A new order of financing investments: Evidence from acquisitions by India's listed firms

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A new order of financing investments: Evidence from acquisitions by India's listed firms

Abstract: We propose a new order of financing investments based on the considerations of control and financial constraints in a market with the presence of business groups. We base our analysis on a sample of acquisitions, one of the largest forms of investments, made by India's publicly listed firms from 1997 through 2016. We test the relative propensity of group-affiliated firms, as well as that of standalone (non-affiliated) firms, to finance their investments with stock on one extreme, and either cash or debt on the other. We find that group-affiliated bidders have the greatest propensity to finance their investments with stock when taking over firms affiliated with the same business group (within-group acquisitions), followed by standalone firms making acquisitions (standalone acquisitions). Finally, group-affiliated bidders acquiring either standalone firms or firms not affiliated with their group (outside-group acquisitions) have the lowest propensity to finance their investments with stock. The evidence is robust to alternative explanations of tunneling and propping up in business groups. Overall, our results suggest that firms whose insiders value control more, as well as firms that are financially less constrained due to their greater reputation in the capital markets, the existence of debt guarantees, or access to alternative financing channels have a greater tendency to avoid issuing equity to finance investments when their insiders are likely to suffer a dilution in their stakes.

Keywords: Business groups; Corporate control; Financial constraints; Investment financing; Mergers and acquisitions

JEL classification: G32, G34

1 Introduction

Do all firms in a market with the presence of business groups have similar preferences for financing investments? Does a group-affiliated firm finance its takeover deals the same way when it acquires another firm from the same group vis-à-vis when it acquires any other firm not affiliated with its group? How differently does a group-affiliated firm finance its acquisitions when compared to a standalone (non-affiliated) firm? We try to unravel these questions by considering one of the most significant forms of investments, namely corporate acquisitions, made by firms from India, a country with one of the largest number of group-affiliated firms.[1]

Prior empirical evidence indicates that considerations of corporate control influence how firms choose to finance investments. Amihud, Lev, and Travlos (1990) conjecture that corporate insiders of a firm prefer to finance acquisitions, one of the largest forms of investments, with either internal cash reserves or debt in a bid to retain the control over them. If an investment is financed with equity, the control of insiders may be diluted and, at worst, they could lose control of the firm (Harris & Raviv, 1988; Stulz, 1988). This set of arguments is popularly dubbed as the control hypothesis in the literature (Martin, 1996).

While Amihud et al. (1990) confirm a negative and linear relationship between the likelihood of stock-financed acquisitions and insider ownership, Martin (1996) finds this negative relationship holds only for intermediate levels of ownership. Later empirical evidence from several different countries also lends support to the control hypothesis by demonstrating that the ownership of insiders in a firm undertaking an investment plays a crucial role in influencing the source of its financing (Faccio & Masulis, 2005; Gu & Reed, 2016; Martynova & Renneboog, 2009; Yook, Gangopadhyay, & McCabe, 1999).

[1] Table 1 of Khanna and Yafeh (2007, p. 332) depicts India as having the largest number of firms affiliated with business groups among all of the countries under consideration for the study.

All prior studies have either been set in a context where the insiders of an acquirer and those of a target are almost always different sets of individuals or they do not consider the possibility of having common insiders at the acquirer, as well as the target, when financing acquisitions. In markets with business groups, both in developing (e.g., India, Thailand, South Korea, Indonesia, Taiwan, Brazil, Chile, Israel, Philippines, Mexico, Turkey, and Argentina) and developed countries (e.g., Italy, Japan, and Sweden), there is a distinct possibility that both the acquirer and the target belong to the same business group in case of corporate acquisitions.[2] Thus, they share the same set of insiders.[3]

We argue that blind application of the control hypothesis to countries with a dominant presence of business groups is likely to yield inconsistent and sometimes even contrary results. The insiders of a group-affiliated firm in the case of an acquisition within the group do not risk losing their control over the acquiring firm even when the deal is financed with equity, unlike the acquisition of a firm not affiliated with the same group.[4] We conjecture that the way firms finance investments is motivated not only by the ownership of insiders in the firm making an investment, but also how these insiders are related to insiders of the firm where the investment is being made.

Additionally, there are two critical factors at play in markets with business groups that can potentially affect the way firms finance investments. First, the insiders of standalone and group-affiliated firms may not value control in the same way. The insiders of group-affiliated

[2] Business groups, by definition, consist of legally independent firms having a common insider ownership.

[3] Following La Porta, Lopez-de-Silanes, Sheifer, and Vishny (2000), we use a broader definition of insiders that encompasses controlling shareholders of a firm in addition to its managers and directors. Using this definition, the promoters (or the promoter group) of a company, who directly or indirectly control its affairs using their positions as shareholders, directors, or managers, can be termed as insiders. The board of directors is accustomed to acting on the advice of the promoters. See www.mca.gov.in/SearchableActs/Section2.htm (last accessed on April 23, 2017) for a detailed definition of promoters given in the Indian Companies Act, 2013. We use the terms "promoters" and "insiders" synonymously throughout this paper.

