Does the Quality of Institutions and the Regulatory Bodies

Influence Deal Duration in M&As?

ABSTRACT

The speed with which a merger and acquisition (M&A) deal is completed or the number of days taken from the announcement of the deal until its completion is an important barometer of the success and efficiency of a deal. In this paper, we apply the institutional-based view to propose that in the context of acquisitions by emerging market firms, the deep embeddedness in the institutional environment is likely to influence deal duration. Our theoretical model speculates on the effect of the quality of home and host country institutional environment in cross-border acquisition deal duration. We further propose that the number of regulatory agencies involved has a bearing on deal duration. The hypotheses are tested using a unique sample of both domestic and international acquisitions with non-zero duration dates by Brazilian firms between 2000 and 2014. The findings supported our conjectures.

INTRODUCTION

Mergers and Acquisitions (M&As) form one of the most important strategic decisions for a firm. Even though M&As entail high levels of risks and resource commitments (Reuer, Shenkar & Ragozzino, 2004), evidence across the globe suggests that Cross-border M&A has become a primary mode of internationalization (UNCTAD, 2000; Luo & Tung, 2007). In order to minimize the high costs of investment and the chances of a failure, acquirers are well advised to pursue cautious and carefully planned pre-acquisition due-diligence followed by deft post-acquisition management (Pablo, Sitkin & Jemison, 1996; Shimizu, Hitt, Vaidyanath & Pisano, 2004). And yet many deals fail to achieve fruition for a number of reasons and are often abandoned before completion or soon after the announcement [1] has been made (Holl & Kyriaxiz, 1996).

Failed acquisition attempts and the prolonged duration of the acquisition process have negative consequences for both the acquirer and the target and bear significant costs for both parties (Dikova, Sahib & van Witteloostuijn, 2010). The parties involved may suffer from reputational losses (Muehlfeld, Rao Sahib & Witteloostuijn, 2007), high termination fees (Andre, Khalil, Magnan, 2007; Bates & Lemmon, 2003; Officer, 2003), among others. Prolonged delays in completion can result in direct costs in the form of out-of-pocket expenditures (Cole, Ferris & Melnik, 2010) and other indirect costs such as a lowered legitimacy, especially in foreign market entries (Meyer & Thaijongrak, 2012). Therefore, the sequence of steps starting from the identification of target followed by announcement of M&A to the completion of the deal not

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[1] The announcement is the stage where the parties (buyer, seller) reached an agreement and announced the deal to the public.

only have economic relevance to the parties concerned, these steps go on to shape the success or failure of the entire deal.

Ever since the publication of seminal work on the acquisition process by Jemison and Sitkin (1986), little progress has been made in terms of empirical studies focusing on pre-deal completion phase of M&As (Shimizu et al., 2004). In particular, factors influencing the speed of deal completion or the number of days starting from the announcement of the deal to its completion have received scant scholarly attention. Among the few studies that examine deal duration, the focus has largely been on the firm- or deal-level (Luypaert & de Maeseneire, 2015); factors external to the parties involved such as the regulatory bodies and the quality of institutional systems facilitating the deal process have been ignored till date.

The quality of institutions in general and regulatory bodies in particular play a more prominent role in emerging markets. To start with, as Peng, Wang, Jiang (2008) has argued the effects of institutions are stronger in emerging economies. In addition, mergers are a type of business transaction where governments have both the opportunity and the motive to exert considerable influence. So it is very likely that institutions play a greater role for emerging market acquirers due to government involvement (Dinc & Erel, 2013; Brockman, Rui & Zou, 2013). Second, deal structures in emerging and advanced economies differ significantly. markets for corporate control are underdeveloped in emerging markets. For example, hostile offers are very still very rare. In addition, emerging market firms are less experienced compared with their developed country counterparts and less likely to use more complicated deal structures to reduce information asymmetry. So compared to the deal-level variables, institutional-factors should be taken into greater account in the context of emerging market acquirers.

In this paper we fill in this gap by evaluating the determinants of deal duration from institution-based theoretical lens in the context of acquisitions by firms from the emerging markets. We adopt the approach of Dikova et al. (2010) as a starting point and extend the framework by introducing the influence of deal regulatory bodies and the quality of institutional environments on the deal duration. The research questions are as follows:

(1) Whether institutional distance and host country institutional development play a determining role on deal duration?

(2) Whether the involvement of antitrust regulatory agencies prolong deal duration in domestic and international setting?

The research questions are analyzed for a sample of domestic and cross-border M&As of Brazilian acquiring companies. By focusing on one home country (i.e. Brazil), the home-country institutional environment is constant. Brazil is generally classified as having burdensome tax and regulatory requirements[2], these characteristics are typical for emerging countries. Brazil is a suitable context since regulatory merger reviews have significant impacts in Brazil. Harle, Ombregt & Cool (2012) documented that in 2010 Brazil had more than five times the number of M&A reviews than China. In most cases, these impediments apply without discrimination to both foreign and domestic firms. There are three agencies in Brazil that are in charge of antitrust regulations: The Conselho Administrativo de Defesa Econômica-CADE (independent agency), The Secretaria de Direito Econômico-SDE (Ministry of Justice) as well as Secretaria de Acompanhamento Econômico-SEAE (Ministry of Finance). A new competition law, i.e. The Brazilian New Competition Act (NCA) (Law No. 12,529/2011) was enacted in 2012, given more

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[2]For more information, see http://www.state.gov/e/eb/rls/othr/ics/2012/191115.htm

power to CADE, which can approve, block or impose remedies unilaterally or sign agreements with the parties[3]. We will also analyze the role of these regulatory agencies.

Our study makes several contributions to the literature of institutions-based theory. First, we argue that in the context of emerging market acquirers, the quality of institutional environment and the distance between home-host environments will affect the time to complete a merger deal for emerging market acquirers. Second, we document that antitrust regulatory agencies in both home and host countries and their quality will have effects on deal completion.

The rest of the paper is structured as follows. In the next section, we present relevant previous studies on deal duration, build a theoretical framework and develop hypotheses on institutional quality and the regulatory agencies. Section 3 presents methodology and empirical analysis. Section 4 provides results of the study. Section 5 highlights contributions and limitations of the present study and concludes with practical implications for managers and policy makers.

THEORY AND HYPOTHESES

Deal Duration: A Literature Review

The process of consummating a deal consists of two key stages: the private stage and the public stage (Boone & Mulherin, 2007).

Insert Figure 1 about here

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[3] For a summary of merger control in Brazil, see Global Competition Review's *the Antitrust Review of the Americas 2015*: section on Brazil http://globalcompetitionreview.com/reviews/63/sections/216/chapters/2549/brazil-administrative-council-economic-defence.

