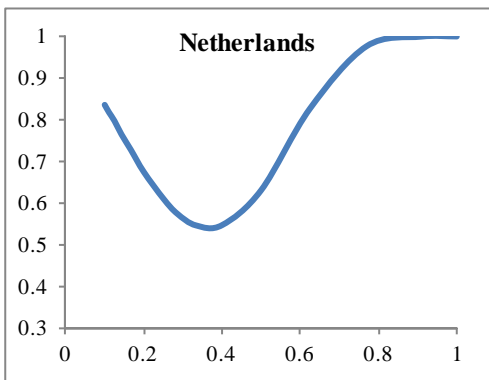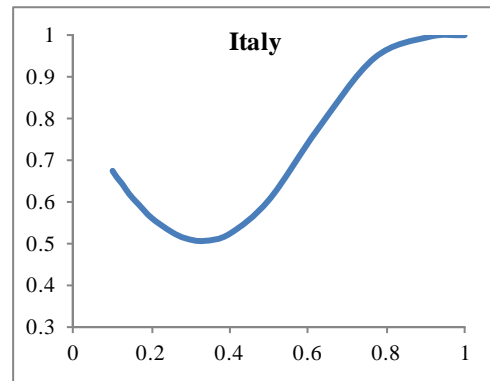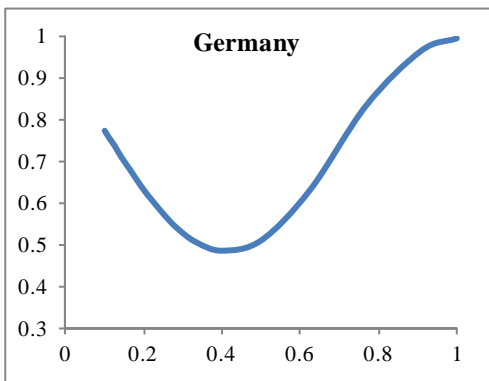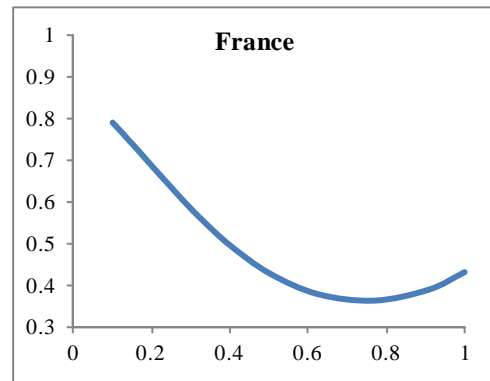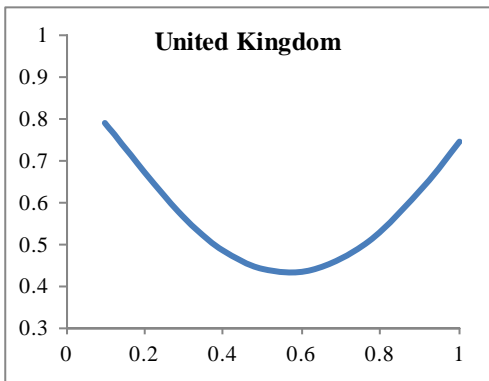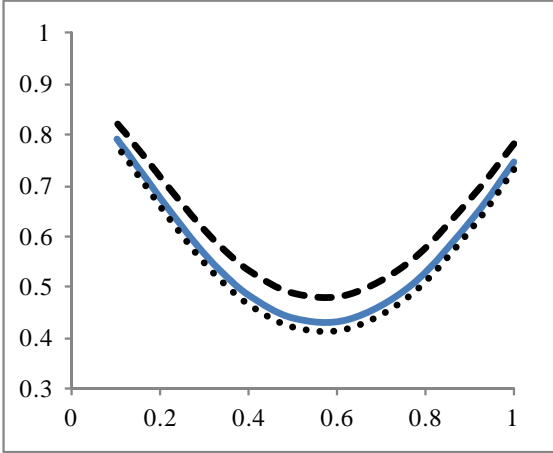Probability values computed from estimated models reported in Table 7

**Figure 2. The moderating effect of industry relatedness - United Kingdom**

Y axis: probability of observing a WOA;   X axis: corruption level from 0 (low) to 1 (high)

