Institutional complementarities and corporate governance: The case of hostile takeover attempts

Nan Zhou1 | Mauro F. Guillén2

1Management Department, Nankai Business School, Nankai University, Tianjin, China
2Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Correspondence
Nan Zhou, Associate Professor, Management Department, Nankai Business School, Nankai University, Tianjin, China 300071.
Email: zhounan38@hotmail.com

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Abstract

Research Question/Issue: Do institutions reinforce each other when it comes to shaping the economic and organizational environment? We investigate national institutional complementarities by examining how different types of institutions jointly influence the occurrence of hostile takeover attempts, a practice in corporate governance whose frequency differs across countries. We distinguish among regulative, normative, and cultural-cognitive institutions and examine how they interact to influence the occurrence of hostile takeover attempts worldwide.

Research Findings/Insights: Using panel data on hostile takeover activity of 45 countries between 1988 and 2016, we find evidence supporting the impact of institutions individually and of institutional complementarities.

Theoretical/Academic Implications: This study shows that important corporate governance practices such as hostile takeover attempts are indeed influenced by different aspects of institutional environment. It thus helps us better understand the effectiveness of corporate governance practice across different countries.

Practitioner/Policy Implications: This study sheds new light on policies facilitating certain corporate governance practice such as hostile takeovers. It also provides managers with a tool to analyze the prevalence of hostile takeovers in a country.

KEYWORDS
corporate governance, institutional complementarities, hostile takeover attempts

1 INTRODUCTION

Scholars of corporate governance have long recognized that the prevalence of corporate governance practices across different countries is influenced by multiple and functionally related institutions (Aguilera & Jackson, 2010). Although there are considerable variations in institutional arrangements, they tend to drive corporate governance practices to become more similar within countries and to differ across countries. Most scholars interested in cross-national comparative corporate governance research agree that institutions matter to explain the diversity of corporate governance (Aguilera, Desender, & de Castro, 2012; Capron & Guillén, 2009; Fiss, Kennedy, & Davis, 2012). However, how they matter still remains a contested question. Existing studies usually compare institutions in terms of highly aggregated measures (Aguilera & Jackson, 2010). In this paper, we theorize and test institutional complementarity as it affects corporate governance practices worldwide.

Institutional complementarity refers to the interdependence among institutions, that is, different institutions within a country working synergistically to bolster each other’s effectiveness and legitimacy. The notion of institutional complementarity has been explored in the cross-national context by looking at the interaction between strategic and market considerations (Kim & Finkelstein, 2009) and at resource complementarity (Chung, Singh, & Lee, 2000). Efforts to examine how institutional complementarity influences the worldwide spread of corporate governance have been limited.
In this paper, we argue that national institutions are complementary to one another building on the influential three-pillar approach. “Institutions consist of regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (Scott, 2008, p. 61). Although we will hypothesize that the three institutional pillars are complementary, our empirical approach is open to both competing and complementary institutional effects, as Scott (2008) suggested. Previous empirical research has tested the separate effects of the three institutional pillars for specific phenomena, such as the choice between joint venture and wholly owned subsidiary in foreign expansion (Yiu & Makino, 2002), and the technological heterogeneity of entrepreneurial founding (Sine, Haveman, & Tolbert, 2005), but without examining the interactions among them.

We propose to conceptualize the institutional setting prevalent in a given country in terms of different interacting dimensions or institutions, as suggested by the configurational approach (Aguilera et al., 2012; Fiss, 2007). Central to this perspective is the idea that different configurational elements or institutions do not necessarily compete to explain variation in outcomes but rather come together to produce those outcomes through the agency of actors embedded in different layers of institutional meaning (Thornton, Ocasio, & Lounsbury, 2012).

We explore institutional complementarities in the context of the phenomenon of hostile takeover attempts, a topic that has been used by scholars to study the cross-national diversity of corporate governance (Hasani Mohd & Liu, 2014; Schneper & Guillén, 2004). A hostile takeover is an acquisition resisted by the target firm’s shareholders or management team. It is an interesting practice because it is highly contested: Some organizational stakeholders view it as beneficial to their interests whereas others see it as inimical to them (Hirsch, 1986; Schneper & Guillén, 2004). Although most existing studies on hostile takeovers adopt an economic view, examining the interactions among different institutions offers a more complete picture of how institutions complement each other to influence hostile takeover attempts (Judge, Douglas, & Kutan, 2008). We test these predictions with a sample of hostile takeover attempts launched by firms in 45 countries from 1988 to 2016.

The phenomenon of hostile takeovers is an appropriate empirical setting in which to examine institutional complementarities, for three reasons. First, hostile takeovers are a controversial practice in need for legitimacy and justification (Fiss et al., 2012; Hirsch, 1986). In fact, since its inception, hostile takeovers have generated considerable debates over whether it is beneficial to stakeholders such as shareholders and employees (Mohlmann, 2012). Second, as we described earlier, there are conflicting empirical results regarding different aspects of hostile takeovers, such as the selection of takeover targets and the impact of hostile takeovers on innovation (Franks & Mayer, 1996; Rhee & Fiss, 2014). Thus, it becomes more likely that multiple institutions complement each other to reduce uncertainty. Third, hostile takeovers are a corporate governance practice and thus part of the corporate governance system of a country. The literature emphasizes that corporate governance systems are resilient to change precisely because its components are closely related and embedded in a broader institutional environment (Aguilera & Cuervo-Cazurra, 2004; Aoki, 2001).

2 RESEARCH BACKGROUND

2.1 Hostile takeovers as a corporate governance practice

Since the 1980s, there has been a surge in hostile takeovers, albeit with some sharp ups and downs. Table 1 lists the name of countries, the number of hostile takeover attempts, and the number of completed hostile takeovers in 45 countries. The United States and the United Kingdom are the main markets where hostile takeovers take place (Martynova & Renneboog, 2008). From 1988 to 2016, there were 4,487 hostile takeover attempts in the United States and 1,934 in the United Kingdom. Starting in the mid-1990s, an increasing number of hostile takeover attempts took place in continental Europe. The numbers, however, are smaller than those in the United States and the United Kingdom. For instance, in France, 698 hostile takeover attempts occurred between 1988 and 2016, most of them during the 1990s. In Japan, the number is 207, and most of them took place after the year 2000.

Most studies on hostile takeover activity adopt an economic view, explaining it as a competition for corporate control to maximize firm value by increasing corporate governance efficiency (Morck, Shleifer, & Vishny, 1989). Hostile takeovers take place when control rights and ownership are separated from each other in publicly listed companies. According to agency theory, managers may have different interests from shareholders (Jensen & Meckling, 1976). Thus, there is a need for shareholders to effectively monitor managers’ use of resources. When internal mechanisms such as monitoring and compensation plans fail to align interests, a course of last resort may be found in an external mechanism, that is, the hostile takeover.

Hostile takeovers are usually predicated on the assumption that the incumbent management team is not maximizing shareholder wealth. A company that operates at suboptimal levels has a potential upside in profitability and share price, turning it into an ideal target for outside investors. Acquiring such firms and replacing the incumbent management could increase firm efficiency and thus create value for the acquiring firm and for all shareholders (Mohlmann, 2012). In this sense, hostile takeovers are a useful tool to discipline underperforming management, given that the threat of a takeover may be enough to put pressure on the incumbent managers (Morck et al., 1989).