As shown in Figure 1, *the private stage,* or the *approach stage*, involves informal and formal negotiations between the potential buyer, target and the seller. In this early stage, bidders and potential targets indicate preliminary interests and negotiate about the possibilities of an M&A and contractual details. The private stage ends when two parties sign a binding Letter of Intent (LOI) and disclose information regarding the deal to the public.

During the public stage (i.e. the period between deal announcement and deal completion), parties need to file documents within certain time period after announcement under the pre-review system[4]. The completion of the deals is dependent on the approval from competition authorities and other regulatory agencies. Merging parties are not allowed to close or complete the integration before regulatory agencies issue a final decision regarding the competitive effects of the transaction (ICLG, 2015). Apart from approval without restrictions, a decision could be approval with restrictions or even prevention. Under certain conditions, the combined firm needs to divest assets in a specific region as part of the obligations. In any of these cases, if the regulatory institutions launch extensive merger investigations to scrutinize the deal, it is expected that the completion process will be prolonged.

A deal is considered complete when the buyer pays the purchase price to the seller and the seller delivers the shares/business sold. Potential synergies in operations outlined in deal motivations can only be achieved after deal completion. So deal completion is a critical stage to

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[4] More than 50 countries in world, including U.S., Canada, EU and Brazil, use mandatory pre-merger notification system (White & Case, 2003).

distinguish between pre-merger and after-merger activities [5]. Wong & O'Sullivan (2001) provided a survey on determinants and consequences of deal completion.

There are very few studies analyzing the process of deal announcement and deal completion and rationales beyond deal duration in the management literature. Most previous studies focus on internal reasons. We start with the managerial-level by looking at the upper echelon theory and corporate governance literature. The decision to cancel or delay a previously announced acquisition could be driven by shareholders or managers of the acquiring or the target firm (Chakrabarti & Mitchell, 2008). First of all, deals need approval from shareholder meetings for publicly-listed firms (Dikova et al. 2010). Hostile deals and unsolicited deals on the bidder's side are difficult to conclude (Luypaert & de Maeseneire, 2015) because it is difficult to obtain target shareholder approval. Other mechanisms to defend takeovers on the target side may also increase deal duration. So compared to private targets, deals involving public listed targets take longer to conclude. Secondly, certain managerial characteristics such as hubris may influence likelihood of completion and deal duration. For example, Aktas, de Bodt, Bollaert & Roll (2012) found out that narcissism of acquiring CEOs is associated with initiating deals and negotiating faster but higher narcissism in both target and acquirer CEOs is associated with a lower probability of deal completion.

The second stream uses Transaction Cost Economics (TCE) to explain the differences in deal duration for a specific deal. Complex deal structures such as are competing bids, tender offers might increase deal duration. Luypaert & de Maeseneire (2014) established that more complex deals will tend to prolong deal duration. In addition, information asymmetry is critical

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5 After-merger integration is beyond the scope of this paper

in TCE. In some cases, the buyer will conduct a full-blown due diligence to investigate the target's legal, financial and operational issues after an M&A is announced and terms of conditions set forth. New information could be revealed and renegotiation can be conducted subsequent to signing the merger agreement in this stage. Deals can be prolonged due to negative shareholder expectation following the deal announcement or availability of new information after the initial announcement. For example, Luo (2005) and Kau, Linck & Rubin (2008) examined the release of new information in the period to conclude a deal and found evidence that managers listen to the market and thus the release of new information may delay deal completion.

Thirdly, the resource-based view and dynamic capabilities model argue the importance of resources and capabilities including tacit knowledge and the ability to learn (Coven & Levinthal, 1990). Previous studies have document that more international experience in general (Luypart & de Maeseneire, 2014; Dikova et al., 2010) and experience in specific contexts (Muehlfeld, Rao Sahib & van Witteloostuijn, 2012) facilitate to reduce deal duration.

Strategy scholars have examined the influence of institutional environment on firm strategy and performance. Anecdotal evidence also documents that a considerable amount of M&As have been withdrawn for external reasons (UNCTAD, 2013) delayed due to a variety of regulatory hurdles that companies must overcome (Ekelund & Thornton, 1999). Whereas internal factors are valuable for understanding variety in deal duration, external factors are critical in important business decisions like M&As (Dikova & van Witteloostuijn, 2007). The duration to complete a deal in an international setting cannot be studied independent of the context since the effects of the internal factors are conditional upon the external factors such as institutional environment (Hoskisson et al. 2000).

An Institutions-Based View on Emerging Market Acquirer and Deal Duration

Institutions-based view addresses the context within which the firm's activities are embedded by focusing on the social and regulatory context. It provides a non-economic explanation of organizational behaviors and strategies (DiMaggio & Powell, 1991). Institutions are the rules of game and consist of formal rules and informal norms (North, 1990). An organization has linkages with dominant formal and informal institutions in the environment, which confer resources and legitimacy (Peng, 2003). Firms need to accommodate strategic choices to handle country-level determinants such as institutional constraints (Rodriguez, Uhlenbruck & Eden, 2005).

In international acquisitions, both acquirers and targets have to make sense of, manipulate, negotiate and partially construct their institutional environment (Kostova, Roth & Dacin, 2008). The acquirer has to deal with liability of foreignness (Zaheer, 1995), e.g. in terms of regulatory structures, governmental agencies, laws courts, professions and also interest groups and public opinion (Oliver, 1991:147) in the host country. These differences in institutions between home and host countries are often conceptualized as the institutional distance (Kostova, 1999; Xu & Shenkar, 2002).

In this paper Dikova et al. (2010) is our point of departure. We build a framework that focuses on both institutional quality and institutional distance of home and host countries. As seen in Table 1, the horizontal and vertical axis indicates the institutional quality in the home country and the host respectively. We divide the home and host countries into (1) countries with developed institutions and (2) countries with underdeveloped institutions.

Inset Table 1 about here

Most previous studies focus on Cell 2 & 4 where home countries enjoy relative advanced institutional environment. This is also due to the fact that most previous cross-border M&As originate from advanced countries. The situation is very different for emerging market multinationals when they venture into developed countries. For emerging market acquirers, host countries with large institutional distance, in this case, now countries with more developed institutions such as U.S. and U.K. It is important to study both the institutional distance between the home and host and institutional quality of the host country.

Institutional distance

Institutional distance increases information asymmetry between partners. Most previous studies posit that a large institutional distance augments the likelihood of an M&A deal to fail and the time it takes to complete a deal (Reis, Ferreira, Santos, 2013). Using data from the GLOBE project, empirical evidence by Dikova et al. (2010) reports that different elements of institutional distance such as expropriation risk distance, procedural complexity distance, power distance difference and uncertainty avoidance difference will influence the likelihood of deal completion and deal duration.