Probability values are computed from the estimated model for UK in Table 7



_____ baseline model;     ----- high industry relatedness;     ….. industry unrelatedness

**Figure 3. The moderating effect of connectivity for country pairs – United Kingdom sample**

Y axis: probability of observing a WOA;   X axis: corruption level from 0 (low) to 1 (high)
Probability values are computed from the estimated model for UK in Table 7

**A. Economic connectivity**
   **between A and T countries**
High: trade share = 21 % (observed max)
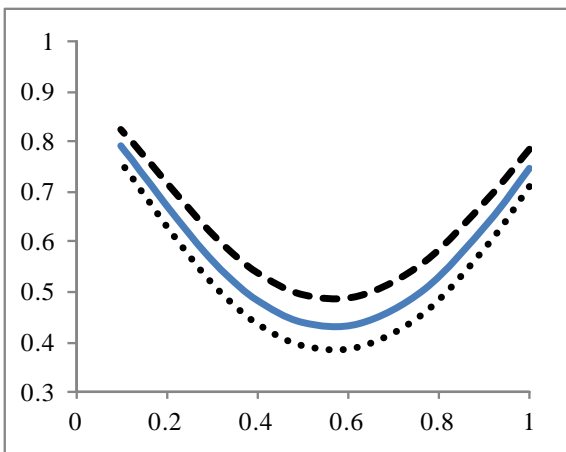Low: trade share = 0 % (observed min)
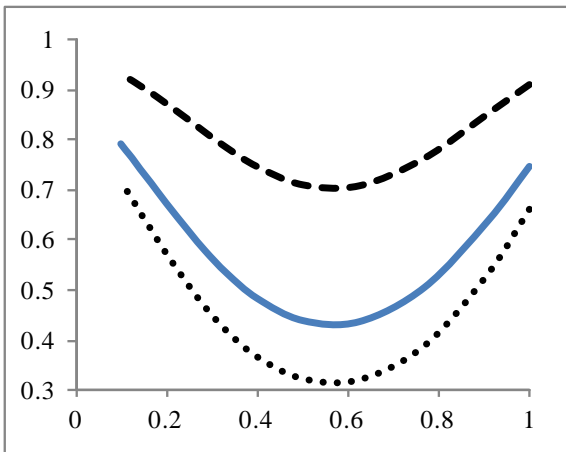
**B. Economic connectivity**
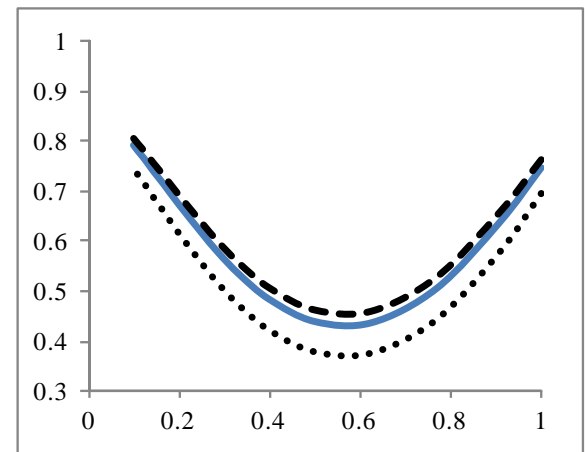   **between A and T firms**
High: past M&A = 1
Low: past M&A = 0
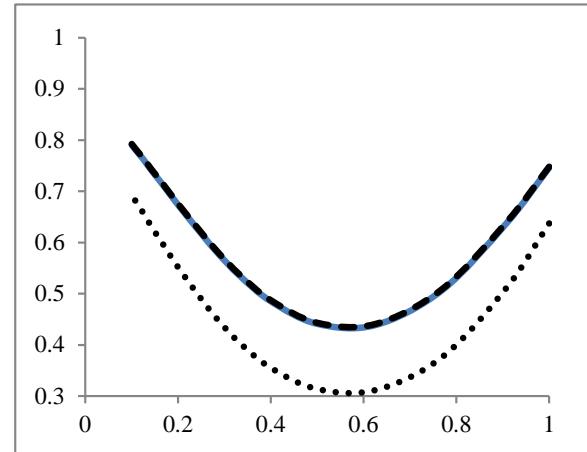
**C. Historical connectivity**
   **between A and T countries**
High: common language = 1
Low: common language = 0

**D. Natural connectivity**
   **between A and T countries**
High: spatial distance = 187 km (observed min)
Low: spatial distance = 19334 km (observed max)

_____ baseline model;     ----- high connectivity     ….. low connectivity