Agency theory cannot fully explain cross-national variations in hostile takeovers because it overlooks the diverse identities of stakeholders, the interdependencies among stakeholders other than managers and employees, and the institutional environment (Aguilera & Jackson, 2003). Accordingly, this approach appears not to be able to explain hostile takeover activity satisfactorily. For example, although it suggests that poorly performing firms are the potential target of hostile takeovers, studies have found that target firms tend to be average performers in comparison with other companies (Franks & Mayer, 1996). Another example has to do with the impact of hostile takeovers on innovation. Although economic theories predict that hostile takeovers discipline managers and make them focus more on the most innovative and valuable projects (Jensen, 1988; Seru, 2014), scholars have found that hostile takeovers might actually stifle innovation.
Atanassov, 2013; Shleifer & Summers, 1988). Similar conflicting results can be found in other areas such as the impact of hostile takeovers on wage payments (Gokhale, Groshen, & Neumark, 1995). A recent review article concluded that economic analysis cannot fully explain the uneven occurrence of hostile takeover activity across different countries, and called for the development of a comprehensive institutional framework to understand corporate governance practices, including hostile takeovers (Filatotchev, Jackson, & Nakajima, 2013).

### 2.2 An institutional approach to hostile takeovers

Scholars have long recognized that institutions provide guidelines for individual as well as firm behavior (North, 1990; Scott, 1995, 2008). Institutions not only impose restrictions on behavior by defining legal, moral, and cultural boundaries but also support and empower activities and actors by providing guidelines and resources for taking actions. Hostile takeovers, as a corporate governance practice, is a social phenomenon that is influenced by different types of institutions.

The regulative institutional pillar sets rules, monitors, and sanctions activities. The normative pillar refers to sets of expectations within organizational contexts of what constitute appropriate and thus legitimate behavior (Judge et al., 2008). The cultural-cognitive pillar creates shared conceptions that constitutes the nature of social reality and the frames that shape meanings. For instance, the decline of hostile takeover activity in the United States since 1988 could be explained by regulatory changes. Takeovers are regulated by the Williams Act 1986, which imposes some minimal requirements both by the courts of the State of Delaware and by state antitakeover statutes (Kagel, 1988). These regulations enable the management teams of U.S. firms to engage in defensive tactics, making hostile takeovers much harder than in the past (Deakin & Slinger, 1997). Although research from an institutional perspective has found systematic cross-national patterns, it has considered only the regulative pillar (Capron & Guillen, 2009; Hasani Mohd & Liu, 2014; Schneper & Guillén, 2004). The field lacks a theory as to how cognitive, regulative, and normative institutions come together to influence the occurrence of corporate governance practices, such as hostile takeovers.

### 3 HOSTILE TAKEOVERS AND INSTITUTIONAL COMPLEMENTARITY

In this paper, we argue that, as a corporate practice, hostile takeovers are a social phenomenon influenced by the three institutional pillars in the sense that the actors involved in the event are variously enabled and constrained by existing institutions. Regulative, normative, and cultural-cognitive institutions facilitate sense-making and enable actors to pursue or to resist new practices. Let us examine each of them in turn.

**TABLE 1** The number of hostile takeover attempts and completed hostile takeovers in each country

<table>
<thead>
<tr>
<th>Country name</th>
<th>Number of hostile takeovers</th>
<th>Number of completed hostile takeovers</th>
<th>Country name</th>
<th>Number of hostile takeovers</th>
<th>Number of completed hostile takeovers</th>
</tr>
</thead>
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<tr>
<td>Argentina</td>
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<td>5</td>
<td>Mauritius</td>
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<td>0</td>
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<tr>
<td>Australia</td>
<td>825</td>
<td>524</td>
<td>Mexico</td>
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<td>0</td>
<td>Netherlands</td>
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<td>115</td>
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<tr>
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<td>22</td>
<td>16</td>
<td>New Zealand</td>
<td>49</td>
<td>29</td>
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<tr>
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<td>Norway</td>
<td>83</td>
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</tr>
<tr>
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<td>306</td>
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<td>22</td>
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<tr>
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<tr>
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<td>5</td>
</tr>
<tr>
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<td>16</td>
<td>0</td>
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<td>Spain</td>
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<td>Thailand</td>
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<tr>
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<td>2</td>
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<tr>
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<td>Venezuela</td>
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<tr>
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</table>
3.1 Hostile takeovers and the regulative pillar

The regulative institutional pillar empowers, supports, and constrains actors who participate in a hostile takeover event through laws and regulations. The interests of the actors involved in a hostile takeover may be variously protected by existing laws and regulations (Kagel, 1988). Although many parties are impacted by a hostile takeover—managers, shareholders, employees, suppliers, customers, political parties, or the community (Donaldson & Preston, 1995)—we focus the attention on shareholders, for two reasons. First, shareholders are more directly affected by hostile takeovers than other parties because of their relatively direct claim on the allocation of the target firms’ cash flows and rewards (Capron & Guillen, 2009). And second, shareholders are the most frequently mentioned actors in cross-national comparisons (Aguilera & Jackson, 2003; Phan & Yoshikawa, 2000).

Shareholders of the target firm are likely to gain from hostile takeovers because shareholder value may be created in the wake of the takeover. As a corporate governance mechanism, a hostile takeover is intended to maximize shareholder value (Morck et al., 1989). The shareholders of target firms often benefit from the mere announcement of a hostile takeover. Empirical research shows that the shareholders of target firms accumulate significant positive cumulative average abnormal returns in the period around a bid announcement (Jarell, Brickley, & Netter, 1988; Martynova & Renneboog, 2008).

Even if the hostile takeover does not materialize, the threat of one serves as an early warning and has the effect of disciplining the current management team, encouraging it to maximize shareholder value (Mohlmann, 2012). Research has also found that there is a significant decline in the number of patents and citations per patent for U.S. firms incorporated in states that pass antitakeover laws relative to firms incorporated in states that do not (Atanassov, 2013).

Although shareholders of the target firm stand to benefit from hostile takeovers, they need to assert their rights against other stakeholders, such as managers, to appropriate the gains from the process. The ability of shareholders to realize the returns depends on the extent to which shareholder rights are protected. Comparative legal studies (Glendon, Gordon, & Osakwe, 1994; Reynolds & Flores, 1989) and economic analyses (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998) point out the fact that shareholder rights receive different levels of protection across different countries, especially against the actions of the incumbent management team. Recent research shows that shareholder legal protections have increased in many countries around the world (Guillen & Capron, 2016). When shareholder rights are well protected, shareholders of the target firm are in a better position to pressure board of directors to accept hostile takeovers. In the United States, recent corporate governance changes have favored shareholders and stopped shielding boards from outside pressures. In most U.S. companies, directors can now be replaced at any time and will no longer be protected by 3-year terms and strict annual meeting schedules. Staggered boards, which slow down hostile takeovers, have also tended to disappear. These changes weakened firms’ defenses against hostile takeovers.

Shareholder rights are protected to varying degrees in different countries. In a comparative analysis of corporate legal traditions, La Porta et al. (1998) identified six shareholder rights protection practices: (a) whether voting by mail is permitted; (b) whether laws require shareholders deposit their shares with the company or a financial intermediary several days prior to a shareholder meeting; (c) whether cumulative voting for directors is allowed; (d) whether minority shareholders have legal mechanisms against perceived oppression by directors; (e) whether shareholders are granted a preemptive right to buy new issues of stock; and (f) the percentage of share capital needed to call an extraordinary shareholders’ meeting. They found that the English common law protects shareholder rights best (with average of four shareholder rights protection practices), followed by Scandinavian (average number is three), German, and French law (average number is 2.33; La Porta et al., 1998; Schneper & Guillén, 2004). To the extent that shareholder rights are protected, one would expect more hostile takeover attempts to occur.