One important critique of distance is that it is symmetric (Shenkar, 2001). Let us consider two scenarios, first in case of US acquirer and a Brazilian target (Cell 4: Home country developed and host underdeveloped) and then in case of Brazilian acquirer and a US target (Cell

1: Home country underdeveloped and host country developed). In both cases, the institutional distance between the home and host is the same. However, we would expect that deal duration in Cell 1 is shorter than that in Cell 4 due to the quality of host country institutions.

In cross-border deals, when host countries are characterized by more sophisticated institutional development and corporate governance systems, the level of information asymmetry is reduced and less bureaucracy expected in the host. For an emerging market (such as Brazil), potential host countries with a large institutional distance are more often developed countries. Instead of increasing uncertainty with increasing distance, the institutional difference denotes the improvement in institutional quality compared to the home country. So host countries with large institutional distance have low levels of risk and uncertainty and thus shorter deal completion. Contrary to previous studies on developed country acquirers, we would expect that

> *Hypothesis 1: For cross-border deals from emerging markets, there is a negative relationship between large institutional distance and longer deal duration.*

Host Country Institutional Quality (developing vs developed)

Besides institutional distance, the actual quality of institutional environment in the host countries plays an important role to determine deal duration. Although emerging economies have undergone profound institutional transformations, their institutions remain distinct from those from developed markets (Wan, 2009; Peng et al., 2008). In countries with more developed institutions, the institutional environment promotes development of market economy and facilitates exchanges (Dikova et al., 2010). The total number of deals is large and well developed

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institutions reduce the time needed to conduct any business activities, including a cross-border M&A.

On the other hand, emerging markets are characterized by severe information asymmetry and uncertainties (Ghemawat & Khanna, 1998). The quality and efficacy of emerging host country's regulatory environment is not high. Underdeveloped institutions, non-transparent judicial and litigation systems, inefficient market intermediaries will all increase the difficulty to conduct transactions in developing and emerging markets (North, 1990). In sum, firms usually face a greater regulatory burden in emerging host countries. So we would expect that:

Hypothesis 2: For cross-border deals from emerging markets, there is a negative relationship between developed host countries and longer deal duration.

The Role of Regulatory Agencies

An important part of institutions that have direct impact on deal duration is political institutions such as regulatory agencies. Political institutions play an important mediating role in the business-government relationship (Clougherty, 2005). Compared to internal development and greenfield projects, M&As can increase market share rapidly (Wang, 2009).One important motivation of acquisitions is to increase firm size and market power and through economies of scale and scope. To avoid monopoly created by mergers, Antitrust and Competition Laws (ACLs) are created to address the competition concerns and ensure enough rivalry. For example, in a market ruled by small companies, a large firm dominating the market may have negative impact on competitions, industry structure and deter new entrants to the industry. So ACLs ensure the rights of consumers.

In general, cross-border M&As are typically influenced by two different policy regimes: antitrust merger review policies and sectoral regulations. First of all, antitrust agencies play important roles in regulating M&A deals to control competitiveness. Although most previous studies in the early 1990s argue that mergers have produced significant benefits for consumers, large firms could hurt market competition and deter new entrants. M&As can potentially create large firms that are "too big to fail" and lead to industry concentration that will harm consumer welfare. Paranjape (1980) argued that big businesses were able to generate profits through their rent-seeking activities, stifling competition and gaining legal protections through licensing regulation. Gugler et al. (2003) also showed that 27% of all acquisitions result in a loss of efficiency and an increase in market power for the merging firms. The adverse welfare consequences may be borne by consumers when combining two firms leads to lower market competition. Therefore, antitrust agencies are created to prevent mergers that have potentially a negative impact on competition and harm the interests of consumers.

On the other hand, sectoral regulators ensure industry structure in sensitive industries. They provide review of M&A deals (both domestic and cross-border) that occur within a specific sector with concentration, such as telecommunications, banking and other industries.

Merger control matters. According to law firm White & Case LLP, competition authorities worldwide increasingly are cooperating. and merging parties cannot afford to ignore any antitrust authority. In some cases, a certain deal can be subject to multiple jurisdictions. In more advanced countries, in order to facilitate the ease of doing business, the number of regulatory bodies may be reduced to minimum or brought under one umbrella.

International M&As can bring both benefits and costs. First of all, similar to domestic deals, cost-reducing synergy efficiencies that may be passed on to customers, be they private consumers, firms, or governments (Evenett, 2003). Second, more in particular for international deals, foreign firms can transfer cutting edge technologies and managerial practices to domestic firms that they have merged with or acquired. So beneficial effects of M&As could be greater in the cross-border case. Due to economic nationalism, regulatory agencies in host countries have incentives to block transactions to protect resources to be transferred to the foreign acquirer. So we hypothesize that it takes longer to complete a deal due to the presence and involvement of host country regulatory agencies. Longer deal duration can be incurred by antitrust authorities that negatively impacts firms by delaying the intended merger, or by preventing the merger (Clougherty, 2005).

In some cases, M&As need to be reviewed by both the sectoral regulator and by several different anti-trust competition agencies. By reducing the number of firms that supply a market, cross-border M&As may enhance the market power of the surviving firms and influence national security. Therefore, we formulate the hypotheses regarding the presence and number of regulatory agencies in the host countries:

Hypothesis 3a: For cross-border deals, if a deal passes certain threshold and received regulatory scrutiny, there is a positive relationship between the presence of host country regulatory agencies and longer deal duration.

Hypothesis 3b: For cross-border deals, there is a positive relationship between the number of host country regulatory agencies involved and longer deal duration.

Transparency of Host Country Regulatory Agencies

Several empirical studies have documented the relationship ACLs and prolonged date of deal completion. Sirower (1997) argued for a direct link between antitrust law and the cost of delayed mergers. Similarly, Ekelund & Thorton (1999) highlighted that the primary source of delay for all mergers in the United States is federal antitrust laws. In particular, adverse rulings by courts and regulatory agencies (Hotchkiss, Qian & Song, 2005) can deter deal completion.

It is important to note that if the regulatory environment is completely transparent and consistent, a self-selection process will prevent M&As that are not in line with existing regulation. Therefore, in an ideal world, M&As that take place should be not affected by antitrust regulations and the scrutiny of regulatory agencies. In reality, antitrust regulatory agencies have an effect due to the non-transparency of the existing regulations. Evenett (2003) found that the presence of merger review laws tend to cut in half the amount of American M&A received. Compare to regulatory agencies in developed countries, regulatory agencies in developing countries have less resources and experience in dealing with merger review. The level of consistency and transparency is even lower for regulatory agencies in developing countries. OECD (2012) pointed out that many developing and emerging economies face many challenges in their effects to build effective merger control regimes.

