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THE IMPACT OF CORRUPTION ON MARKET REACTIONS TO INTERNATIONAL STRATEGIC ALLIANCES

ABSTRACT

Drawing on institutional theory, we argue that the level of corruption in an alliance partner's country negatively affects the market reaction to a focal firm's international strategic alliance announcement, as corruption creates uncertainty regarding the behavior of the partner firm. We further propose that anti-bribery laws in the focal firm's home country strengthen the negative relation between corruption and market reactions, while the focal firm's prior alliance experience in more corrupt countries and the level of corruption in its home country weaken the relationship. Analyses of over one thousand international strategic alliance announcements involving firms from 30 countries furnish evidence largely consistent with our theory. The findings indicate the importance of corruption as a facet of the institutional environment that shapes firms' value creation opportunities and risks in international alliances.

Keywords: international strategic alliances; corruption; value creation; institutional theory; abnormal returns

INTRODUCTION

Corruption, or the abuse of public power for private gain, has been a prevalent element of many institutional environments around the world, and it has shown to have a profound impact on a wide range of cross-border activities of firms (Cuervo-Cazurra, 2006, 2016). For instance, extant studies show that corruption can impede foreign direct investment (FDI) (Birhanu, Gambardella, & Valentini, 2016; Cuervo-Cazurra, 2008a; Habib & Zurawicki, 2002), affect international joint venture (IJV) partner selection (Roy & Oliver, 2009), enhance subsidiary autonomy (Rabbiosi & Santangelo, 2019), and determine an MNE's behavior towards a host country government (Luo, 2006). While previous research on corruption offers valuable insights, the implications of corruption on the performance of strategic alliances has been largely neglected.

This neglect of this facet of partners' institutional environments in the international alliance literature is rather surprising, since the performance outcomes of strategic alliances are highly dependent on the behavior of the partner firms and the uncertainties they face (Krishnan, Martin, & Noorderhaven, 2006; Luo, 2008). A country's level of corruption is an important component of its institutional environment that shapes the behavior of its firms and how they interact with other organizations (Cuervo-Cazurra, 2006; Meyer, Li, & Schotter, 2020). Thus, we expect a partner country's corruption to have an impact a focal firm in international strategic alliances. We investigate how the market responds to international alliance announcements against the backdrop of a partner country's corruption.

In the following sections, we discuss corruption's effect on the international activities of firms. We review the strategic alliance literature and draw on institutional theory to propose that corruption in the partner's country adversely affects how the market reacts to strategic alliance announcements of a focal firm, because partner firms are more likely to engage in corrupt practices that are expected or even taken-for-granted in their institutional environment. These partner firms are more likely to engage in corrupt behaviors for their own gain and are at a greater risk of being detected and penalized, which can damage the alliance and the focal firm. We further suggest that institutional pressures in a focal firm's home country in the form of anti-bribery laws strengthen the negative relationship between corruption and market reactions, whereas a focal firm's exposure to difficult

institutional conditions through its previous alliance experience in more corrupt countries and the level of corruption in the focal firm's own home country should weaken the relationship. We test these hypotheses based on a sample of over one thousand international strategic alliance announcements involving 30 countries and we find support for most of the hypotheses.

Our work contributes to recent IB literature on corruption (e.g., Cuervo-Cazurra, 2016; Sartor & Beamish, 2020) by extending it to the area of the value creation implications of international strategic alliances. In doing so, we also complement extant research on mechanisms of value creation in alliances, which has primarily emphasized firm-level concepts such as the resource-based view, organizational learning, and information economics, among others (e.g., Kumar, 2011; Merchant, 2014; Reuer & Koza, 2000; Reuer & Ragozzino, 2014; Yang, Zheng, & Zaheer, 2015), though exceptions exist (Merchant & Schendel, 2000). By using institutional theory, we introduce a theoretical framework that captures the influence of the international contextual environment and address the paucity of historical considerations given to institutional influences on alliance formation and value creation. Moreover, we enrich our understanding of institutions and cross-border collaborations by showing how a firm's exposure to difficult institutional environments through prior international alliance experiences can mitigate the impact of corruption on the firm.

THEORY AND HYPOTHESES

Corruption

Corruption refers to the exercise of public power for private benefit and includes both petty and grand forms of corruption. Corruption can take many forms that include bribery, embezzlement, money laundering, tax evasion, and cronyism (Kaufmann, Kraay, & Mastruzzi, 2010; Rodriguez, Siegel, Hillman, & Eden, 2006). Previous research shows that corruption is an important dimension of the institutional environment (Keig, Brouthers, & Marshall, 2015; Spencer & Gomez, 2011) that has a negative impact on the development of countries (Shleifer & Vishny, 1993). It also reduces the inflow of FDI (Birhanu et al., 2016; Wei, 2000), especially from countries that themselves exhibit low levels of corruption (Cuervo-Cazurra, 2006, 2008a). Extant scholarship also documents that corruption increases uncertainty for foreign-invested firms and affects specific MNE activities, such as market entry (Uhlenbruck, Rodriguez, Doh, & Eden, 2006), exit (Sartor & Beamish, 2020), IJVs (Roy &

Oliver, 2009), M&As (Weitzel & Berns, 2006), and how MNEs manage their international subsidiaries or engage with foreign governments (Luo, 2006; Rabbiosi & Santangelo, 2019).

Previous work distinguishes between the arbitrariness and pervasiveness of corruption (Doh et al., 2003; Rodriguez, Uhlenbruck, & Eden, 2005; Uhlenbruck et al., 2006). While arbitrariness refers to the “uncertainty regarding the size, target, and number of corrupt payments necessary” (Rodriguez et al.’s, 2005: 386), pervasiveness refers to “the level of corruption” (Rodriguez et al.’s, 2005: 385). While arbitrariness creates transactional uncertainty, the pervasiveness or level of corruption can generate different types of uncertainty, such as the likelihood of getting caught (Sartor & Beamish, 2020). Moreover, Montiel, Husted, and Christmann (2012) argue that government corruption creates uncertainty in the enforcement of regulations, while Galang (2012) notes that government corruption increases risks and uncertainty. In countries where corruption is pervasive, corrupt behaviors and norms tend to be institutionalized (Spencer & Gomez, 2011). Firms that are based and embedded in such countries are under pressure to engage in various corrupt practices, such as bribery of government officials (Luo, 2005). These firms might need to conform to these practices to survive or prosper in their local institutional environment, where these practices are expected and even become taken-for-granted (Iriyama, Kishore, & Talukdar, 2016; North, 1990). Thus, a country’s level of corruption determines the behavioral norms of its firms and how these firms engage with other organizations at home as well as abroad (Cuervo-Cazurra, 2006). Further, firms that engage in corrupt practices with each other are usually tied to each other, or “locked in”, even after the actual transaction has concluded, because the firms could potentially denounce each other publicly (Nalick, Kuban, Hill, & Ridge, 2019; Weitzel & Berns, 2006). Therefore, we expect a partner country’s corruption to critically affect a focal firm engaged in international strategic alliances.