3.2 Hostile takeovers and the normative pillar

The normative pillar also influences hostile takeovers. Norms describe acceptable or legitimate ways for actors to behave in a given setting (W. R. Scott, 2008). Organizational scholars have long recognized that actors must overcome considerable normative resistance before a new practice achieves widespread acceptance (Galaskiewicz & Wasserman, 1989; Haveman, 1993; Kennedy & Fiss, 2009). This is especially true of practices that affect the distribution of financial rewards among corporate stakeholders, such as hostile takeovers (Schneper & Guillén, 2004). In the early days, the term “hostile takeover” was often used with a negative connotation. The hostile character of the process caused these actions to receive much attention in the media (Mohlmann, 2012). Hostile takeovers were frequently described as Wild-West shootouts or medieval jousts in which bidders became raiders and black knights, whereas the managers of the target firm were often portrayed as unfortunate and unwilling pawns (Hirsch, 1986; Palmer & Barber, 2001). According to Hirsch (1986, p. 39), this vivid imagery and expressive language reflected the “instability, stress, or conflict over normative boundaries” triggered by the hostile takeover. As hostile takeovers became more and more common, the media evolved to a more detached and less one-sided position, indicating that hostile takeovers had overcome normative resistance and become more legitimate (Schneper & Guillén, 2004).

Normative frameworks that shape economic behavior can establish boundaries of what is appropriate and what is not in a positive or in a negative way. Prohibitions against illegitimate behaviors such as bribery or corruption set limits to what actors can do in a given social context (North, 1990). The level of corruption control has also been recognized as an important institution (Ageev & Khuzina, 2016), which influences corporate governance practices (Chakraborty, 2015).

Corruption can be defined as the misuse of public power (or office) for private benefit (Judge et al., 2008). It occurs when public officials abuse their responsibility for the provision of a public service or the application of regulations (Rose-Ackerman, 1997). It is likely to happen when the public and private sectors interact (Akçay, 2006). National-level corruption has been found to influence various aspects of a society, such as economic growth (Méndez & Sepúlveda,
Corruption influences how people view corporate governance in a country. Previous studies have shown that corruption influences financial markets, resulting in higher corporate borrowing costs, lower stock valuations, and illegitimate and ineffective governance practices (Ng, 2006). By definition, corruption is oriented toward circumventing the governance system rather than toward operating within the system (Wu, 2005). Therefore, the level of corruption in a given country is likely to be inversely related to how legitimate corporate governance practices are (Judge et al., 2008). For instance, corruption in many emerging markets is endemic. Accordingly, the governance practices in these countries are viewed as deficient and lacking in legitimacy (Khatri, Tsang, & Begley, 2006).

When corporate governance lacks legitimacy in a country, hostile takeovers are also seen as illegitimate. People may view takeover events as yet another way through which government officials or corporate leaders abuse their power for their own interests. Russia is a prime example, a country ranked 127 out of 177 on Transparency International’s Corruption Perceptions Index. Many corporate raiders (“black” and “grey” raiders) utilize criminal force and activity to advance their goals, in addition to the “white” corporate raiders that use organized strikes or unplanned inspections. Although some of the tactics of Russian corporate raiders might be considered legitimate in the West, the execution could be illegal because the main methods of raiding include falsification, greenmail, forceful takeovers, and share buyouts (Carbonell, Foux, Krimnus, Ma, & Safyan, 2009).

The available empirical evidence indicates that a normative framework in which corruption is tolerated reduces the level of takeover activity (Carbonell et al., 2009). Research has found that target premiums in takeovers are negatively related to the level of corruption in the country (Weitzel & Berns, 2006). Such decreased target premiums reflect a negative view toward hostile takeovers in countries with high levels of corruption. Thus, the higher the level of corruption in a given country, the less likely that corporate governance practices such as hostile takeovers are viewed as legitimate in the country (Judge et al., 2008; Khatri et al., 2006).

### 3.3 Hostile takeovers and the cultural-cognitive pillar

The cultural-cognitive institutional pillar recognizes the fact that internal interpretive processes are shaped by external cultural frameworks. It influences the occurrence of hostile takeovers through the way in which key actors and the public interpret the event. Scholars have used organizational narratives to identify themes that go beyond surface meanings and reveal deep, perhaps unconscious, emotional meanings in addition to rational explanations (de Vries & Miller, 1987). It is the interaction of the narrative with the observer that creates meaning about an event (Schneider & Dunbar, 1992). Hostile takeover events create a “narrative thirst,” a need for explanation to reduce the uncertainty inherent in them (Spence, 1982). Schneider and Dunbar (1992) offered a psychoanalytic reading of hostile takeover events, finding that different meanings and different levels of meaning can be revealed by interpreting the texts that describe hostile takeover events.

Thus, the cultural-cognitive pillar influences hostile takeovers through the way in which actors interpret and understand the event. As such, cultural-cognitive institutions provide a lens through which actors view the world and make sense out of it. The literature has identified several ways in which actors make sense out of hostile takeovers. One such way has to do with public trust in the corporation, which reflects people’s attitudes toward the corporation in a country.

One key cultural-cognitive influence on hostile takeovers has to do with people’s trust in the business corporation and its role in the economy and society. A hostile takeover is a complex corporate governance practice, which nonexpert audiences may find it difficult to understand (Schneider & Dunbar, 1992). As a result, they interpret hostile takeovers through their own understanding of the corporation (Fiss & Hirsch, 2005). People who believe that corporations in an economy create value legally by providing goods and services that satisfy consumer needs are likely to see hostile takeovers as damaging to their potential to increase firm performance and create value. On the contrary, if the public lacks trust in the corporation and believes that large corporations usually engage in illegal operations to extract value from stakeholders, they are likely to view hostile takeovers as another way through which corporations play tricks and fool investors and thus resist hostile takeovers (Shleifer & Summers, 1988). In fact, large corporations recognized the importance of public trust in the corporation (Hearit, 2018) and paid great effort enhancing public trust by different means such as corporate social responsibility (Sethi, Martell, & Demir, 2016).

As a result, the extent to which the public trust the corporation in a given country influences whether the general public interprets hostile takeover events positively or negatively. Public trust in the corporation refers to the extent to which the general public shows sympathy for corporate activities in general. The higher the level of public trust in the corporation, the more likely the general public views hostile takeovers positively. Therefore, hostile takeover activity in a country increases with the level of public trust in the corporation as a cultural-cognitive institution.

### 3.4 Institutional complementarities

The different types of institutions are not randomly distributed. Research has shown that institutions, like practices or strategies, may be complementary with one another, interdependent, and/or mutually reinforcing (Aoki, 2001; Fiss, Marx, & Cambre, 2013; Jackson & Ni, 2013). “The concept of complementarity denotes the beneficial interplay of the elements of a system where the presence of one element increases the value of others” (Ennen & Richter, 2010, p. 207). Institutional complementarities refer to “the situations in which the viability of a certain institution increases in the presence of another institution” (Aguilera & Jackson, 2003, p. 460). Thus, in addition to considering the separate effects of different institutional variables, it is important to consider how they come together in configurations or sets and whether those combinations affect outcomes interactively above and beyond their main effects.
In the field of management, scholars have found that there are complementarities among different aspects such as resources, organization, strategy, and the environment (Ennen & Richter, 2010; Milgrom & Roberts, 1995; Miller, 1986). In the alliance literature, resource complementarity is an important driver of alliance formation (Chung et al., 2000). Strategic alliances can create value if partners can complement each other’s weaknesses (Hamel, Doz, & Prahalad, 1989). In the area of corporate governance, complementarity is also common because corporate governance is a system of interrelated practices exhibiting multiple strategic or institutional synergies (Aguilera, Filatotchev, Gospel, & Jackson, 2008; Filatotchev, 2007). Therefore, governance practices are more effective in certain combinations rather than when monitoring mechanisms are used in isolation (Sundaramurthy, Mahoney, & Mahoney, 1997). For instance, using a sample of Continental European companies, Desender, Aguilera, Crespi, and García-cestona (2013) found that board independence and audit services are complementary when ownership is dispersed. Similarly, in a sample of the S&P 1500 firms, Misangyi and Acharya (2014) found that firms enjoy high profits when CEO incentive alignment and monitoring mechanisms work together as complements rather than substitutes. They also found that profits tend to be higher when both internal and external monitoring are present.