In this context, when firms need to adapt to institutional pressures in the host countries and adapt strategically to gain legitimacy to fulfill regulatory requirements, it is relatively easy to gain legitimacy and obtain approval of regulatory agencies in developed countries due to transparent and consistency in their decision makers. So we expect that when regulatory agencies in developing countries are involved, the deal duration is longer. Therefore,

Hypothesis 4: Compared with regulatory agencies in developed countries, there is a positive relationship between regulatory agencies in developing countries and longer deal duration.

To summarize, the theoretical framework is included in Figure 2.

Inset Figure 2 about here

METHODOLOGY

To test our hypotheses, we collect a sample of both cross-border and domestic M&As from Brazil between January 1st, 2000 and December 1st, 2014. The sample acquisitions are obtained from Thomson SDC Mergers Database and Zephyr database. We select deals that have complete information on announcement date and completion date as well as firm and deal characteristics. This results an initial sample of 3031 domestic mergers and 409 international mergers Following previous studies Dikova et al. (2010), we deleted deals that have the same announcement date and completion date (Deal duration=0), since these deals can be misleading on the actual process of deal completion. Our final sample consists of 500 domestic deals and 155 cross-border deals. (See Table 2 for a description of the data).These deals cover a variety of industries and host countries.

Data and Sample

Inset Table 2 about here

Table 2 presents univariate results for the number of days between announcement and duration by industry and top 10 host countries. The average non-zero deal duration in our sample is 134 days for domestic deals and 113 days for cross-border deals. Two important points deserve attention here. First of all, we observed that the duration for domestic deals is longer than international deals. This could be due to the fact that for emerging market acquirers such as Brazil, many host countries are in advanced developed countries. Among the top host countries in the international sample are advanced countries such as U.S., Canada, Portugal, Australia and U.K.

Secondly, the deal duration in our sample is longer compared to other studies. Ekelund, Ford & Thornton (2001) documented that between 1990 and 1998, the average completion in U.S. took **94** days for unregulated industries and **160** days longer for regulated industries. Dikova et al. (2010) documented that the average number is **96** days for international acquisitions in business service industry between 1981 and 2001. Luypart & De Maeseneire (2015) reported **112** days for a sample of 1150 M&As between listed US firms between 1994 and 2011.

Ideally, we would distinguish between hostile and friendly deals. But hostile deals are not very common in Brazil and we don't observe a single hostile offer in our sample. If the target is publicly listed, the acquirer may deal with shareholders by offering a tender off for outstanding stakes instead of negotiating with target's board and managers.

Variables & measures

Dependent variable. The dependent variable of the study *Deal duration* is the number of days between announcement date and completion date of the focal deal. The completion date is signals that both parties involved perceive most crucial issues for the acquisition are resolved (Dikova et al. 2010). Following Ekelund, Ford & Thornton (2001) and Dikova et al. (2010), we view duration as non-zero continuous variables since if the announcement date is the same as the completion date, the results could be misleading.

Independent variables. Our first independent variable is the *Institutional distance* between Brazil and host country. This index measures the difference of formal governance quality based on World Governance Indicators and Kaufmann, Kraay & Mastruzzi (2009). The index consists six dimensions (voice and accountability, political stability, government effectives, regulatory quality, rules of law and control of corruption) and the value of each dimension ranges between -2.5 and +2.5. We follow Dikova (2009) to calculate a composite in which a larger distance indicates greater difference between the home and host. It is important to note that for Brazil as a country with relative underdeveloped institutions, host countries with larger institutional distance are advanced countries such as U.S. In addition, *The quality of host institutions* is the added value of the six dimensions combined.

Our second independent variable is a dummy for *Developed country deal*. It is coded as 1 if the target country is a developed country and 0 otherwise. We use the definition of IMF's list of advanced economies to identify developed countries. Thirdly, we also included a group of independent variables to indicate the quality of institutional environment and regulatory agencies. First of all, we coded several variables indicating the number of regulatory agencies involved in Brazil and in host countries: (1) the number of regulatory agencies in Brazil, (2) the

number of regulatory agencies in host countries, (3) the number of regulatory agencies in both Brazil and the host country (4) a dummy variable whether there is involvement of host country regulatory agencies, (5) the number of regulatory agencies in emerging markets, (6) the number of regulatory agencies in advanced countries. The data is coded from Zephyr and cross-checked by company websites and other sources.

Controls. A number of variables are employed to capture relevant factors for duration of a deal. First of all, we include several variables to capture the characteristics of the deal. *Cash payment* is a dummy variable indicating whether the method of payment is primarily cash. Certainty of the value of cash payments facilitates deal since stock offers require more administrative burden than cash transactions (Luypaert & De Maeseneire, 2015). In line with Dikova et al. (2010), we expect that cash payments will reduce acquisition duration. *Publicly listed status of the acquirer and target*. Following Capron & Shen (2007), two dummy variables are included to indicate whether the acquirers and targets are publicly listed. Stockholder approval takes time in the case of publicly-listed firms. *Acquired stake* is measured as the percentage acquired in the deal. Following Dikova et al. (2010), when the percentage acquired is larger, more negotiation is needed to structure. Chen (2008) has highlighted that when lagging behind competitors, MNEs may prefer partial acquisitions or joint ventures to speed up market entry and avoid escalating rivalry with local firms. So we expect that other things constant the higher the percentage sought, the longer the duration of the deal. *Acquirer total experience* is the number of deals (both domestic and international) for the acquirer before the focal deal. More experienced acquirers are more likely to develop a routine and we would expect that acquirer deal experience facilitates deal completion. A dummy variable *Target subsidiary* indicating whether the target is a subsidiary is also included. Third, industry characteristics are controlled

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for. Industry dummies are included based on divisions of primary U.S. SIC codes. Year dummies are included to control for macroeconomic factors. Other studies have controlled for hostile deals and unsolicited deals. However, in the sample of Brazil, we don't have hostile deals, so we don't control for this.