Market Responses to International Strategic Alliances

International strategic alliances are agreements characterized by the commitment of two (or more) independent organizations from two (or more) countries to reach a mutual goal that entails the pooling of their resources and activities (Siegel, 2007). Strategic alliances come in many forms and can cover various activities, such as cross-selling arrangements, common distribution agreements, and technical collaborations, among many others (Grant & Baden-Fuller, 2004). Ultimately, firms ally with others to

create value, which, for publicly-traded firms, is typically measured through the market's expectation about the realization of the alliance's economic value (Das & Teng, 2000; Merchant, 2002, 2014; Reuer & Koza, 2000). However, alliances do not always create value and, instead, oftentimes evoke negative market responses (Gulati, Lavie, & Singh, 2009).

Extant research employs a wide range of theoretical lenses to examine the determinants of value creation in strategic alliances. For example, Kumar (2011) uses the resource-based view to show that cooperative behavior results in value gains for both alliance partners, while Lin, Yang, and Arya (2009) use the same framework to find that resource complementarity drives alliance performance. Based on organizational learning theory, Sampson (2005) finds that prior alliance experience enables firms to create value through alliances, while Yang et al. (2015) reveal that these benefits are often asymmetric, depending on the relative learning capabilities of the partners. Other scholars have borrowed from institutional (Lin et al., 2009), real options (Kumar, 2005), resource dependence (Das, Sen, & Sengupta, 1998), and signalling theories (Madhavan & Prescott, 1995) as well as information economics (Balakrishnan & Koza, 1993; Reuer & Koza, 2000) to examine how diverse factors affect value creation in alliances. While this body of work has generated valuable findings, most determinants of value creation are at the firm or transaction level. By contrast, the influence of a country's institutional environment has largely been neglected, despite evidence that suggests firms' behaviors and strategies are significantly shaped by their environmental contexts (e.g., Henisz, 2000; Lu et al., 2002; Meyer, Estrin, Bhaumik, & Peng, 2009). Consideration of corruption as a facet of the institutional environment therefore holds the potential to enrich the empirical research base on value creation in international alliances.

The Impact of Corruption on Market Reactions to International Alliance Announcements

We therefore draw on institutional theory to examine the impact of corruption on market reactions to international strategic alliance announcements. Institutional theory postulates that firms are embedded in a broader political, economic, and social context that make up their institutional environment and define socially acceptable and legitimate economic behaviors (Williamson, 1985). While research has begun to consider institutional factors (e.g., Arian & Shenkar, 2013; Vasudeva, Spencer, & Teege, 2013), there is an overall lack of consideration of institutional influences on alliance formation and

value creation, in particular of corruption as an important facet of the institutional environment in international contexts.

Corruption, and its lack of control, is an important element of the institutional environment (Roy & Oliver, 2009) that can have an impact on international strategic alliances, because it occurs covertly and can expose partners to each other's opportunistic behaviors (Nippa & Reuer, 2019). Corruption also affects outsiders more than insiders compared to related institutional variables (Cuervo-Cazurra & Genc, 2008). For instance, a country's rule of law and economic development affect all firms in a country, both local and foreign, so firms in countries with a weaker rule of law and economic development may not be as well protected by the judicial system and face lower purchasing power. By contrast, corruption, albeit correlated with rule of law and economic development, is a greater barrier to outsider firms given that they lack ties to local government officials. In countries where corruption is pervasive, practices such as bribery of public officials and informal approaches to conducting business are considered socially acceptable and become taken-for-granted. Hence, corruption shapes how firms do business, including how firms interact with their alliance partners, and should significantly affect how the market reacts to alliance announcements.

Firms that engage in alliances with partners from corrupt countries are at risk of facing negative performance implications for multiple reasons. First, their partners are embedded in an environment where corrupt behavior is taken-for-granted and, thus, may engage in such behavior for their own gain by cutting corners and deviating from agreements, particularly in situations where monitoring is difficult and costly (Liu, 2016). Such behavior is indirectly even encouraged in corrupt countries, as firms in such countries often have strong ties to government officials, precisely due to corruption, who then protect these firms in the case of disputes (Henisz, 2000; Weitzel & Berns, 2006). Second, firms that ally with partners in corrupt countries face a heightened risk of detection and potentially unknown costs. That is, not only are their alliance partners more likely to engage in corrupt behavior, but their own representatives are more likely to be subject to corruption and exposure (Cuervo-Cazurra & Genc, 2008). Lastly, firms can become "locked in" with partners from corrupt countries, as they are at risk of being denounced in public (Weitzel & Berns, 2006). Hence, these firms

may need to make concessions in the future that lead to suboptimal decision-making with negative performance implications.

The foregoing discussion suggests that focal firms will exhibit lower performance when they enter into alliances with partners from corrupt countries, everything else being equal. These negative performance implications are likely amplified for higher levels of corruption in the partner country, as corrupt behaviors are more widespread and increase uncertainty for focal firms (Sartor & Beamish, 2019). Hence, we posit:

Hypothesis 1 (H1): The level of corruption in the partner's home country negatively affects the market reaction to a focal firm's international alliance announcement.

Anti-Bribery Laws

While an alliance partner country's level of corruption creates difficult institutional conditions that may have an adverse effect on market reactions, institutional forces within the focal firm's own institutional environment may also shape the effects of a partner country's level of corruption. In particular, several countries have decided to develop and strengthen their institutions to combat corruption in international transactions through supranational efforts, most notably the Organization for Economic Co-operation and Development (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (OECD, 2019). This convention has been gradually signed by various countries since 1997/98 and calls for home countries to modify their laws to criminalize bribery of foreign officials and officials of public international organizations that provides firms with an improper advantage (Spencer & Gomez, 2011). Further, countries need to provide mutual legal assistance in investigations, allow for extraditions, and establish stringent accounting standards, external auditing, and internal controls in national laws (Cuervo-Cazurra, 2006).