Moreover, corporate governance practices also interact with external environments (Jackson & Ni, 2013). Aguilera et al. (2008) noted that current studies on comparative corporate governance largely viewed national diversity of corporate governance as a mere distortion or deviation rather than a phenomenon that deserves rigorous investigation. Filatotchev, Toms, and Wright (2006) attributed the conflicting findings concerning the effectiveness of corporate governance practices to the failure to incorporate the variations in institutional configurations.

Scholars have investigated how different institutional complementarities influence macroeconomic outcomes such as growth and innovation (Akkermans, Castaldi, & Los, 2009; M. R. Schneider, Schulze-Bentrop, & Paunescu, 2010). For example, Sine and David (2003) found that different institutional characteristics compensate for each other in the U.S. electric power industry. However, relatively few studies examine how complementarities influence corporate governance. As noted by Aoki (2001, p. 18), “we need to make explicit the mechanism of interdependencies among institutions across domains in each economy.” This oversight makes the analysis of cross-national differences more difficult (Aguilera & Jackson, 2003).

### 3.4.1 Complementarities between the regulative and normative pillars

The regulative pillar, as carried by laws and regulations protecting shareholder rights, defines the legal boundaries for conducting hostile takeovers in a certain country. Scholars have found that laws and regulations alone cannot fully explain the diversity of corporate governance practices across different countries (Aguilera & Jackson, 2010). Some other mechanisms must be activated in order to better explain the difference (Aguilera et al., 2012).

One such mechanism is the normative pillar, as carried by norms regarding what behaviors are deemed to be socially appropriate. As we argued earlier, the normative pillar enables hostile takeover activity to be consistent with behaviors that are not fraudulent or corrupt (Weitzel & Berns, 2006). It complements the regulative pillar by reinforcing both the enabling and the constraining factors provided by the legal system. The effects of socially accepted norms such as corruption-free actions will be larger when they are exercised in ways that do not infringe on the rights of key stakeholders such as shareholders, who enjoy a certain degree of legal recourse to protect their rights, depending on the strength of the legal framework, and may want to either favor or oppose the practice. Conversely, the effect of laws and regulations in protecting shareholders is stronger when the control of corruption make it hard to appropriate shareholder value (Uhlenbruck, Rodriguez, Doh, & Eden, 2006). Therefore, we predict that

**Hypothesis 1.** (H1): The interaction effect between the regulative and normative institutional pillars increases hostile takeover activity.

### 3.4.2 Complementarities between the regulative and cultural-cognitive pillars

The cultural-cognitive pillar also interacts with the regulative pillar to influence hostile takeover activity. Cultural-cognitive institutions shape how people see the business world in general and corporations in particular, focusing their attention on the ideas of business as a positive force, and on the business firms as a bundle of assets. As we argued earlier, it influences hostile takeovers by determining how they are perceived, interpreted, and constructed (Fiss & Hirsch, 2005). These institutions provide impetus for a hostile takeover under the assumption that it adds value to stakeholders such as shareholders, but they can only be conducive to a hostile takeover if actors promote shareholder rights (Liu & McConnell, 2015).

The effect of cultural-cognitive institutions on hostile takeover activity is stronger when shareholder rights are well protected by the regulative pillar because cultural frames cannot be in conflict with laws and regulations if they are to prompt actors to engage in a given practice. Conversely, the effect of laws and regulations is larger when actors are motivated to engage in hostile takeovers due to their framing of the situation in terms of cultural frames that trust the business activities of corporations in a country because laws and regulations per se do not necessarily motivate actors to engage in the practice. Therefore, we expect that

**Hypothesis 2.** (H2): The interaction effect between regulative and cultural-cognitive institutional pillars increases hostile takeover activity.

### 3.4.3 Complementarities between the normative and cultural-cognitive pillars

The normative pillar and cultural-cognitive pillars also interact with each other to influence hostile takeover activity. As we argued earlier, cognitive institutions shape how people frame and see the corporation. But these forces have to operate within normative constraints
such as not engaging in corrupt practices (Zheng, Ghoul, Guedhami, & Kwok, 2013).

If hostile takeovers are viewed as inappropriate because corruption is widespread, the cultural frames of public trust in the corporation would have less of an effect at focusing actors’ attention on hostile takeovers. In other words, the effect of the cultural-cognitive institutions on hostile takeovers is stronger in a country where actors observe corrupt behaviors are effectively under control. Conversely, the effect of social norms about the control of corruption will be smaller at prompting actors to engage in this practice when cultural-cognitive institutions invite actors to frame the situation as a way to extract value from stakeholders illegally. For hostile takeover activity to be frequent, normative and cultural-cognitive institutions need to be aligned. Therefore, we predict that

**Hypothesis 3. (H3): The interaction effect between normative and cultural-cognitive institutional pillars increases hostile takeover activity.**

### 3.4.4 Complementarities among the three institutional pillars

The arguments leading to the 3 two-way interactions invite an examination of the effect of a three-way interaction among the regulative, normative, and cultural-cognitive pillars. We have argued above that the institutional pillars do not act as substitutes for each other. Rather, they influence organizational practices from different angles and at different levels, providing actors with the various elements needed for action, including resources, constraints, social acceptability, and sense-making frames. Those elements are neither redundant nor interchangeable (Scott, 2008). For example, even when the regulative pillar makes a certain practice legal, the frequency of the practice will not necessarily rise if prevailing social norms see them as unacceptable or if actors lack cultural-cognitive frames to categorize them in ways that enable purposive action.

The three pillars essentially refer to three separate bases of legitimacy. The regulatory pillar emphasizes conformity with rules. Legitimate organizations and organizational practices are those consistent with laws and regulations. The normative pillar stresses a deeper base of legitimacy. Normative control is more likely to be internalized than regulative control, and intrinsic rewards are likely to accompany external rewards for normative controls. Lastly, the cultural-cognitive view of legitimacy stems from conforming to a common definition of the situation, frame of reference, or recognizable role or structural template. It is the deepest level because it can rest on unconscious, taken-for-granted understandings. The three types of legitimacy operate at different levels, from external coercion to internal understanding. As Thornton et al. (2012) have argued, cultural and cognitive frames enable actors to construct, interpret, and make sense out of regulations and norms. Thus, the effect of the regulative and normative pillars cannot occur without the cultural-cognitive pillar.

In addition, the three pillars use different carriers to influence action and practices. There are four types of institutional carriers: symbolic systems, relational systems, routines, and artifacts (Scott, 2008). These carriers have different characteristics and operate at different levels. Under the symbolic system, the regulative pillar relies on rules, laws, and conventions as carriers; the normative pillar relies on shared values and normative expectations, and the cultural-cognitive pillar relies on common categories, distinctions and typifications. Under the relational system, the regulative pillar relies on government systems and power systems as carriers; the normative pillar on regimes and authority systems; and the cultural-cognitive pillar on structural isomorphism and identities. In the case of routines, the regulative pillar relies on protocols and standard operating procedures as carriers; the normative pillar on jobs, roles, and obedience to duty; and the cultural-cognitive pillar on scripts. And in the case of artifacts, the regulative pillar relies on objects complying with mandated specifications as carriers; the normative pillar on objects meeting conventions and standards; and the cultural-cognitive pillar on objects possessing symbolic value.