Secondly, some firm characteristics are included. Due to the loss of data points, we examine these factors in the robustness checks. *Acquirer size* is measured by the total assets of the acquirer one year before acquisition. Antitrust authorities use size to choose which mergers to scrutinize. So we expect that the size of merging firms is positively correlated with a longer time to complete a deal. *Acquirer age* is the difference between year of incorporation and year of acquisition. *Business group affiliation* is a dummy variable that takes the value of 1 if the Brazilian bidder is affiliated with a business group and 0 otherwise. We identified business groups by Aldrighi & Postali (2010). Business group plays a major role in reducing institutional voids in emerging markets. Due to the significant size of these firms, cross-border M&As by bidders affiliated with business groups are more likely to trigger anti-trust merger review and prolong the deal process. *Acquirer SOE* is a dummy variable coded 1 for SOEs and 0 otherwise. We would expect that an acquisition involving a state-owned acquirer takes longer time to complete compared with private acquirers. Following previous studies in acquisitions (Markides & Ittner, 1994), *Industry relatedness* is coded 1 if the four-digit primary SIC code of the acquirer and the target is the same, and 0 otherwise.

Methods

Our model is similar to that of Dikova et al. (2010). Our dependent variable is the number of days between deal announcement and deal completion. It can be estimated by either OLS or Poisson regression. Luypaert & de Maeseneire estimated both models and the results of a Poisson count regression are similar to the OLS regression. So for the simplicity of interpretation, we use OLS regression.

We have several deals for the same acquirer but the nature of our sample is not a true panel dataset, so we use clustered to control for unobserved heterogeneity in the acquiring firms. We only observe non-zero duration date for a subsample of total deals we collect, but both Dikova and Luypaert & de Maeseneire (2015) used Heckman selection model and did not find any bias for only studying deals with non-zero duration.

RESULTS

Inset Table 3 about here

Table 3 includes correlation matrix. The quality of host country institutions is highly correlated with developed host country dummy and institutional distance. So we don't use them in the same model. In addition, the involvement of host country regulatory agencies is correlated with the number of host country agencies involved. These factors should be disentangled in separate models. Except that, we don't observe other correlations above 0.7. There is no sign for multicollinearity of key variables.

Inset Table 4 about here

Table 4 presents the results of institutional distance and host country institutional quality for the cross-border deals. In Hypothesis 1, we looked at the effects of institutional distance on deal duration. As shown in first column of Table 4, institutional distance is negative and significant, indicating a negative relationship between institutional distance and longer deal duration, confirming Hypothesis 1. In Column 2, we include the effects of institutional quality of host country by including a dummy for developed host countries. We find out that a higher level of institutional development or a developed host country will reduce deal duration, supporting Hypothesis 2. For a robustness check, Column 3 & Column 4 are subsamples for host countries institutions relative to Brazil. Column 3 includes countries that are more developed than Brazil based on World Governance indicators. The results indicate that the effects of institutional distance on deal duration are more salient on countries more developed than Brazil whereas the effects are mixed for countries less developed than Brazil. As shown in Column 4, we note that when Brazilian firms enter countries with less developed than Brazil, the deal duration is longer but the effects of institutional distance is mixed.

Inset Table 5 about here

There are two panels in Table 5. In Panel A, we study the effects regulatory agencies by controlling institutional distance and in Panel B, we study the same effects controlling the quality of host country institutions. The results indicate that the involvement of host country regulatory agencies, the number of host country regulatory agencies and the total number of home and host

regulatory agencies all lead to longer deal duration. The models in Table 5 have an R-square of around 0.33, indicating relative high predictive power of the model. Hypothesis 3a is partially supported and Hypothesis 3b is supported.

Inset Table 6 about here

In Table 6, we put regulatory agencies into context. The last hypothesis (H4) is confirmed since regulatory agencies in developing countries have a positive and significant effect to prolong deal duration. The effects of developing country regulatory agencies is robust after controlling for regulatory agencies in Brazil and in developed countries. Taken together, our results are robust and provide empirical support for our theoretical framework.

Additional Robustness Checks for Domestic Deals

In this section, we conduct further methodological checks. Due to the small sample size in the cross-border setting, the number of observation is reduced when we collect additional variables for a subsample. So we conduct additional analyses using the sample of domestic M&As in Brazil. The government of Brazil generally makes no distinction between foreign and national capital[6].

The same argument for cross-border deals apply in domestic setting. Domestic M&As could potentially result in higher consumer prices when synergy effects are smaller than the decreasing competition effects (Clougherty, 2005). We would expect that for domestic deals,

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[6]Certain sectors (notably media and communications, aviation, transportation and mining) are still subject to foreign ownership limitations.

holding other things constant, there is a positive relationship between the involvement of domestic regulatory agencies and longer deal duration.

Inset Table 7 about here

Table 7 report results for domestic deals only. Model 1 is the baseline model with control variables. From Column 1, similar to Dikova et al. (2010), we find that target listed status has a positive effect on deal duration whereas acquirer prior experience in cross-border deals reduced deal duration. Listed targets are positively correlated with longer deal duration, indicating the difficulty to acquirer a publicly-listed target. We can also see that deal characteristics such as acquired stake has a significant effect on longer deal duration. Deal duration is shorter if the acquired stake is larger and the method of payment is primarily cash. We don't find any results for whether the target is a subsidiary and prior acquisition experience of the acquirer.

It is clear from Column 1 that the number of Brazilian regulatory agencies is positively correlated with longer deal duration for domestic deals. Deal size is an important indicator for the difficulty of the deal (Ekelund, Ford & Thornton, 2001). Larger deal are more likely to have media attention, trigger regulatory attention and difficult for both parties to complete. To check the robustness of the results, we include deal size in Column 2. It is plausible that deal size will have an effect on deal duration since longer deals might take longer to complete. Deal size is measured by logarithm of Million USD. The results indicate that although the sign of deal size is as expected, we don't see any significant effects on deal duration. In Column 3, we distinguish between diversifying acquisitions and unrelated acquisitions. compared with unrelated firms, acquires and targets in a related industry (horizontal merger) are more likely to trigger deal

antitrust investigation and longer deal duration. The results show that industry relatedness does not matter in domestic markets. In Column 4, we examined whether the acquirer is an SOE and whether the acquirer is affiliated with a business group. Albeit not significant, the sign is as expected. Business group affiliation reduces deal duration whereas SOE prolong the process. This is in line with findings by Zhang & Ebbers (2010). In Column 5, we look at other acquirer characteristics such as acquirer size measured by log of total assets in Mil USD, acquirer age and whether the acquirer is in a high-tech industry. We would expect that larger and older acquirers have more resources and experience to complete a deal. So it might reduce deal completion. We did not find any significant differences due to acquirer characteristics. A full sample study of domestic deals is included in Column 6. In sum, for domestic deals in Brazil, the involvement and the number of regulatory agencies increase deal duration, controlling for other deal- and acquirer- characteristics. The results are robust, have great statistical significance (at 0.01) across all models and have a large economic impact.