We expect anti-bribery laws in the focal firm's country to magnify corruption's adverse effect on market responses to international alliances for two main reasons. First, given that firms are more likely pressured to engage in corrupt practices when they operate in corrupt institutional environments (Liu, 2016; Spencer & Gomez, 2011), anti-bribery laws will increase the likelihood of detection of corrupt practices and result in more severe punishment. Second, focal firms would suffer more from mutual denunciation or lock-in effects, due to their home country's institutional constraints, as they

have incentives to agree to greater concessions that will harm their future performance. It is possible that anti-bribery laws could also reduce corruption's effect, as focal firms may use the laws as an excuse to not engage in corrupt behaviors. However, this effect is likely offset by the two considerations above since corrupt behaviors are institutionalized, making it difficult to deviate from them (Spencer & Gomez, 2011). Thus, anti-bribery laws are expected to amplify the negative impact of corruption through a punitive framework that increases corruption's likelihood of detection as well as the severity of punishment and lock-in effects:

Hypothesis 2 (H2): Anti-bribery laws in the focal firm's home country exacerbate the negative relationship between corruption in the partner's home country and the market reaction to a focal firm's international alliance announcement.

Previous Alliance Experience in Corrupt Countries

Focal firms may also be able to learn how to navigate corrupt institutional environments, as firms are generally able to learn from previous experiences. This organizational learning hypothesis has been widely tested and verified in various organizational settings that include domestic, international, equity, and non-equity strategic alliances (e.g., Lai, Chang, & Chen, 2010; Luo, 2020; Sampson, 2005). Yet, the influence of experiential knowledge on a firm strongly depends on the context in which it has been gained (Corredoira & McDermott, 2014; Li & Fleury, 2020). In the context of corruption, firms that have previously allied with partners from countries that are more corrupt than their own can better anticipate and deal with their focal alliance partners' corrupt behavior, avoid corrupt practices that can be detected, and prevent being locked in with partners from corrupt countries (Dorobantu, Kaul, & Zelner, 2017). The richer the prior experience of a focal firm in corrupt countries, the greater the firm's exposure to different, challenging situations (Levitt & March, 1988). Hence, more experienced firms should be more capable to deal with new situations and manage political involvement in their operations (Delios & Henisz, 2000, 2003; Kingsley, Van den Bergh, & Bonardi, 2012), such as potential complications that arise due to corruption in their partner firm's home country (Oh & Oetzel, 2017). We expect the market to recognize the ability of experienced firms to navigate challenging institutional environments and to mitigate the negative effects of corruption we have emphasized:

Hypothesis 3 (H3): The focal firm's previous alliance experience in countries that are more corrupt than its home country weakens the negative relationship between corruption and the market reaction to a focal firm's international alliance announcement.

Corruption in the Focal Firm's Home Country

Institutional theory also suggests that focal firms from corrupt countries themselves have developed skills and capabilities to survive and succeed under difficult institutional conditions (Cuervo-Cazurra & Genc, 2008). That is, they understand how firms from corrupt countries behave to survive and thrive, what these firms need to do to secure support from government officials and manage political involvement in their operations (Kingsley et al., 2012), and what type of behaviors are prone to detection and penalty. Unlike learning from previous alliances in corrupt countries, firms from corrupt countries have been embedded and shaped in an environment in which corrupt norms and practices are prevalent. Moreover, firms from corrupt countries may have established strong ties to their local government officials through corruption, particularly to pivotal political actors, who then protect them from the partner's corrupt and opportunistic behaviors (Holburn & Zelner, 2010). In addition, they are also less worried about mutual denunciation by their alliance partners, as they likely will behave abroad in a way that is considered legitimate or even expected in their own home country's institutional context. Previous findings support the notion that home country corruption protects firms from host country corruption, as investment flows to corrupt countries tend to be higher from countries with higher levels of corruption than from countries with lower corruption (Cuervo-Cazurra, 2006). At the same time, investors from corrupt countries may also be less cognizant of a partner country's corruption, leading to a weaker stock market response. Therefore, we expect a focal firm's home country corruption to likewise mitigate the negative impact of the partner country's corruption on market reaction:

Hypothesis 4 (H4): Corruption in the focal firm's home country weakens the negative relationship between corruption in the partner firm's home country and the market reaction to a focal firm's international alliance announcement.

METHODOLOGY

Research Design

We built a sample of international strategic alliances from Thomson Reuters' SDC Platinum database. In total, we obtained 1,087 alliances from 30 countries between January 1, 1996 and December 31, 2014 that involved two partners from different home countriesⁱ. We exclude alliances involving three or more partners and those from financial industries, because their governance mechanisms and performance implications can be quite different, just as firms may use a more experienced third partner to counteract corruption and its consequences (Zhang, Gupta, & Hallen, 2017)ⁱⁱ. Since the unit of analysis is a focal firm's alliance announcement (and not a focal alliance) and the market reaction for the same alliance can differ for the firms involved, we assessed the market announcements for both partners, where data are available.

Dependent Variables

Cumulative abnormal return. For the dependent variable, we follow established event study methodology to calculate a focal firm's *cumulative abnormal return* (CAR). CARs capture market reactions to different events, such as strategic alliances, and have been frequently employed to measure the firm valuation effects of alliances (e.g., Anand & Khanna, 2000; Das et al., 1998; Merchant, 2005; Reuer & Koza, 2000; Yang et al., 2015). Using CARs is particularly suitable for our research context, as information on corruption is publicly available and extant studies demonstrate that market investors access relevant public information to help them evaluate different aspects of strategic alliances (Gulati et al., 2009).

We obtained daily stock prices for a focal firm around the announcement date t_0 and employed a standard market model to calculate CAR as follows (Yang et al., 2015):

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \quad (1)$$

for a focal firm i within the event window $t-1$ to $t+1$ (one day before and after the announcement at $t = 0$); $AR_{i,t}$ is the abnormal return, $R_{i,t}$ is the focal firm's daily stock return, and $R_{m,t}$ is the daily stock market return. We estimate the market model parameters, α and β , from -210 to -11 days before the announcement day. We calculate the parameters based on a focal firm's home country index, which we identified based on information provided by SDC Platinum. We add the daily abnormal returns to

calculate CAR during the 3-day window (-1, +1) around the announcement (e.g., Kalaignanam, Shankar, & Varadarajan, 2007)ⁱⁱⁱ:

$$CAR_i = \sum_{t=-1}^{+1} AR_{i,t} \quad (2)$$

Independent Variables

Partner country's corruption. We measure a partner country's level of *corruption* using Transparency International's Corruption Perception Index (CPI) (Transparency International, 2016). The CPI measures the extent to which public officials and politicians are perceived to accept bribes or illicit payments, embezzle public funds, or commit offenses, and it has been widely used in prior corruption research (e.g., Cuervo-Cazurra, 2008a, 2008b; DiRienzo, Das, & Cort, 2007; Habib & Zurawicki, 2002; Soule, Swaminathan, & Tihanyi, 2014; Spencer & Gomez, 2011; Voyer & Beamish, 1994). Transparency International draws on a large number of separate surveys administered by independent organizations (Transparency International, 2016). The survey asks respondents a series of questions on the misuse of public office for personal benefit (Spencer & Gomez, 2011). Transparency International then calculates a composite measure for each country in a given year. The original measure is a continuous variable that has been available on an annual basis since 1995 and ranges from 10 (low corruption) to 0 (high corruption). From 2012 onwards, Transparency International adopted a 0-100 scale. We rescaled these values to fit the previous 0-10 interval and recoded the variable so that a higher number indicates greater levels of perceived corruption, i.e. 10 (high corruption) and 0 (low corruption) (Cuervo-Cazurra, 2008a; Spencer & Gomez, 2011).