In sum, for a practice to become frequent and widespread, it cannot be at odds with the legal framework, society must sanction it as acceptable, and actors must be able to make sense out of it. Thus, the three pillars reinforce each other to create an institutional context in which actors can engage in certain practices. When the pillars work in tandem, hostile takeovers are expected to be more frequent because they are consistent with the regulatory order, normatively endorsed by society, and taken-for-granted by actors. Therefore, we predict that

**Hypothesis 4. (H4): The interaction effect among regulative, normative, and cultural-cognitive pillars increases hostile takeover activity.**

### 4 DATA AND METHOD

#### 4.1 Sample and dependent variable

We collected hostile takeover data worldwide from 1988 to 2016. The source is the Securities Data Company’s (SDC’s) Platinum database of worldwide mergers and acquisitions (M&As). SDC Platinum is the industry standard for information on M&As. It covers over 900,000 global deals from the 1970s to the present, including more than 280,000 U.S.-target and more than 620,000 non-U.S.-target transactions. For each transaction, it includes detailed information such as announcement date, status, deal attitude, and deal value. Under “deal attitude,” SDC classifies a deal as “hostile” when the target firm’s board of directors officially rejects a takeover offer but the acquirer persists.

We chose SDC Platinum for two reasons. First, it has the best global coverage. Backed by Thomas Reuters’ international team of 210,000 expert analysts in more than 200 countries, SDC Platinum satisfies the need for reliable data from globally consistent, locally based sources. Second, compared with other definitions of hostile takeovers, the one adopted by SDC Platinum is a relatively conservative one, which provides significantly lower counts than classifications based on nonnegotiated bids or an evaluation of prebid events (Schwert, 2000).
The dependent variable in the empirical analyses is the count of announced hostile takeover bids in a country during a given year. Thus, the unit of analysis is the country-year. After downloading the data from SDC Platinum, we constructed our measure by aggregating hostile takeovers by year, by deal attitude, and by the home country of the target firm.

We focused on hostile takeover attempts rather than completed deals for two reasons. First, the threat of hostile takeover itself alone can have enduring impact on managerial behavior (Davis, 1991; Driver & Thompson, 2002). Corporate governance practices such as hostile takeovers are the result of power dynamics involving different stakeholders. Power can be exercised not only by behaving but also by not acting (Lukes, 1974); the threat of hostile takeovers itself could serve as a corporate governance mechanism that poses important implication for the incumbent management teams (Chatterjee, Harrison, & Bergh, 2003; Driver & Thompson, 2002; Mohlmann, 2012). Therefore, if we view hostile takeovers as a corporate governance mechanism, whether a hostile takeover eventually materializes is only of secondary importance. In counties where hostile takeovers are scarce, a few hostile takeover announcements could trigger speculation among managers, directors, and the press about a growing market for corporate control (Scott, 2004). Various studies used hostile takeover attempts rather than completed hostile takeovers to examine hostile takeover as a corporate governance mechanism that disciplines managerial behavior (Chatterjee et al., 2003; Davis & Stout, 1992; Schneper & Guillén, 2004). For example, Schneper and Guillén (2004) investigated how hostile takeover attempts are influenced by different types of stakeholders worldwide. Chatterjee et al. (2003) examined how different firms react to failed hostile takeover attempts.

Second, it is inappropriate to use completed hostile takeover as the dependent variable because the determination of whether a deal is hostile or friendly can be problematic. For instance, a firm may eventually be acquired by a third-party "white knight" that would not appear if the hostile takeover attempt has not been announced (Hirsch, 1986). The target firm could also agree to the takeover after the bidder revised its terms after years of negotiation.

To summarize, our theoretical arguments speak to the decisions made by the actors involved in corporate governance when a hostile takeover attempt is announced, regardless whether the hostile takeover is ultimately successful or not (Schneper & Guillén, 2004). Therefore, hostile takeover attempts rather than completed hostile takeovers is the proper dependent variable. We also used the number of completed hostile takeovers rather than attempts as a dependent variable in the robustness checks to ascertain if the results vary.

4.2 Independent variables

4.2.1 Shareholder rights protections

We use the measure of shareholder rights protection developed by Guillen and Capron (2016), which tracks over time 10 key legal provisions identified by legal scholars as the most relevant to the protection of minority shareholder rights (Lele & Siems, 2007; Siems, 2008): powers of the general meeting for de facto changes; agenda-setting power; anticipation of shareholder decision facilitated; prohibition of multiple voting rights; independent board members; feasibility of directors’ dismissal; private enforcement of directors’ duties (derivative suit); shareholder action against resolutions of the general meeting; mandatory bid; and disclosure of major share ownership. If present, each of these legal provisions provides minority shareholders with a comprehensive set of protections against the actions of large shareholders and/or management, and in the event of a change in corporate control.

Each legal provision was coded between 0 and 1 depending on the nature and strength of the specific legal provisions contemplated in national legislation. It is important to note that the measures are not dichotomous because intermediate scores between 0 and 1 are also possible. In order to code this information, they relied on a team of 52 legal scholars with a JD degree from their respective home countries and who were either attending the Master of Laws (LL.M.) program of the law school of a major research university or were recent graduates of the same school. Each of the coders was an expert in the intricacies of corporate legislation in his or her country and could read the legal material in the original language. The independent variable shareholder rights protection is the sum of the scores for each of the 10 legal provisions, and ranges between 0 and 10, and is defined for each country-year.

4.2.2 Corruption control

We used the control of corruption indicator in The Worldwide Governance Indicators (WGI) developed by the World Bank. WGI reports aggregate individual governance indicators for 215 countries and territories for six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. We used the indicator of control of corruption, which reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the elites and private interests. The control of corruption index ranges from -2.5 to +2.5, with high numbers indicating better control of corruption in a country.

4.2.3 Public trust in the corporation

To create our measure of public trust in the corporation, we use public opinion data from six waves of the World Values Survey (WVS), which includes data from 100 countries and has been recognized as one of the world’s leading sources of measuring values across different cultures (Berry, Guillen, & Zhou, 2010; Inglehart, 2004). Scholars using the WVS have found that cultural values evolve rather quickly over time (Inglehart & Baker, 2000). The WVS allows to capture such changes because it is conducted around the world every 3 or 4 years. We interpolated the data for years in between waves of the survey. Question E069_13 in WVS asks the respondents to rate its confidence in major companies in his/her country. The answer ranges from a great deal (value of 1) to not at all (value of 4). We then average respondents’ answers by country and year to generate the variable public trust. We reversed the sign of public trust in regression, so that a larger value means more trust.
4.3 | Control variables

We controlled for several other national-level factors that may influence the occurrence of hostile takeovers. The data source for all control variables is World Development Indicators provided by the World Bank. Economic explanations of hostile takeover predict that hostile takeovers are likely to take place when firms go through a period of financial underperformance (Jensen, 1988; Morck et al., 1989). Because the financial performance of a firm is influenced by macroeconomic factors such as the business cycle (Becketti, 1986; Komlenovic, Mamun, & Mishra, 2011; Maule, 1968), we included the gross domestic product (GDP) growth rate as a proxy. We also included the log of GDP per capita to control for the economic development level of each country.

Hostile takeovers are also influenced by the overall level of economic activity. Following previous studies on hostile takeover attempts (Schnep & Guillén, 2004), we included the log of total number of people in the labor force. Total labor force comprises people of ages 15 and older who meet the ILO definition of the economically active population: all people who supply labor for the production of goods and services during a specific period.

Previous studies showed that acquisitions tend to occur in waves (Martynova & Renneboog, 2008; Mohlmann, 2012). Therefore, it is possible that there is a bandwagon effect during each wave of hostile takeovers. To control for this possibility, we included the number of hostile takeovers during the previous year, that is, the lagged value of the dependent variable.

There are other factors that influence hostile takeovers such as the level of ownership concentration (Holmstrom & Kaplan, 2001). Because we do not have measures to control for such factors, we clustered the data by country when we ran the regression analyses to control for such heterogeneity. We also included a lagged dependent variable to control for unobserved heterogeneity (Wooldridge, 2003).

Table 2 summarizes the list of variables and the data sources.