DISCUSSION AND CONTRIBUTIONS

According to UNCTAD (2013: p.96), a considerable number of cross-border M&As have been withdrawn for regulatory or political reasons, such as competition issues, economic benefits tests and national security screening or political opposition. Motivated by economic importance of the phenomenon and lack of theoretical explanations on the institutional-level, we provide a theoretical framework to study how the institutional environment and regulatory environment will influence deal duration in the context of emerging market acquirers. The empirical test examined the time between announcement and completion of a deal by Brazilian acquirers in both the domestic market and international market. Our results indicate that regulatory agencies

and merger control are very important determinants of deal duration by emerging market acquirers.

We contribute to the literature of institutional environment by showing that we need to not only consider institutional distance, but also consider institutional quality and more fine-grained regulatory agencies and their effects on firm strategic outcomes. The relationship between firms and regulatory agencies is contingent upon different institutional contexts. We also find out that the involvement and number of regulatory agencies will prolong deal duration in both domestic and cross-border M&A deals.

Our study differs from previous studies that incorporate institutional contexts in studying strategies in that we not only examine institutional distance between home and host countries, but also take into account the quality of institutional development in both markets. Our empirical setting have some novelties. First, by focusing on Brazilian M&As, we hold constant the influence of home country institutions. This allows us to build theory that are context-specific to emerging market firms. Our results can be generalized to other emerging market acquirers. Second, we looked at both publicly-listed and private firms. Previous studies usually focus solely on publicly-listed firms, due to availability of data. However, random samples of M&As indicate that about two-thirds of acquired firms are privately held or subsidiaries or divisions of other firms (Zollo & Singh, 2004). Including private firms allow for more approximation to reality.

Our study provides some important policy and managerial implications. The efficiency and quality of regulatory agencies matter but also the transparency of agencies and regulations. At the point of writing, CADE is conducting public consultations to allow adjustments necessary for a transparent and consistent antitrust assessment. We argue that transparency is key for an

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emerging economy to improve efficiency of regulatory regime and facilitate internationalization of indigenous firms. Managers can benefit from the results presented in this study and better take into account the regulatory issues at home and host countries. Firms could closely examine previous decisions made by regulatory agencies and have a better picture of time needed to finalize a deal.

As with other papers our study suffers from several limitations and open opportunities for future research. First of all, in some cases, potential deals are aborted in the private negotiation stage before they can be recorded as announced deals (UNCTAD, 2013). Other studies also show that antitrust policies also have an important deterrence effect (Seldeslachts, Clougherty & Barros, 2009; Dinc & Erel, 2013). So we assume that our results under-estimate the effects of merger control and regulatory influence.

Secondly, in this paper we only focused on formal institutions such as institutional environment and regulatory review. Other informal channels could also play a role. For example, Dinc & Erel (2013) highlighted that economic nationalism influences large corporate merger attempts in the European Union. Future research could follow their methodology and hand-collect newspaper articles to study other forms of institutional influence.

Thirdly, we focused primarily on the institutional lens. We do not specify the identity of owners and characteristics of managers and company boards. Future studies can contribute in this regard by integrating the institutional perspective with upper echelon theory to study managerial factors both the acquirers and targets. Since managers and boards will likely do affect decision making both beforehand and responding to markets (Kau, Linck & Rubin, 1008). Future

research can explore under what specific conditions there would be longer deal duration or more influence for managers in specific types of companies depending on the organizational forms.

Fourth, we don't have detailed information on deal contracts. Termination fees (Officer, 2003; Bates & Lemmon, 2003), no solicitation clause and other contract details such as deal premium may provide more profound insights.

Last but not least, we focused on only one home country, i.e. Brazil. Future research could use a cross-country sample to include more home and host countries, either emerging markets or developed countries. Additional tests of the theoretical framework in Table 1 could yield fruitable new understanding on institutional distance and quality. In addition, although we observe differences between industries, we only focused on country effects in this paper. Industry factors vary and several sectors are more subject to economic nationalism than others (Ekelund et al., 2001). The combination of industry effects, year effects and country effects may shed new light.

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APPENDIXES

FIGURE 1

The Process Of Completing an M&A Deal

| informal negotiation | formal negotiation | M&A announcement | M&A completion |
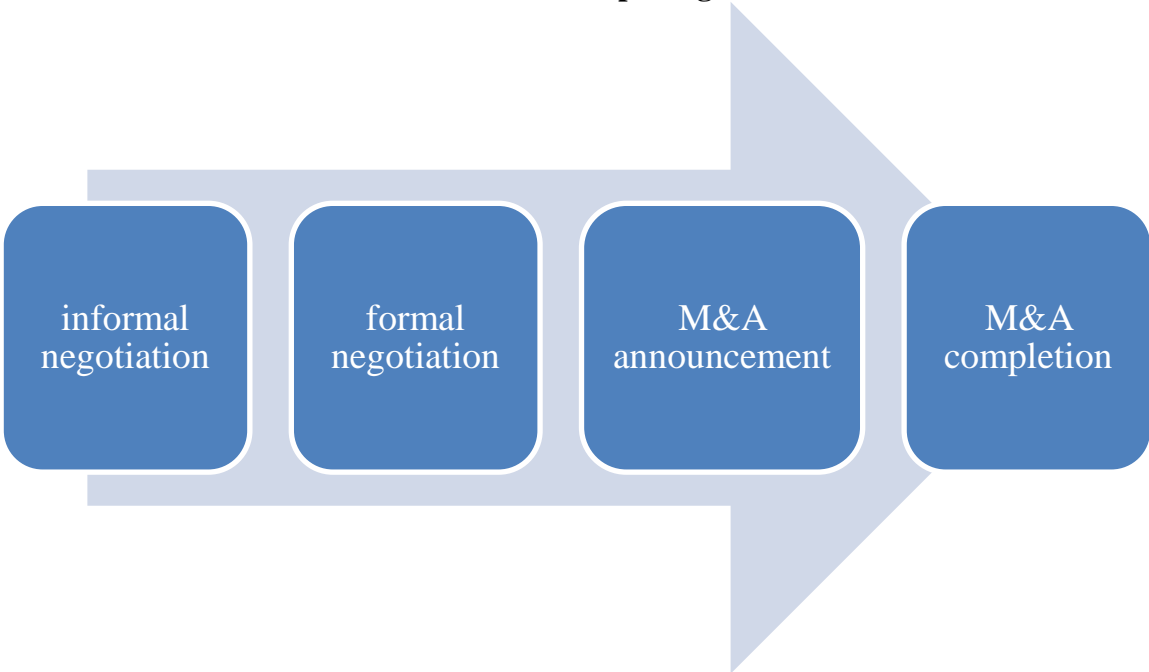
FIGURE 2