Anti-bribery laws. We used a dummy variable to measure whether a focal firm's home country has *anti-bribery laws* against bribery abroad, which were gradually signed by several countries since 1997/98. In particular, we assigned a value of 1, if a focal country has signed the OECD Convention on Combating Bribery of Foreign Officials in International Business Transactions by the time a focal international strategic alliance was announced, and 0 otherwise, in line with prior work (Cuervo-Cazurra, 2006, 2008a; Spencer & Gomez, 2011)^{iv}. Data are collected from the OECD.

Alliance experience. The focal firm's prior alliance experience in more corrupt countries is calculated as the number of alliances the firm has engaged in during the five years prior to the focal alliance announcement in countries that are more corrupt than the focal firm's home country (Rabbiosi

& Santangelo, 2019). The five-year window is based on previous work that shows that knowledge gained from experience depreciates over time (Sampson, 2005)^v. Data on firms' international alliance experience were also obtained from SDC Platinum.

Focal country's corruption. Similar to the partner country's corruption level, we measure the level of corruption for the focal firm's country with Transparency International's CPI. Following the methods above for corruption in the partner's country, we match alliance formation years with data from Transparency International and then rescale the indexes such that a higher score denotes a higher level of corruption, using the same scale from 0 to 10.

Control Variables

We first control for the variable, *partner country's anti-bribery laws*, which is measured through a dummy that takes the value 1, if that country has signed the OECD convention by the time of the alliance announcement, and 0 otherwise (Cuervo-Cazurra, 2006). We include industry relatedness by comparing the two-digit Standard Industry Classification (SIC) codes of both firms (Li, Brodbeck, Shenkar, Ponzi, & Fisch, 2017) and assigning the dummy a value of 1 if the firms share the same two-digit SIC codes. We also enter a *focal firm's* and the *partner's revenue*, *return on assets*, *market capitalization*, and *debt to assets* ratio. We also add a dummy that indicates whether the alliance involves *technology transfer* between the partners. Data on these variables are from SDC Platinum. Moreover, we include a *partner firm's alliance experience* as a count variable for the total number of alliances the partner firm has engaged in during the five years prior to the focal alliance (Sampson, 2005). We further include a dummy, *previous firm ties*, that takes the value 1 if the focal and partner firms have allied before within the past five years, and 0 if they have not (Gulati et al., 2009).

We control for the *focal country's political risk*, which we measure using Henisz's (2000) political constraint index, and its *GDP per capita* and *population*, which we measure using the World Bank's World Development Indicators (WDI). In addition, we include dummies for the *cultural similarity* between both firms and whether they share common legal origins (Zhao, Luo, & Suh, 2004). We use a dummy to capture cultural similarity based on Ronen and Shenkar's (1985, 2013) clustering approach. We further obtain data on the countries' legal origins from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999). We also include the *geographic distance* and the *knowledge distance*

between the focal and partner firms' home countries based on Mayer and Zignago (2011) and WDI, respectively. Lastly, we include year, industry, and country fixed effects (Kalaighnam et al., 2007), and we use robust standard errors clustered by the focal firms' countries.^{vi}

RESULTS

Table 1 reports the summary statistics and a correlation matrix. Table 2 reports the regression results. Model 1 includes only the control variables. We hypothesize that the corruption of the partner firm's home country negatively relates to market reactions to international alliance announcements (H1), and we enter the corruption variable in Model 2. We further propose that anti-bribery laws of the focal firm's home country strengthen the relationship between corruption and CAR (H2). We enter the interaction term in Model 3. Moreover, we argue that the focal firm's prior alliance experience weakens the relation between corruption and CAR, and we include the interaction term in Model 4 to test our third hypothesis. Finally, we suggest that the corruption in the focal firm's home country weakens the corruption-CAR relationship (H4). We include the interaction term in Model 5. Model 6 reports the full model.

We find that corruption in the partner firm's home country relates negatively to market reactions to alliance announcements ($p = 0.008$). Thus, hypothesis 1 receives support. The interaction term for corruption and anti-bribery laws is negative and significant ($p = 0.032$) while the interaction term between corruption and alliance experience in more corrupt countries is positive and significant ($p = 0.000$). The interaction term between corruption and the focal country's level of corruption is negative and not significant ($p > 0.10$). Figures 1 and 2 show the marginal effects plots with 95% confidence intervals (Meyer, van Witteloostuijn, & Beugelsdijk, 2017). The two outer lines/dots give the 95% confidence interval for the interaction line, which shows the marginal effect of corruption on market reactions. Figure 1 demonstrates that the negative effect of corruption on market reactions only appears for alliances in countries with anti-bribery laws. Figure 2 shows that the adverse effects of corruption diminish as focal firms accumulate alliance experience in more corrupt countries and eventually become insignificant. Therefore, while Hypotheses 2 and 3 are supported, Hypothesis 4 is not. We conducted several robustness tests for alternative specifications of the dependent and explanatory variables, and we also estimated a Heckman two-stage model to account for sample

selection (Li, Arikan, Shenkar, & Arikan, 2020) with respect to non-equity alliances versus equity alliances as another form of cross-border collaboration.^{vii}

 Insert Tables 1–2 and Figures 1–2 about here

DISCUSSION

Our study builds upon and extends previous research on corruption in IB by studying corruption's impact on the stock market performance implications of international strategic alliances. Prior studies have examined corruption's effects on various MNE activities (e.g., Cuervo-Cazurra, 2016; Keig et al., 2015; Sartor & Beamish, 2020). Yet, research has neglected the influence of corruption on the performance implications of strategic alliances. Our work therefore extends previous research and shows that corruption affects the value that firms derive from international strategic alliances. In particular, we argue that a partner country's corruption affects the behavior of its firms and how they do business, thereby increasing the uncertainty and adversely affecting market reactions for focal firms. Furthermore, we identify boundary conditions for this relationship. All else equal, we see that corruption's impact becomes insignificant for firms that have engaged in many alliances in more corrupt countries and for focal firms in countries that do not have anti-bribery laws, respectively. Interestingly, corruption levels in a focal firm's home country do not affect the impact of partner country corruption, suggesting that exposure to corruption in a home country does not offer sufficient "protection" against corruption in the partner country, as home country exposure cannot be readily applied to dealing with corruption abroad.