4.4 | Estimation method

Because the dependent variable, the number of hostile takeover announcements in a given country and a year, is a nonnegative count number, Poisson regression is the proper model (Neter, Wasserman, & Kutner, 1990). Moreover, because the majority (74.29%) of the country-year observations has a value of zero, our dependent variable is overdispersed, meaning that the conditional variance is larger than the conditional mean. Therefore, we used negative binomial regression model rather than Poisson model, because it produces narrower confidence intervals. In addition, because we have excess zeros in the dependent variable, the most appropriate regression model is zero-inflated negative binomial model, which runs the equation for the count number and for the excess zeros at the same time. We included the same explanatory variables for the two regression equations. We used the zinb command in STATA 14 to conduct our analyses. To account for the longitudinal structure of the data and control for country-level differences, we clustered the data by country, using the cluster option in STATA to generate robust standard errors. A likelihood ratio test comparing the zero-inflated negative binomial model to the negative binomial (Vuong test) confirmed that the former is a better fit for our data ($p < 0.001$).

Table 2 summarizes the list of variables and the data sources.

### Table 2: Variables and data sources

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measure</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostile takeover attempts</td>
<td>The number of hostile takeover attempts in a country in a year</td>
<td>Securities Data Company’s SDC Platinum database of worldwide mergers and acquisitions</td>
</tr>
<tr>
<td>Regulative pillar</td>
<td>Shareholder rights protection</td>
<td>Guillen and Capron (2016) index of shareholder rights protection</td>
</tr>
<tr>
<td>Normative pillar</td>
<td>Control of corruption</td>
<td>World Governance Indicators (WGI)</td>
</tr>
<tr>
<td>Cultural-cognitive pillar</td>
<td>Public trust in the corporation</td>
<td>World Value Survey (WVS)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>Log of GDP per capita (constant 2010 US$)</td>
<td>World Development Indicators (WDI)</td>
</tr>
<tr>
<td>GDP growth</td>
<td>GDP growth (annual %)</td>
<td>World Development Indicators (WDI)</td>
</tr>
<tr>
<td>Size of labor</td>
<td>Log of the number of people of ages 15 and older who meet the ILO definition of the economically active population</td>
<td>World Development Indicators (WDI)</td>
</tr>
</tbody>
</table>

5 | RESULTS

Table 3 summarizes the descriptive statistics and sample correlations. Due to missing data in some of the independent and control variables, the final sample includes 1,265 country-year observations, covering 45 countries between 1988 and 2016. The correlations among independent variables and control variables are not high. The average Variance Inflation Factor (VIF) score of all variables is 2.08, below the threshold of 10. So there appears to be no problem of multicollinearity.

Table 4 displays the regression results of zero-inflated negative binomial models. We report 10 models. Model 1 is the baseline specification that only includes the control variables. In Models 2, 3, and 4, we entered shareholder rights protection, control of corruption, and public trust individually, and Model 5 includes all three simultaneously. Model 6 includes the interaction term between shareholder rights protection and control of corruption. Model 7 includes the interaction term between shareholder rights protection and public trust. Model 8 includes the interaction term between control of corruption and public trust. Model 9 includes the 3 two-way interaction terms. Model 10 is the full model that further includes the three-way interaction term.
In Model 2, shareholder rights protection is positive and significant, showing that hostile takeovers are more frequent in countries where laws concerning shareholder rights favor this practice. This significant result also holds in other models. In Model 3, control of corruption is positive and significant. Better control of corruption promote hostile takeovers attempts. In Model 4, public trust is positive and significant, showing that public trust in the corporation increases the number of hostile takeover attempts. In Model 5, which includes all three variables, shareholder rights protection and control of corruption remain positive and significant, but public trust becomes not significant.

We find evidence of institutional complementarities between the shareholder rights protection and control of corruption in Model 6 ($\beta = 0.12, p < 0.05$), Model 9 ($\beta = 0.14, p < 0.05$), and Model 10 ($\beta = 0.13, p < 0.05$). Thus, Hypothesis 1, which indicates that the regulative and normative pillar reinforce each other in influencing hostile takeover attempts, is supported. We also find evidence of institutional complementarities between shareholder rights protection and public trust in Model 7 ($\beta = 0.13, p < 0.05$), Model 9 ($\beta = 0.15, p < 0.01$), and Model 10 ($\beta = 0.24, p < 0.01$), thus supporting Hypothesis 2, which claims that the regulative and cultural-cognitive pillars reinforce each other in influencing hostile takeover attempts. However, the interaction term between control of corruption and public trust is not significant. Therefore, there is no support for Hypothesis 3, which claims that the normative and cultural-cognitive pillar reinforce each other in influencing hostile takeover attempts. More importantly, we find evidence in Model 10 ($\beta = 0.14, p < 0.05$) for the three-way interaction term involving the three institutional dimensions (Hypothesis 4), indicating that the three institutional pillars reinforce each other in promoting hostile takeover attempts.

Besides being significant, the magnitude of the effects of the independent variables and interaction effects on hostile takeovers is large. Using the coefficients in Model 10 of Table 4, one unit increase in the interaction term between shareholder rights protection and control of corruption increases the number of hostile takeover attempts by 1.14. One unit increase in the interaction term between shareholder rights protection and public trust increases the number of hostile takeover attempts by 1.27. In the same model, one unit increase in the three-way institutional interaction increases the number of hostile takeover attempts by 1.15.

As for the control variables, the lagged value of hostile takeovers is positive and significant, indicating that hostile takeovers exhibit a bandwagon effect. It also corrects for the unobserved heterogeneity across different countries. GDP growth is positive and significant in some models, meaning that macroeconomic conditions such as business cycle do have a positive effect on hostile takeover announcements, though not in all models.

### 5.1 Robustness checks

We checked the robustness of the results in four different ways, and Table 5 summarizes the results. There are eight models in Table 5. First, we used the number of completed hostile takeovers as the dependent variable (Models 1 and 2). Model 1 includes the three institutional pillars. Model 2 is the full model that includes all of the interactions. Second, we used the difference between completed hostile takeover and hostile takeover attempts as the dependent variables. The difference could also be explained by institutional pillars, because in countries with institutional pillars supporting hostile takeovers, economic organizations and especially investors are willing to use just takeover threats to discipline managers and gain financial returns without any serious intent to take over, leading to large gaps between attempts and completed deals. Models 3 and 4 summarize the results with the difference between completed hostile takeover and attempts as the dependent variable. Third, we excluded emerging markets from our sample, because the market for corporate control in most emerging countries is not as effective as that in developed countries. We thus included only developed countries in Models 5 and 6. The countries in the subsample of developed countries are Australia, Austria, Belgium, Denmark, Finland, France, Germany, Italy, Japan, South Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States. Fourth, we used different model specifications to run the regressions. Instead of using zero-inflated negative binomial model, we used panel data negative binomial model, which allows us to directly account for the panel structure of our data, but not able to account for excess zeroes. We selected fixed effect, and the results are summarized in Models 7 and 8 of Table 5.