Theoretical Framework

Institutional distance

Institutional quality : Developed/ Developing host country

Host country regulatory agencies:

(1) presence (2) number (3) regulatory transparency

Cross-border deal duration
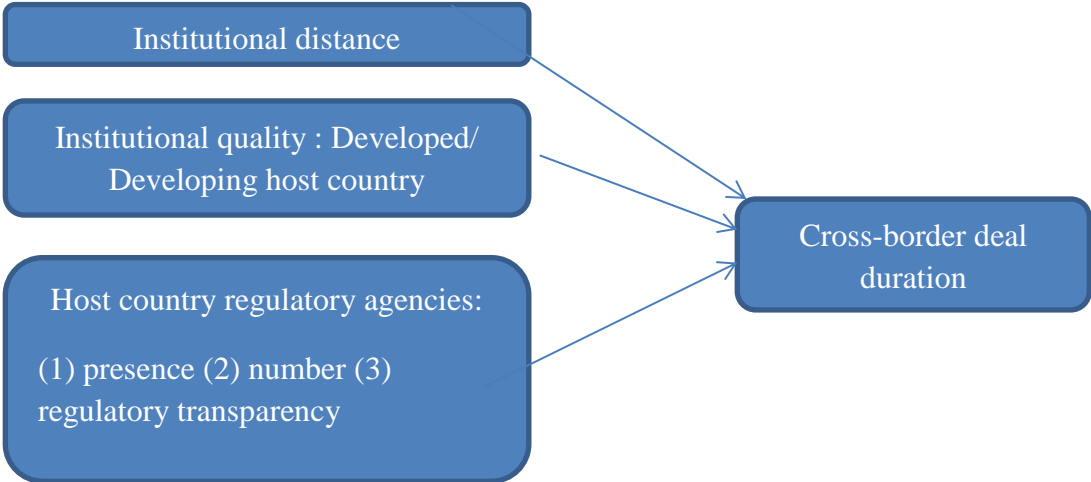
TABLE 1

2×2 Matrix of Home-Host Institutions and Deal Duration

High	1 Emerging market acquirer, developed market target Short duration	2 Developed market acquirer, developed market target Shortest duration
Low	3 Emerging market acquirer, emerging market target Longest duration	4 Developed market acquirer, emerging market target Long duration

Host country institutions (vertical axis label)

Low ———————————————————————— High

Home country institutions

TABLE 2
Sample Distribution

Table 2a: Sample distribution by industry (both domestic and cross-border deals)

Industry	Two digit Primary SIC	Number of deals	Number of domestic deals	Average deal duration
Agriculture & forestry	01-09	1	1	31
Mining, oil & gas	10-14	54	28	117
Construction	15-17	19	15	152
Manufacturing	20-39	194	125	100
Transport & utilities	40-49	125	115	170
Wholesale trade	50-51	28	13	113
Retail trade	52-59	16	14	142
Finance	60-67	164	144	158
Services	70-89	55	46	99
Public administration	91-99	1	1	94

Table 2b: Sample distribution by host country (cross-border deals)

Country	Number of deals	Percentage of deals	Average duration
Argentina	25	3.82%	120
U.S.	22	3.36%	97
Canada	11	1.68%	75
Portugal	10	1.53%	145
Uruguay	9	1.37%	175
Australia	7	1.07%	100
Chile	6	.92%	266
Colombia	6	.92%	113
Mexico	6	.92%	142
U.K.	6	.92%	118

TABLE 3

Correlation Table

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Deal duration	1.00														
2	Deal cash	-0.02	1.00													
3	Acquirer list	0.11	-0.01	1.00												
4	Target list	0.02	0.15	-0.14	1.00											
5	Acquired stake	0.11	-0.22	0.19	-0.47	1.00										
6	Target subsidiary	-0.03	0.00	-0.08	0.13	-0.07	1.00									
7	Acquirer experience	0.02	-0.12	0.10	-0.08	0.10	0.18	1.00								
8	Institutional distance	-0.08	0.08	0.05	-0.12	0.09	0.16	0.07	1.00							
9	Developed country deal	-0.18	0.02	-0.08	-0.01	-0.05	0.14	0.02	0.72	1.00						
10	Host institutional quality	-0.06	-0.03	-0.03	-0.09	0.05	0.15	0.00	0.84	0.81	1.00					
11	Host regulatory involvement	0.21	0.14	-0.01	0.17	-0.11	-0.02	-0.06	0.11	0.02	0.04	1.00				
12	Number of host regulatory agencies	0.27	0.13	0.01	0.12	-0.06	-0.04	-0.06	0.13	0.02	0.06	0.95	1.00			
13	Number of Brazilian regulatory agencies	0.14	0.01	-0.13	0.30	-0.08	-0.05	-0.05	-0.02	0.00	0.02	0.27	0.28	1.00		
14	Number of developing country regulatory agencies	0.34	0.06	0.05	0.18	-0.11	-0.04	-0.04	-0.09	-0.19	-0.13	0.60	0.65	0.37	1.00	
15	Number of developed country regulatory agencies	0.04	0.12	-0.03	-0.01	0.02	-0.01	-0.04	0.25	0.19	0.20	0.72	0.73	0.04	-0.04	1.00

TABLE 4
Host Country Effects and Institutional Distance in Cross-Border Deals

		Dependent variable: Deal duration		
VARIABLES	(1)Full sample	(2)Full sample	(3) Subsample More developed	(4) Subsample Less developed
Controls only				
Cash payment	13.21	11.29	-9.303	28.86
	(16.62)	(16.03)	(19.61)	(36.18)
Acquired stake	0.374	0.332	0.399	0.733
	(0.255)	(0.261)	(0.286)	(0.664)
Acquirer list	12.08	10.46	33.92	-15.66
	(20.51)	(20.72)	(21.25)	(76.66)
Acquirer experience	5.659	5.913	23.65	-0.988
	(15.44)	(14.88)	(20.72)	(20.22)
Target list	15.44	14.99	-1.440	61.68
	(25.22)	(24.43)	(27.50)	(65.39)
Target subsidiary	2.729	3.532	27.98	8.976
	(16.94)	(16.47)	(19.61)	(57.99)
Independent variables				
Institutional distance	-62.17*		-117.9***	280.0
	(33.99)		(43.18)	(432.2)
Developed country deal		-35.56**		
		(13.85)		
Constant	44.15	53.85	100.8**	-176.9
	(54.62)	(62.76)	(41.96)	(115.8)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Observations	155	155	106	49
R-squared	0.294	0.309	0.465	0.656
ll	-895.5	-893.8	-599.1	-264.0

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes: The subsample is divided into two groups: more developed than Brazil and less developed than Brazil. The measurement is based on total score of institutional quality indexed by the total sum of six dimensions of the World Governance Indicators in the year of the M&A.