We also contribute to the literature on value creation in international strategic alliances. While most prior research has utilized theories such as resource-based view, organizational learning, and other theories that focus on firm- or transaction-level determinants of abnormal returns (e.g., Kumar, 2011; Merchant; 2014; Yang et al., 2015), our research on corruption borrows from institutional theory to demonstrate the impact of an important contextual factor in international settings on value creation in strategic alliances. Our approach therefore addresses the neglect of institutional influences on alliance formation and value creation in extant literature, and our research also complements a few

studies that have considered nation-level determinants of alliance returns, such as cultural similarity (e.g., Kim & Park, 2002; Merchant & Schendel, 2000).

Moreover, we show that prior exposure to difficult institutional conditions has an asymmetric impact on alliances. While a firm's international alliance experience in countries that are more corrupt than its home country endows the firm with valuable lessons in managing political involvements and navigating through corrupt institutional environments, the firm's exposure to its home country corruption surprisingly does not seem to help. This finding complements prior studies that show home country corruption's mitigating impact on host country corruption (Cuervo-Cazurra, 2006; Cuervo-Cazurra & Genc, 2008) and suggests that corruption exerts an asymmetric experience effect. Firms from corrupt countries may have developed strong ties to corrupt public officials in their own country, but not in countries outside their own. By contrast, when firms have conducted business in corrupt institutional environments abroad, they learn how to navigate through institutional contexts in which they are not as strongly embedded. This finding is suggestive of a temporal trade-off wherein the firm valuation effects of an alliance are adversely shaped by corruption, yet such experience in corrupt foreign countries enables the firm to better navigate corruption in future cross-border alliances.

Given the relative lack of attention to corruption in international alliance research, there are many valuable and interesting opportunities for extensions to this study to consider the implications of corruption for other cross-border alliance decisions and outcomes (e.g., alliance governance and design, trust-building, disputes, knowledge flows). This research could also take up other dimensions of the institutional environment that bear upon partners' uncertainties and behavior. Future research might also integrate institutional theory with other perspectives on value creation in alliances, including the relational view (Dyer & Singh, 1998). The international institutional context could influence the interfirm resources and routines of the firms involved, as they are embedded in the institutional environment and are difficult to imitate (Morosini, Shane, & Singh, 1998). Institutions also can have an important bearing on the risks that firms encounter when selecting partners and negotiating international alliances at the outset (e.g., Reuer & Ragozzino, 2014). Research in directions such as these could enrich understanding of the impact of corruption and other institutions on cross-border collaborations.

ⁱ The breakdown of the 1,087 alliances in our sample are (by *focal firm country*, *partner firm country*):

Argentina (1, 1), Australia (16, 11), Austria (3, 2), Belgium (3, 4), Canada (85, 56), China (11, 15), Denmark (16, 12), Finland (24, 24), France (44, 44), Germany (56, 57), Greece (1, 1), Hungary (2, 1), Iceland (0, 2), India (28, 41), Israel (20, 16), Italy (10, 14), Japan (154, 157), Luxembourg (1, 0), Mexico (4, 2), Netherlands (19, 13), New Zealand (1, 1), Norway (9, 7), Singapore (0, 2), South Africa (6, 6), South Korea (16, 41), Spain (4, 11), Sweden (22, 21), Switzerland (12, 14), United Kingdom (113, 102), United States (406, 409).

ⁱⁱ We focused on non-equity alliances, since they are particularly vulnerable to corrupt behaviors of their partners due to their lack of administrative controls (Lui & Ngo, 2004). The alliance partners need to rely on each other's goodwill and are especially susceptible to each other's opportunistic behaviors given their relative lack of administrative controls (e.g., board) and incentives (Lai et al., 2010; Nippa & Reuer, 2019), making international non-equity alliances an ideal setting to examine corruption's impact. While opportunistic behavior occurs in both types of alliances and may even be more harmful when the firm commits equity to the partnership, regression analyses with equity alliances show that corruption does not have a significant influence on market reaction to IJV announcements, supporting the notion that non-equity alliances are more susceptible to a partner country's corruption.

ⁱⁱⁱ We obtained similar results with a two-day event window (0, +1). We do not use long event windows, as corrupt practices are typically covert and not disclosed even after they materialize, and long event windows introduce extraneous information and confounding events.

^{iv} We note that anti-bribery initiatives can be more complex than a binary anti-bribery variable suggests, however. For example, governments may implement some of the convention's laws. We thank an anonymous reviewer for raising this point.

^v We also used 3- and 7-year windows and found consistent results.

^{vi} Similar results were obtained when robust standard errors were calculated by clustering residuals at the level of the focal firm.

^{vii} Firms may choose other foreign entry modes, such as equity alliances. This choice itself can be influenced by the level of corruption in the partner's country, as firms may refrain from committing their own equity when corruption levels in a country are high or they may ask their partners to commit equity in order to prevent opportunistic behavior. Thus, we estimated a Heckman two-stage model to account for sample selection as it pertains to equity versus non-equity alliances. In estimating a first-stage model for firm's selection, we use *retrospective industry growth* as the exclusion criterion. The rationale is that an industry's previous growth should affect the availability of suitable acquisition targets, but not necessarily the performance and value creation of alliances. Thus, retrospective industry growth can be used as an instrument in the first-stage regression to predict the entry mode choice. Specifically, we employ the World Bank's World Development Indicator (WDI) retrospective 5-year growth rate, which consists of the growth rate of the industry in the partner country over the five years prior to entry. This instrument has been recently identified and used in Wolfolds and Siegel's (2019) work on precisely the topic of endogeneity in cross-border market entry. The correction for self-selection in the second-stage model of firm valuation effects of alliance formation was always insignificant, indicating that the null of no sample selection bias cannot be rejected, and our results were similar to those presented here. Appendix 1 reports the second stage equation results (first stage equation results are available from the authors upon request). We also examined other exclusion restrictions based on Uhlenbruck et al. (2006), such as a country's total GDP (in PPP), and found consistent results.