[4] We use the terms "acquisitions," "takeovers," and "mergers" interchangeably throughout this paper.

firms may value control more so than those of standalone firms as they may want to redistribute resources within their groups for overt or covert reasons in the future (George & Kabir, 2008). All else being equal, the insiders of group-affiliated firms may have a higher tendency to finance investments that could dilute their control with either cash or debt.

Second, group-affiliated firms are financially less constrained when compared to standalone firms (Masulis, Pham, & Zein, 2011) owing to the presence of internal capital markets within their respective groups (S. J. Chang & Hong, 2000; Khanna & Palepu, 2000), as well as having better access to external capital markets (Ghatak & Kali, 2001; Shin & Park, 1999). The lower financial constraints aid the insiders of group-affiliated firms to preserve their control by financing a greater proportion of the acquisitions made outside their respective groups with either cash or debt. On the other hand, the insiders of standalone firms, due to higher financial constraints, could find it difficult to finance the same proportion of their acquisitions with either cash or debt and may have to issue equity to target shareholders.

Consistent with our proposed order of financing investments based on the considerations of control and financial constraints, we find that the propensity of group-affiliated bidders to finance investments with equity is highest in case of acquisitions of firms affiliated with the same group (within-group acquisitions) and lowest in case of acquisitions of firms not affiliated with their group (outside-group acquisitions). The propensity of standalone firms to finance their acquisitions (standalone acquisitions) with equity lies in between the above two extremes. Our results are robust to alternative explanations of tunneling and propping up in business groups.

We focus on only one kind of investment, namely, corporate acquisitions, for two reasons. First, corporate acquisitions are generally large investments and, as such, insider preferences for financing these investments are likely to be more pronounced. If the size of an

investment is small, managers may be indifferent to the means of its financing, and we may not be able to capture the true preferences of managers in that case. Additionally, as noted in Amihud et al. (1990), unlike an acquisition where the mode of payment is quite often disclosed publicly, the financial statement of a firm is usually devoid of the sources of financing investments. Thus, it may be difficult, if not impossible, to obtain the sources of financing investments other than acquisitions. We limit the classification of the method of financing investments into two broad categories: first, cash or debt, and second, equity.[5] These classifications fit the purpose of this study as we only need to classify the sources of financing investments into two broad categories, ones that may dilute the control of insiders and the others that do not.

We choose India as a setting of our study for two primary reasons. First, India is home to one of the largest numbers of group-affiliated firms (Khanna & Yafeh, 2007) with several instances of within-group investments including acquisitions. This allows us to study the differential financing behavior of group-affiliated firms when they investment within their respective groups vis-à-vis when they investment outside their groups, and contrast the same with that of standalone firms. In addition, once a group-affiliated firm acquires a target, it (the target) usually becomes a part of the acquirer's group. Even an acquirer's group affiliation could change if it is acquired later on by another group-affiliated acquirer. In the absence of historical data pertaining to the group affiliations of both the acquiring and the target firms, the inferences drawn are likely to be highly biased at best. The availability of historical group affiliation data is

[5] If a publicly listed acquirer is paying cash to target shareholders, theoretically there is a possibility of the acquirer issuing equity (through a seasoned equity offering route) to raise cash and using its proceeds to pay the target shareholders. This possibility is akin to a firm issuing equity and using its proceeds to pay dividends to its shareholders. This possibility, however, is rare in practice and can be ruled out. In the robustness tests, we check for this possibility. We do not find any acquiring firm in our sample that has paid the target shareholders with cash, raising money through either follow-on public offerings or rights issues between the dates of the announcement and completion of the deal.

crucial for the purpose of this study, and this data has recently become available in the Indian context.[6] We base our analysis on this unique hand-matched dataset of successfully completed takeover bids announced by India's publicly listed firms over a period starting from 1998 through 2016.

While our study has been carried out in the context of India and the findings of this study are likely to extend to other markets with business groups directly, we contend that some of the conclusions derived from this study may apply to markets devoid of business groups as well. In particular, firms whose insiders value control more, as well as firms that are financially less constrained due to a stronger reputation in the capital markets, the existence of debt guarantees, or access to sources of alternative finance, have a greater tendency to avoid issuing equity to finance investments when their insiders are likely to suffer a dilution in their stakes.

We contribute to several strands of literature. First, we add to the literature on investment financing by demonstrating that in order to obtain a complete picture of investment financing, it is imperative to distinguish whether the parties to the investment decision, an investor and an investee, share the same set of insiders. We also document the relevance of certain factors in firm financing including a firm's reputation in the capital markets, access to sources of alternative finance, and the existence of debt guarantees, which are often ignored in the literature on firm financing. Our view is also consistent with Allen, Chakrabarti, De, Qian, and Qian (2012), who find that alternative finance, a form of non-market and non-bank financing, is an important channel of firm financing in emerging markets like India.

[6] Prowess, a financial database of Indian firms maintained by Centre for Monitoring Indian Economy (CMIE), provided only the latest affiliation status of a firm until 2013. However, from 2014 onwards, we are able to access the group affiliation data of Indian firms going back to 1988.