TABLE 5

Host Country Regulatory Agencies in Cross-Border Deals

VARIABLES	Dependent variable: Deal duration					
	Panel A:With institutional distance			Panel B:With host country institutions		
	(1)	(2)	(3)	(4)	(5)	(6)
Controls only						
Cash payment	6.195	4.998	5.935	5.465	4.279	5.098
	(17.05)	(17.03)	(17.02)	(16.98)	(16.96)	(16.89)
Acquired stake	0.373	0.370	0.347	0.342	0.339	0.317
	(0.263)	(0.263)	(0.264)	(0.261)	(0.261)	(0.262)
Acquirer list	15.21	14.48	14.86	15.06	14.35	14.72
	(19.49)	(19.41)	(19.97)	(20.00)	(19.95)	(20.48)
Acquirer experience	6.529	6.972	6.692	4.224	4.627	4.335
	(15.58)	(16.05)	(15.96)	(16.02)	(16.49)	(16.42)
Target list	7.317	8.271	0.488	4.244	5.313	-2.101
	(25.13)	(24.76)	(25.78)	(25.20)	(25.05)	(25.99)
Target subsidiary	6.079	6.163	7.886	4.205	4.045	5.656
	(17.44)	(17.21)	(17.64)	(17.12)	(16.94)	(17.42)
Institutional distance	-72.90**	-75.15**	-76.31**			
	(34.79)	(34.66)	(32.30)			
Host country institutional				-14.75**	-14.70**	-14.93**
quality				(6.687)	(6.588)	(6.294)
Independent variables						
Host regulatory involvement	71.64*			67.25		
	(42.59)			(43.05)		
Number of host regulatory		67.42*			63.06*	
agencies		(37.35)			(37.24)	
Constant	54.33	53.06	38.97	183.5**	181.6**	170.5*
	(60.11)	(59.50)	(68.68)	(90.00)	(89.20)	(95.94)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	155	155	155	155	155	155
R-squared	0.329	0.341	0.345	0.330	0.340	0.344
ll	-891.5	-890.1	-889.6	-891.4	-890.3	-889.7

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

TABLE 6

The Influence of Antitrust Regulatory Agencies in Cross-Border Deals

| VARIABLES | Dependent variable: deal duration | | | | |
	(1)	(2)	(3)	(4)	(5)
Controls only					
Cash payment	7.814	11.48	5.762	11.88	5.716
	(16.47)	(17.01)	(16.84)	(16.95)	(16.87)
Acquired stake	0.413	0.364	0.403	0.348	0.391
	(0.251)	(0.256)	(0.253)	(0.260)	(0.256)
Acquirer list	7.903	13.73	9.775	13.18	10.41
	(20.42)	(19.39)	(19.33)	(20.87)	(19.58)
Acquirer experience	3.657	6.505	4.619	5.730	4.745
	(15.77)	(15.65)	(16.04)	(15.55)	(16.09)
Target list	4.373	15.19	3.988	4.866	0.713
	(22.85)	(25.59)	(23.23)	(27.43)	(24.31)
Target subsidiary	4.278	3.594	5.292	5.601	6.244
	(16.55)	(17.48)	(17.06)	(17.51)	(17.18)
Institutional distance	-51.25	-68.77*	-58.79*	-67.17**	-61.16*
	(33.30)	(35.92)	(34.93)	(32.32)	(33.50)
Independent variables					
Developing country	116.0**		117.0**		108.8**
regulatory agencies	(45.41)		(46.02)		(51.99)
Advanced country		23.02	26.64		25.48
regulatory agencies		(33.15)	(30.69)		(31.11)
Brazil regulatory agencies				54.36	20.91
				(34.59)	(33.25)
Constant	51.93	45.65	53.73	31.30	48.16
	(58.14)	(55.86)	(59.34)	(66.71)	(63.18)
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
Observations	155	155	155	155	155
R-squared	0.359	0.297	0.363	0.312	0.365
ll	-888.0	-895.1	-887.5	-893.4	-887.2

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 7 ROBUSTNESS CHECK
Brazilian Domestic Deals with Non-Zero Duration

VARIABLES	Dependent variable: Deal duration					
	(1)	(2)	(3)	(4)	(5)	(6)
Controls only						
Cash payment	-49.58***	-11.25	-45.84***	-45.81***	-35.63*	-16.96
	(15.03)	(13.33)	(14.91)	(15.27)	(18.57)	(16.27)
Acquired stake	-0.478**	-0.200	-0.386*	-0.387*	-0.286	-0.0607
	(0.213)	(0.213)	(0.205)	(0.215)	(0.311)	(0.309)
Acquirer list	-9.619	-9.715	-13.80	-13.93	-1.780	-22.64
	(12.99)	(13.03)	(12.44)	(12.60)	(19.94)	(19.71)
Acquirer experience	12.62	10.25	11.11	11.42	19.88	18.39
	(9.282)	(17.53)	(9.418)	(9.417)	(19.40)	(22.62)
Target list	71.55***	14.89	60.47***	60.70***	54.65**	32.52
	(21.60)	(22.06)	(20.92)	(20.87)	(27.23)	(27.71)
Target subsidiary	-14.67	-3.959	-15.74	-16.30	3.887	8.176
	(13.52)	(14.12)	(13.48)	(13.30)	(20.14)	(21.53)
Independent variables						
Brazil regulatory agencies	44.11***	48.69***	42.55***	41.81***	45.95***	48.68***
	(10.66)	(10.66)	(10.48)	(10.67)	(12.68)	(12.37)
Deal size (Mil USD)		3.310				0.691
		(3.275)				(4.631)
Industry relatedness			-6.763			
			(12.96)			
Acquirer SOE				10.57		27.45
				(25.44)		(23.25)
Acquirer business group affiliation				-7.547		14.55
				(13.74)		(21.07)
Acquirer size					-2.314	-2.151
					(4.337)	(5.048)
Acquirer age					0.265	-0.0218
					(0.198)	(0.236)
Acquirer high-tech					6.175	-5.273
					(21.05)	(20.95)
Constant	39.27*	-18.32	-213.5**	-213.1**	126.0**	118.7**
	(21.10)	(32.69)	(91.40)	(92.09)	(57.32)	(57.02)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	500	403	500	500	315	270
R-squared	0.231	0.172	0.264	0.265	0.197	0.222
ll	-3121	-2464	-3110	-3110	-1951	-1652

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1