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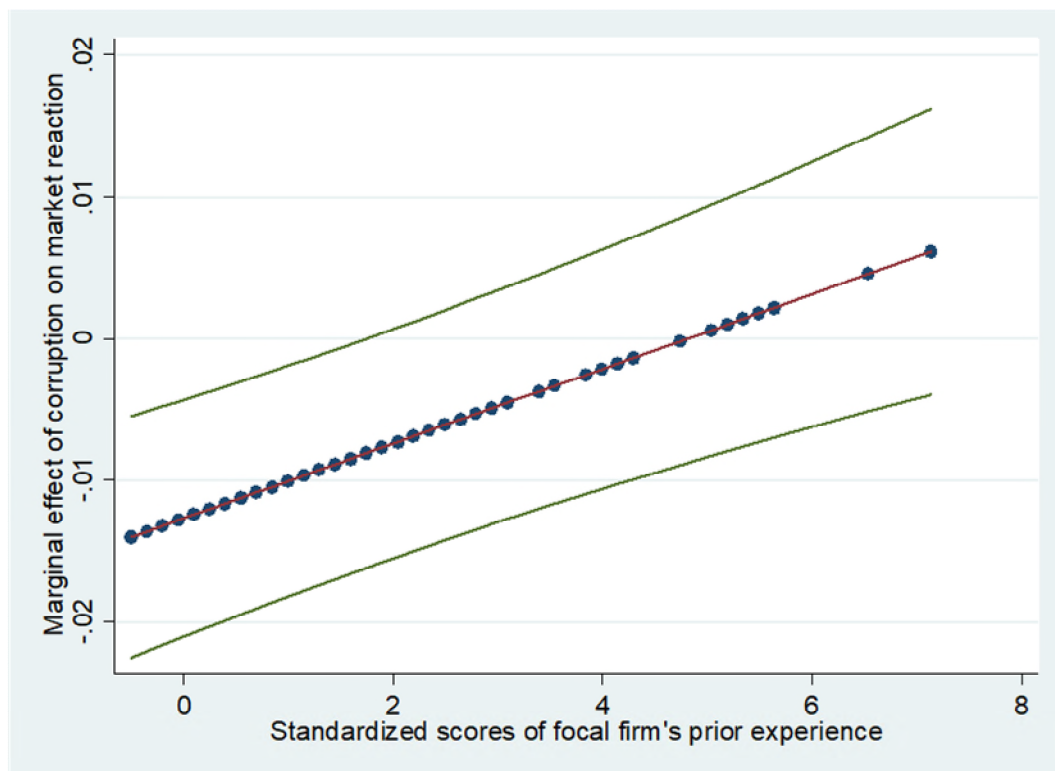
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FIGURES

Figure 1. Marginal effects plot for focal country's anti-bribery laws.



Figure 2. Marginal effects plot for focal firm's prior alliance experience.



TABLES

Table 1. Summary statistics and correlation matrix, 1996–2014 (N = 1,087 alliance announcements).

Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10
1 Cumulative abnormal return	0.01	0.06	1									
2 Partner country's corruption	2.76	1.45	-0.056	1								
3 Anti-bribery law	0.79	0.41	-0.005	-0.029	1							
4 Alliance experience	3.59	6.96	-0.044	0.079	0.055	1						
5 Focal country's corruption	2.53	1.30	-0.021	0.018	-0.294	-0.218	1					
6 Partner's anti-bribery law	0.77	0.42	0.021	-0.396	0.462	-0.063	-0.037	1				
7 Industry relatedness	0.48	0.50	0.042	0.014	0.014	-0.113	0.050	0.016	1			
8 Revenue (billion USD)	17.10	29.90	-0.099	-0.014	0.115	0.281	0.047	0.034	-0.137	1		
9 Partner's revenue (billion USD)	21.00	33.10	0.047	0.000	0.085	-0.007	0.019	0.148	-0.143	0.197	1	
10 Return on assets	1.43	21.19	-0.118	-0.033	-0.095	0.167	0.135	-0.003	0.013	0.167	0.007	1
11 Partner's return on assets	2.99	19.69	0.025	0.146	0.009	-0.017	0.005	-0.067	-0.022	-0.003	0.162	-0.062
12 Market capitalization	30.12	62.36	-0.077	0.057	0.168	0.546	-0.046	0.039	-0.106	0.556	0.055	0.252
13 Partner's market cap	34.54	63.87	0.076	-0.095	0.018	0.005	0.028	0.165	-0.099	0.058	0.577	-0.015
14 Debt to assets ratio	18.19	20.17	-0.080	0.007	-0.027	-0.039	0.137	-0.048	-0.011	0.172	0.130	-0.140
15 Partner's debt to assets	19.20	20.46	-0.031	0.136	0.028	0.019	0.003	-0.018	-0.001	0.099	0.165	-0.019
16 Technology transfer	0.08	0.27	-0.039	-0.039	0.039	0.023	-0.010	0.075	-0.052	-0.026	-0.038	0.045
17 Partner's alliance experience	8.64	20.92	0.036	0.000	-0.265	0.078	0.046	-0.098	-0.089	0.016	0.242	0.016
18 Previous firm ties	0.05	0.22	0.027	0.027	-0.119	0.087	0.026	-0.076	0.083	0.067	0.064	0.050
19 Political risks	0.45	0.09	-0.013	-0.099	-0.098	0.038	0.022	0.034	-0.080	0.034	0.012	0.018
20 Cultural similarity	0.58	0.49	0.005	-0.015	0.012	0.028	-0.013	-0.004	-0.041	0.037	0.035	-0.006
21 Common legal origins	0.38	0.49	0.049	-0.003	-0.047	-0.077	-0.028	-0.016	0.132	-0.080	-0.107	-0.061
22 Geographic distance (km)	7,187.10	3,784.30	-0.051	0.294	-0.038	-0.078	0.283	-0.120	-0.042	0.012	0.006	0.044
23 Knowledge distance	0.01	0.98	-0.077	0.231	0.143	0.057	-0.091	-0.138	0.002	0.078	-0.038	-0.038

Table 1 (continued). Summary statistics and correlation matrix, 1996–2014.

Variable	11	12	13	14	15	16	17	18	19	20	21	22
11 Partner's return on assets	1											
12 Market capitalization	0.011	1										
13 Partner's market cap	0.252	-0.030	1									
14 Debt to assets ratio	-0.018	-0.053	0.049	1								
15 Partner's debt to assets	-0.171	0.028	-0.054	0.173	1							
16 Technology transfer	0.033	0.013	0.009	-0.124	-0.140	1						
17 Partner's alliance experience	0.157	-0.047	0.476	-0.004	-0.029	0.008	1					
18 Previous firm ties	0.037	0.020	0.036	0.024	0.025	-0.021	0.188	1				
19 Political risks	0.088	-0.113	0.072	0.090	-0.004	0.021	0.086	0.031	1			
20 Cultural similarity	0.008	0.037	0.008	-0.054	0.007	-0.056	-0.016	0.022	-0.050	1		
21 Common legal origins	-0.058	-0.061	-0.030	0.002	-0.009	0.032	-0.051	-0.092	-0.133	-0.029	1	
22 Geographic distance (km)	0.051	0.013	-0.051	0.008	0.030	-0.020	0.025	0.014	0.106	0.036	-0.228	1
23 Knowledge distance	0.075	0.076	-0.064	0.050	0.045	-0.002	-0.069	0.006	0.110	-0.014	-0.032	0.064

Table 2. Results of the regression analysis.