The results in Table 5 are largely consistent with those in Table 4, except that the interaction term between shareholder rights protection and control of corruption, which is significant at $p$ value of 0.01 in Table 4, is not significant in Model 4 of Table 5. All other significant
### TABLE 4  Zero-inflated negative binomial regression results on the number of announced hostile takeovers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
<th>Model 9</th>
<th>Model 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholder rights protection</td>
<td>0.25*** (0.09)</td>
<td>0.23*** (0.09)</td>
<td>0.18** (0.08)</td>
<td>0.26* (0.09)</td>
<td>0.23*** (0.09)</td>
<td>0.20** (0.08)</td>
<td>0.20** (0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control of corruption</td>
<td>0.40** (0.19)</td>
<td>0.35** (0.19)</td>
<td>0.31* (0.18)</td>
<td>0.34* (0.18)</td>
<td>0.36** (0.19)</td>
<td>0.29* (0.18)</td>
<td>0.31* (0.18)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public trust</td>
<td>0.28*** (0.10)</td>
<td>0.15 (0.12)</td>
<td>0.14 (0.12)</td>
<td>0.17* (0.10)</td>
<td>0.12 (0.20)</td>
<td>0.25* (0.15)</td>
<td>0.36** (0.18)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shareholder rights protection × Control of corruption (H1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.12** (0.06)</td>
<td></td>
<td></td>
<td>0.14** (0.06)</td>
<td>0.13** (0.06)</td>
<td></td>
</tr>
<tr>
<td>Shareholder rights × Public trust (H2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.13** (0.06)</td>
<td></td>
<td></td>
<td>0.15*** (0.06)</td>
<td>0.24*** (0.08)</td>
<td></td>
</tr>
<tr>
<td>Control of corruption × Public trust (H3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.08 (0.22)</td>
<td></td>
<td></td>
<td>0.12 (0.21)</td>
<td>0.29 (0.25)</td>
<td></td>
</tr>
<tr>
<td>Shareholder rights protection × Control of corruption × Public trust (H4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.14** (0.06)</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>0.14** (0.07)</td>
<td>0.13** (0.06)</td>
<td>0.10* (0.06)</td>
<td>0.14** (0.06)</td>
<td>0.09 (0.06)</td>
<td>0.12** (0.06)</td>
<td>0.11* (0.07)</td>
<td>0.10 (0.07)</td>
<td>0.15** (0.06)</td>
<td>0.15*** (0.06)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>0.31 (0.19)</td>
<td>0.26 (0.17)</td>
<td>0.22 (0.19)</td>
<td>0.26 (0.18)</td>
<td>0.13 (0.19)</td>
<td>0.20 (0.20)</td>
<td>0.14 (0.19)</td>
<td>0.14 (0.19)</td>
<td>0.22 (0.20)</td>
<td>0.22 (0.20)</td>
</tr>
<tr>
<td>Size of labor</td>
<td>−0.60 (2.02)</td>
<td>−0.18 (1.56)</td>
<td>−0.23 (2.00)</td>
<td>−0.65 (2.05)</td>
<td>−0.60 (1.74)</td>
<td>−0.50 (1.66)</td>
<td>−0.58 (1.64)</td>
<td>−0.68 (1.77)</td>
<td>−0.30 (1.57)</td>
<td>−0.41 (1.54)</td>
</tr>
<tr>
<td>Lagged number of hostile takeovers</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
</tr>
<tr>
<td>Constant</td>
<td>−3.20 (8.30)</td>
<td>−2.37 (6.57)</td>
<td>0.62 (8.71)</td>
<td>−3.58 (8.48)</td>
<td>1.49 (7.74)</td>
<td>0.55 (7.47)</td>
<td>1.00 (7.33)</td>
<td>1.74 (7.81)</td>
<td>−0.78 (7.09)</td>
<td>−0.64 (6.97)</td>
</tr>
<tr>
<td>Wald chi-square</td>
<td>34.42***</td>
<td>118.74***</td>
<td>76.11***</td>
<td>169.09***</td>
<td>209.77***</td>
<td>331.12***</td>
<td>265.61***</td>
<td>270.81***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log pseudolikelihood</td>
<td>−1705.53</td>
<td>−1694.78</td>
<td>−1700.85</td>
<td>−1703.70</td>
<td>−1689.68</td>
<td>−1687.62</td>
<td>−1687.33</td>
<td>−1658.35</td>
<td>−1683.63</td>
<td>−1682.55</td>
</tr>
</tbody>
</table>

Note. GDP: gross domestic product.
*Robust standard errors are shown in parentheses besides regression coefficients.
*p < 0.1. **p < 0.05. ***p < 0.01; two-tailed tests.
TABLE 5  Robustness checks\textsuperscript{a}

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>Completed hostile takeovers</td>
<td>The difference between completed and hostile takeovers attempts</td>
<td>Hostile takeover attempts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Full sample</td>
<td>Developed countries</td>
<td>Full sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shareholder rights protection</td>
<td>0.23** (0.10)</td>
<td>0.28*** (0.10)</td>
<td>0.23** (0.10)</td>
<td>0.22** (0.10)</td>
<td>0.27*** (0.09)</td>
<td>0.30* (0.16)</td>
<td>0.20*** (0.05)</td>
<td>0.08*** (0.02)</td>
</tr>
<tr>
<td>Control of corruption</td>
<td>0.42** (0.17)</td>
<td>0.31 (0.23)</td>
<td>0.13 (0.27)</td>
<td>0.13 (0.25)</td>
<td>0.17 (0.67)</td>
<td>0.34 (0.60)</td>
<td>0.42*** (0.11)</td>
<td>0.78*** (0.06)</td>
</tr>
<tr>
<td>Public trust</td>
<td>0.03 (0.17)</td>
<td>1.43** (0.73)</td>
<td>0.29*** (0.12)</td>
<td>0.30** (0.14)</td>
<td>0.26* (0.15)</td>
<td>1.02** (0.50)</td>
<td>0.05 (0.10)</td>
<td>0.18*** (0.03)</td>
</tr>
<tr>
<td>Shareholder rights protection × Control of corruption (H1)</td>
<td>0.08** (0.04)</td>
<td>0.10 (0.08)</td>
<td></td>
<td></td>
<td>0.17*** (0.06)</td>
<td></td>
<td></td>
<td>0.12** (0.02)</td>
</tr>
<tr>
<td>Shareholder rights protection × Public trust (H2)</td>
<td>0.56** (0.27)</td>
<td>0.14** (0.06)</td>
<td></td>
<td></td>
<td>0.21** (0.11)</td>
<td></td>
<td></td>
<td>0.06*** (0.02)</td>
</tr>
<tr>
<td>Control of corruption × Public trust (H3)</td>
<td>1.75 (1.76)</td>
<td>0.07 (0.16)</td>
<td></td>
<td></td>
<td>0.30 (0.41)</td>
<td></td>
<td></td>
<td>0.27*** (0.04)</td>
</tr>
<tr>
<td>Shareholder rights protection × Control of corruption × Public trust (H4)</td>
<td>0.89** (0.45)</td>
<td>0.09** (0.04)</td>
<td></td>
<td></td>
<td>0.10** (0.06)</td>
<td></td>
<td></td>
<td>0.06** (0.02)</td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>0.11* (0.07)</td>
<td>0.15** (0.07)</td>
<td>0.10 (0.07)</td>
<td>0.19*** (0.06)</td>
<td>0.15** (0.06)</td>
<td>0.13 (0.09)</td>
<td>0.03 (0.02)</td>
<td>0.04* (0.02)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>0.29 (0.23)</td>
<td>0.26 (0.23)</td>
<td>0.04 (0.21)</td>
<td>0.12 (0.20)</td>
<td>0.21* (0.12)</td>
<td>0.14 (0.20)</td>
<td>0.23*** (0.09)</td>
<td>0.23*** (0.09)</td>
</tr>
<tr>
<td>Size of labor</td>
<td>-3.03*** (1.16)</td>
<td>-1.29 (1.11)</td>
<td>2.12 (1.88)</td>
<td>-0.74 (2.48)</td>
<td>-0.48 (2.23)</td>
<td>-0.41 (3.41)</td>
<td>1.15 (0.73)</td>
<td>1.20* (0.73)</td>
</tr>
<tr>
<td>Lagged number of hostile takeovers</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
<td>0.01*** (0.00)</td>
</tr>
<tr>
<td>Constant</td>
<td>9.41** (4.53)</td>
<td>-0.99 (5.02)</td>
<td>-9.29 (7.39)</td>
<td>-4.39 (10.48)</td>
<td>4.47 (8.38)</td>
<td>1.68 (12.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald chi-square</td>
<td>118.57***</td>
<td>182.00***</td>
<td>114.73***</td>
<td>159.50***</td>
<td>114.39***</td>
<td>147.89***</td>
<td>209.36***</td>
<td>22402***</td>
</tr>
<tr>
<td>Log pseudolikelihood</td>
<td>-1080.42</td>
<td>-1073.80</td>
<td>-1356.96</td>
<td>-1278.85</td>
<td>-1220.58</td>
<td>-1216.49</td>
<td>-1480.06</td>
<td>-1359.43</td>
</tr>
</tbody>
</table>

Note. GDP: gross domestic product.