Variable		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
		Est.	P	Est.	P	Est.	P	Est.	P	Est.	P	Est.	P
Partner country's corruption	(H1)			-0.012	0.008	-0.007	0.181	-0.013	0.006	-0.012	0.007	-0.007	0.186
				(0.004)		(0.005)		(0.004)		(0.004)		(0.005)	
Corruption X anti-bribery law	(H2)					-0.014	0.005					-0.015	0.022
						(0.004)						(0.006)	
Corruption X alliance experience	(H3)							0.003	0.000			0.003	0.000
								(0.001)				(0.001)	
Corruption X focal country's corruption	(H4)									0.003	0.142	0.002	0.541
										(0.002)		(0.002)	
Anti-bribery law		0.005	0.546	0.006	0.452	0.006	0.486	0.006	0.448	0.006	0.443	0.006	0.476
		(0.008)		(0.008)		(0.008)		(0.008)		(0.008)		(0.008)	
Alliance experience		-0.001	0.488	-0.001	0.484	-0.001	0.445	-0.001	0.201	-0.001	0.487	-0.002	0.127
		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)	
Focal country's corruption		-0.003	0.217	-0.004	0.136	-0.005	0.091	-0.004	0.128	-0.004	0.137	-0.005	0.090
		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)	
Partner's anti-bribery law		-0.005	0.757	-0.007	0.704	-0.009	0.635	-0.007	0.669	-0.007	0.702	-0.010	0.588
		(0.017)		(0.018)		(0.019)		(0.017)		(0.018)		(0.019)	
Industry relatedness		0.002	0.740	0.002	0.758	0.001	0.813	0.002	0.752	0.002	0.774	0.001	0.816
		(0.006)		(0.006)		(0.006)		(0.006)		(0.006)		(0.006)	
Revenue		-0.005	0.021	-0.006	0.019	-0.006	0.011	-0.005	0.033	-0.006	0.017	-0.006	0.019
		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
Partner's revenue		0.007	0.090	0.007	0.089	0.007	0.079	0.007	0.085	0.007	0.083	0.007	0.071
		(0.004)		(0.004)		(0.004)		(0.004)		(0.004)		(0.004)	
Return on assets		-0.007	0.031	-0.007	0.031	-0.007	0.030	-0.007	0.032	-0.007	0.031	-0.007	0.031
		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)	
Partner's return on assets		0.001	0.697	0.001	0.706	0.001	0.702	0.001	0.729	0.001	0.728	0.001	0.743
		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
Market capitalization		0.001	0.417	0.001	0.403	0.002	0.311	0.001	0.681	0.001	0.339	0.001	0.600
		(0.002)		(0.002)		(0.002)		(0.002)		(0.001)		(0.002)	

Table 2 (continued). Results of the regression analysis.

Partner's market cap	-0.001 (0.004)	0.886	0.000 (0.004)	0.918	-0.001 (0.004)	0.865	0.000 (0.004)	0.907	0.000 (0.004)	0.913	-0.001 (0.004)	0.845
Debt to assets ratio	-0.006 (0.001)	0.000	-0.006 (0.001)	0.000	-0.006 (0.001)	0.000	-0.006 (0.001)	0.000	-0.006 (0.001)	0.000	-0.006 (0.001)	0.000
Partner's debt to assets	-0.001 (0.001)	0.661	0.000 (0.002)	0.891	0.000 (0.002)	0.964	0.000 (0.002)	0.895	0.000 (0.002)	0.897	0.000 (0.002)	0.976
Technology transfer	-0.003 (0.005)	0.560	-0.003 (0.005)	0.583	-0.003 (0.005)	0.614	-0.003 (0.005)	0.564	-0.003 (0.005)	0.610	-0.003 (0.005)	0.609
Partner's alliance experience	0.001 (0.002)	0.439	0.001 (0.002)	0.467	0.002 (0.002)	0.381	0.001 (0.002)	0.446	0.001 (0.002)	0.453	0.002 (0.002)	0.345
Previous firm ties	0.014 (0.010)	0.169	0.014 (0.010)	0.170	0.014 (0.010)	0.185	0.014 (0.010)	0.194	0.014 (0.010)	0.174	0.013 (0.010)	0.223
Political risk	0.000 (0.002)	0.972	0.000 (0.002)	0.924	0.001 (0.002)	0.768	0.000 (0.002)	0.960	0.000 (0.002)	0.818	0.001 (0.002)	0.742
GDP per capita	-0.004 (0.002)	0.075	-0.005 (0.002)	0.060	-0.005 (0.002)	0.046	-0.005 (0.002)	0.066	-0.005 (0.002)	0.044	-0.005 (0.002)	0.040
Population	-0.005 (0.003)	0.068	-0.005 (0.003)	0.105	-0.005 (0.003)	0.087	-0.005 (0.003)	0.125	-0.005 (0.003)	0.085	-0.005 (0.003)	0.096
Cultural similarity	-0.001 (0.003)	0.650	-0.002 (0.003)	0.595	-0.002 (0.003)	0.594	-0.001 (0.003)	0.654	-0.002 (0.003)	0.565	-0.001 (0.003)	0.656
Common legal origins	0.009 (0.004)	0.037	0.009 (0.004)	0.043	0.009 (0.004)	0.032	0.009 (0.004)	0.047	0.009 (0.004)	0.037	0.009 (0.004)	0.031
Geographic distance	0.004 (0.003)	0.161	0.004 (0.003)	0.161	0.005 (0.003)	0.071	0.004 (0.003)	0.177	0.005 (0.003)	0.086	0.006 (0.003)	0.044
Knowledge distance	-0.003 (0.003)	0.320	-0.002 (0.003)	0.440	-0.002 (0.003)	0.371	-0.002 (0.003)	0.447	-0.003 (0.003)	0.358	-0.003 (0.003)	0.321
Intercept	-0.018 (0.037)	0.627	0.011 (0.035)	0.756	0.036 (0.035)	0.313	0.016 (0.037)	0.657	0.017 (0.036)	0.634	0.048 (0.036)	0.195
Observations	1,087		1,087		1,087		1,087		1,087		1,087	
R-squared	17.05 %		17.22 %		17.59 %		17.45 %		17.29 %		17.67 %	

Year, industry, and partner country dummies included. Robust standard errors are in parentheses.

APPENDIX

Appendix 1. Second stage equation results of the Heckman two-step regression analysis.