\textsuperscript{a}Robust standard errors are shown in parentheses besides regression coefficients.

\textsuperscript{*}p < 0.1. \textsuperscript{**}p < 0.05. \textsuperscript{***}p < 0.01; two-tailed tests.
interaction terms in Table 4 remain significant in Table 5. Therefore, our results are robust if we use alternative measures of dependent variable, across different subsamples and across different model specifications.

6 | DISCUSSION AND CONCLUSION

We have argued and found that hostile takeover activity is more prevalent in countries in which certain types of institutions are present and that those institutions mutually reinforce each other. Regulative, normative, and cultural-cognitive institutions provide actors with the social legitimacy to engage in a practice that is widely seen as controversial and contested (Hirsch, 1986). We found that shareholder rights protection, control of corruption, and public trust in the corporation increase the frequency of hostile takeover attempts, separately and in combination with each other. Given the controversial nature of the practice, our findings indicate that actors prefer to see normative and cultural-cognitive institutions being compatible with hostile takeovers before launching or participating in one, even if regulatory institutions are consistent with it. An institutional environment that provides for anti-corruption controls and public trust in the corporation creates normative and cultural-cognitive frameworks that actors find reassuring. Our study of institutional complementarity adds to our knowledge of institutions by explaining how different institutional pillars interact with each other to influence corporate governance practices.

However, not every combination of institutional pillars plays a significant role in explaining hostile takeover attempts. In particular, the interaction between normative and cultural-cognitive pillar is not significant in our empirical test. Control of corruption and public trust do not seem to complement with each other in supporting hostile takeover attempts. This could be driven by the potential overlap in normative and cultural-cognitive institutional pillars. Both pillars could be considered as informal institutions, as compared with formal institution that is measured by regulative pillar. In other words, institutional complementarity is more prevalent between formal and informal institutions than between different informal institutions. This finding is consistent with previous studies on formal and informal institutions. For example, Holmes, Miller, Hitt, and Salmdor (2013) found that informal institutions shaped formal institutions, which influenced a country's inward foreign direct investment. Similarly, Wang, Lu, Soderlund, and Chen (2018) discovered that performance of a project is better when there is a better fit between a project's formal and informal guiding institutions.

The general finding of institutional complementarity lends credence to a view of organizational practices and business dynamics rooted in the idea that practices do not proliferate unless mutually reinforcing regulatory, normative, and cognitive are present. Methodologically, we captured these effects through interaction terms, thus lending support to the configuration approach in that variables, in our case institutional pillars, do not compete with each other to explain the variance in the sample but rather reinforce each other's effects.

Our findings have other implications for institutional theories of organizations and organizational practices. Although hostile takeovers are a corporate governance practice driven to a large extent by economic and financial considerations, we argue that the uneven occurrence of hostile takeovers across different countries is to be attributed to different institutional environments. Rather than focusing only on the regulative pillar, as previous research did, we argue that the three pillars are relevant to this specific phenomenon. Most importantly, we found no evidence of either institutional substitution effects or counterproductive combination of institutional pillars. Institutional substitution would occur when the positive main effect of one pillar produces a negative main effect of another, even when the latter by itself would exert a positive effect in the absence of the former. Evidence of a counterproductive combination of pillars would manifest itself when the interaction effect between two or three pillars is negative while the main effects are positive.

More broadly, our analysis contributes to the literature on complementarity in organizations. The conceptual development of complementarity has not progressed to a stage when a theory emerges to offer specific predictions (Ennen & Richter, 2010). Available studies on organizational complementarity primarily focus on complementarities in resources, organization structures and processes, strategy, and environments (Milgrom & Roberts, 1995). We show that complementarity also exists within institutional environments.

Our findings also have implications for the literature on comparative corporate governance. To better understand the spread and effectiveness of corporate governance practices in different environments, we integrate different theoretical perspectives by examining complementarity among W. R. Scott’s (2008) three institutional pillars. Our study shows that important corporate governance practices such as hostile takeover attempts are indeed influenced by different aspects of institutional environment in a country. It thus helps us better understand the spread and effectiveness of corporate governance practices across different countries.

Our analysis also speaks to the ongoing debate about institutional convergence and divergence at the cross-national level. We found evidence indicating that the three institutional pillars tend to reinforce each other when it comes to affecting actors and the practices they pursue. If institutional alignment in a given country enhances the effect on the adoption of certain practices, one should expect continued cross-national divergence given that few countries are likely to exhibit alignment. Institutional complementarities tend to produce resilience and to limit the effects of convergence, whether it is driven by economic, technological, or cultural forces (Guilien, 2001; Hall & Soskice, 2001).

Our study also has practical implications. Managers need to consider the extent to which their country’s regulative, normative, and cultural-cognitive pillars foster or prohibit hostile takeovers before they consider launching a hostile takeover attempt. Managers trying to launch a cross-border hostile takeover need to carefully assess the differences among different countries in terms of the three different institutional pillars in supporting hostile takeovers. Policymakers should consider institutional complementarities when they design policies regarding hostile takeovers. Regulations and policies work best when they are congruent with the normative and cultural-cognitive pillars.

This study suffers from several limitations that may provide opportunities for future research. First, our three measures cannot
fully cover the entire spectrum of institutions, because the institutional environment is a broad concept covering multiple dimensions. Future studies could explore the impacts of other measures of institutional dimensions on hostile takeovers and other organizational practices. Second, our measures of institutional pillars are not perfect. For example, we used public trust in the corporation as the measure of the cultural-cognitive pillar. However, public trust in the corporation could be influenced by the other institutional pillars such as corruption control. Future studies could develop more fine-grained measures of the institutional pillars. Third, the unit of analysis of this study is the country rather than the firm. Therefore, we did not consider firm-level factors that may influence the occurrence of hostile takeovers. Future studies could collect firm level data to investigate how hostile takeovers are influenced by different institutional dimensions at the firm level. Fourth, although we found institutional complementarities in the case of a controversial and contested practice such as hostile takeover attempts, it is perhaps less likely that such complementarities occur when the phenomenon is not as colored by conflict, norms, and cultural frames as the one we have examined. These and other possible avenues for future research should provide ample room identifying the conditions under which combinations of institutions are complementary, substitutive, or counterproductive.

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ORCID
Nan Zhou https://orcid.org/0000-0002-5111-6690

REFERENCES


**AUTHOR BIOGRAPHIES**

Nan Zhou is currently an associate professor at Nankai University in China. Her research addresses questions that intersect the fields of corporate strategy and international business, focusing primarily on understanding how strategic decisions such as product diversification and globalization are influenced by firm resources and institutional environments in the context of emerging markets. She has published more than 10 papers at SSCI journals, such as Strategic Management Journal, Journal of International Business Studies, and Global Strategy Journal.

Mauro F. Guillén is the Zandman Professor of International Management at the Wharton School and the Anthony L. Davis Director of the Lauder Institute of Management & International Studies. A former Guggenheim and Fulbright Fellow, he is a winner of the Aspen Institute’s Faculty Pioneer Award. His research deals with comparative corporate governance, globalization, and foreign direct investment.