Variable		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
		Est.	P	Est.	P	Est.	P	Est.	P	Est.	P	Est.	P
Partner country's corruption	(H1)			-0.014 (0.007)	0.048	-0.008 (0.008)	0.310	-0.015 (0.006)	0.032	-0.013 (0.006)	0.049	-0.009 (0.009)	0.278
Corruption X anti-bribery law	(H2)					-0.011 (0.005)	0.028					-0.011 (0.006)	0.098
Corruption X alliance experience	(H3)							0.003 (0.001)	0.000			0.004 (0.001)	0.000
Corruption X focal country's corruption	(H4)									0.003 (0.002)	0.105	0.003 (0.002)	0.249
Anti-bribery law		0.006 (0.021)	0.769	0.009 (0.021)	0.666	0.010 (0.021)	0.643	0.010 (0.021)	0.646	0.009 (0.021)	0.662	0.011 (0.021)	0.614
Alliance experience		-0.001 (0.001)	0.532	0.000 (0.001)	0.641	0.000 (0.001)	0.658	-0.001 (0.001)	0.218	0.000 (0.001)	0.663	-0.001 (0.001)	0.164
Focal country's corruption		-0.004 (0.005)	0.424	-0.005 (0.005)	0.331	-0.006 (0.005)	0.248	-0.005 (0.005)	0.318	-0.005 (0.004)	0.302	-0.006 (0.005)	0.222
Partner's anti-bribery law		-0.012 (0.015)	0.409	-0.015 (0.016)	0.364	-0.016 (0.016)	0.340	-0.015 (0.015)	0.325	-0.015 (0.016)	0.365	-0.017 (0.016)	0.293
Industry relatedness		0.004 (0.006)	0.503	0.004 (0.006)	0.516	0.004 (0.006)	0.524	0.005 (0.007)	0.505	0.004 (0.006)	0.525	0.004 (0.007)	0.517
Revenue		-0.007 (0.002)	0.001	-0.008 (0.002)	0.001	-0.008 (0.002)	0.000	-0.007 (0.002)	0.002	-0.008 (0.002)	0.000	-0.008 (0.002)	0.001
Partner's revenue		0.009 (0.005)	0.071	0.009 (0.005)	0.066	0.009 (0.005)	0.060	0.009 (0.005)	0.062	0.009 (0.005)	0.063	0.009 (0.004)	0.051
Return on assets		-0.015 (0.006)	0.013	-0.016 (0.006)	0.012	-0.016 (0.006)	0.009	-0.016 (0.006)	0.010	-0.016 (0.006)	0.012	-0.016 (0.006)	0.008
Partner's return on assets		0.001 (0.003)	0.788	0.001 (0.003)	0.776	0.001 (0.003)	0.783	0.001 (0.003)	0.817	0.001 (0.003)	0.789	0.001 (0.003)	0.849
Market capitalization		0.004 (0.002)	0.057	0.004 (0.002)	0.050	0.004 (0.002)	0.039	0.003 (0.002)	0.123	0.004 (0.002)	0.032	0.003 (0.002)	0.090

Appendix 1 (continued). Second stage equation results of the Heckman two-step regression analysis.

Partner's market cap	-0.001 (0.006)	0.908	0.000 (0.006)	0.949	0.000 (0.006)	0.940	0.000 (0.006)	0.966	0.000 (0.006)	0.937	0.000 (0.006)	0.952
Debt to assets ratio	-0.007 (0.003)	0.050	-0.007 (0.003)	0.045	-0.007 (0.003)	0.034	-0.007 (0.003)	0.049	-0.007 (0.003)	0.047	-0.007 (0.003)	0.040
Partner's debt to assets	-0.001 (0.001)	0.397	-0.001 (0.001)	0.598	-0.001 (0.001)	0.636	-0.001 (0.001)	0.635	-0.001 (0.001)	0.600	-0.001 (0.002)	0.685
Technology transfer	0.004 (0.015)	0.794	0.006 (0.015)	0.695	0.007 (0.014)	0.617	0.006 (0.015)	0.683	0.006 (0.014)	0.675	0.008 (0.014)	0.588
Partner's alliance experience	0.004 (0.004)	0.269	0.004 (0.004)	0.260	0.005 (0.004)	0.216	0.005 (0.004)	0.252	0.005 (0.004)	0.240	0.005 (0.004)	0.190
Previous firm ties	0.015 (0.014)	0.269	0.014 (0.013)	0.291	0.014 (0.013)	0.321	0.013 (0.014)	0.351	0.014 (0.013)	0.296	0.011 (0.014)	0.407
Political risk	-0.001 (0.003)	0.650	-0.002 (0.003)	0.605	-0.001 (0.003)	0.586	-0.002 (0.003)	0.564	-0.001 (0.003)	0.660	-0.001 (0.002)	0.581
GDP per capita	-0.004 (0.003)	0.201	-0.004 (0.003)	0.167	-0.004 (0.003)	0.132	-0.004 (0.003)	0.197	-0.004 (0.003)	0.114	-0.004 (0.003)	0.109
Population	-0.007 (0.003)	0.051	-0.006 (0.003)	0.095	-0.006 (0.003)	0.087	-0.006 (0.003)	0.116	-0.006 (0.003)	0.075	-0.006 (0.003)	0.090
Cultural similarity	-0.005 (0.009)	0.568	-0.006 (0.01)	0.512	-0.007 (0.009)	0.462	-0.007 (0.01)	0.519	-0.007 (0.01)	0.497	-0.007 (0.009)	0.457
Common legal origins	0.010 (0.005)	0.066	0.011 (0.006)	0.065	0.011 (0.006)	0.052	0.011 (0.006)	0.061	0.011 (0.006)	0.060	0.011 (0.005)	0.043
Geographic distance	0.003 (0.004)	0.361	0.003 (0.004)	0.371	0.005 (0.004)	0.216	0.003 (0.004)	0.423	0.005 (0.004)	0.226	0.005 (0.003)	0.149
Knowledge distance	-0.003 (0.004)	0.474	-0.002 (0.004)	0.627	-0.002 (0.004)	0.590	-0.002 (0.004)	0.668	-0.003 (0.004)	0.545	-0.002 (0.004)	0.560
Lambda	-0.014 (0.030)	0.642	-0.017 (0.030)	0.575	-0.019 (0.028)	0.517	-0.018 (0.031)	0.558	-0.017 (0.030)	0.574	-0.020 (0.029)	0.496
Intercept	-0.014 (0.030)	0.652	0.022 (0.029)	0.449	0.036 (0.029)	0.224	0.030 (0.030)	0.321	0.029 (0.030)	0.339	0.052 (0.030)	0.099
Observations	1,087		1,087		1,087		1,087		1,087		1,087	
R-squared	16.65 %		16.84 %		17.06 %		17.16 %		16.94 %		17.56 %	

Year, industry, and partner country dummies included. Robust standard errors are in parentheses.