Second, we contribute to the literature on business groups by demonstrating how differently group-affiliated firms finance their investments than standalone firms. The prior research does not distinguish between the acquisition financing choices of standalone and that of group-affiliated firms (see, for example, Yang et al., 2017). We show that financing decisions of group-affiliated firms could be very different depending upon whether an affiliate makes an acquisition within or outside the group. Failure to distinguish between the two possibilities may lead us to arrive at erroneous conclusions about the differences in the acquisition financing choices of standalone and group-affiliated firms.

Finally, we also contribute to the burgeoning literature on mergers and acquisitions by providing additional factors that future studies should take into account when explaining the method of payment choices in countries with business groups. We also extend the strand of literature that calls for moving beyond the narrow lens of studying the effect of focal firms' ownership structure on their acquisition decisions without taking into account the possibility of overlapping ownership (Goranova, Dharwadkar, & Brandes, 2010).

The rest of the paper is organized as follows. In Section 2, we provide an overview of the Indian context with a focus on its institutional setting. In Section 3, we review the related literature and develop our hypotheses. Section 4 describes our research design, while Section 5 describes the data and the sample selection steps. In Section 6, we report the results of our empirical analyses, as well as check their robustness. In Section 7, we conclude.

2 The Indian context and the institutional setting

Unlike the U.S. market, the Indian corporate landscape is dominated by firms with concentrated shareholdings in the hands of founding families, popularly known as promoters in

India (Narayanaswamy, Raghunandan, & Rama, 2012). The promoters of a firm directly or indirectly control its affairs using their positions as shareholders, directors, or managers, and its board of directors is accustomed to acting on their advice.[7] That is why it is very common to term promoters of a firm as insiders. The mean insider shareholding in the listed companies in India has hovered around 50% historically (Balasubramanian, Black, & Khanna, 2010; Chakrabarti, Megginson, & Yadav, 2008; Sarkar & Sarkar, 2008).

Approximately 60% of the top 500 Indian firms, which comprise 65% of the market capitalization, are affiliated to business groups (Chakrabarti et al., 2008; Jackling & Johl, 2009). Each business group essentially comprises of a set of legally independent firms having common insider ownership. A vast majority of both group-affiliated and standalone firms are family firms in India.[8] In fact, about 91% of the listed firms in India are family firms with standalone firms comprising 63% of the total number of family firms (Bang, Ray, & Ramachandran, 2017). Since both group-affiliated and standalone firms are predominantly family firms in India, it is not surprising that both of these types of firms have concentrated shareholding in the hands of insiders.

Investor and creditor protection regulations come in several forms including those related to securities, company, and bankruptcy laws (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Despite having a well-functioning stock market since 1875 and a corpus of strong corporate governance regulations (*de jure* protection), India has offered poor *de facto* protection to investors due to poor enforcement of these regulations (Allen et al., 2012; Chakrabarti et al.,

[7] See www.mca.gov.in/SearchableActs/Section2.htm (last accessed on April 23, 2017).

[8] It is commonly perceived that all group-affiliated firms are family firms and all standalone firms are non-family firms. However, this is not necessarily true. A group-affiliated firm can be a non-family firm and a standalone firm can be a family firm. The prominent examples of non-family group-affiliated firms in India include firms like those belonging to Larsen & Toubro and ITC groups.

2008; Dharmapala & Khanna, 2013). Also, prior to the promulgation of the Insolvency and Bankruptcy Code, 2016, the bankruptcy regime in India has been inefficient. The erstwhile bankruptcy law, the Sick Industrial Companies (Special Provisions) Act of 1985, relied on accounting numbers of a firm for determining its bankruptcy rather than its inability to pay creditors and favored a firm's management over its creditors (Gopalan, Martin, & Srinivasan, 2016). Under this law, all legal lawsuits filed by creditors against the defaulting firms remained suspended, there was a moratorium on the repayment of principal or the payment of interest on debt, and insiders continued to control their firms during the process of reorganization (Gopalan et al., 2016; Gopalan, Nanda, & Seru, 2007). In an environment that lacked strongly enforced regulations, insiders had strong incentives to derive private benefits of control (La Porta et al., 2000).

3 Related literature and hypotheses development

In this section, we review and analyze the arguments related to considerations of control and financial constraints that are likely to play an important role in deciding how investments can be financed in markets with the presence of business groups.

3.1 Considerations of control

The empirical evidence recognizes that firms, as opposed to Modigliani and Miller's (1958) capital structure irrelevance proposition, have peculiar choices for financing investments. Prior research indicates that corporate control is one of the critical factors influencing how firms tend to finance investments. Amihud et al. (1990) are the first to empirically demonstrate, for a sample of U.S. acquirers, that insiders of a firm prefer to finance acquisitions with either cash or debt to retain their control, as well as to avoid the dilution of their stake in the firm. In other

words, the greater the insider ownership in an acquiring firm, the less (more) likely the acquisition will be financed with stock (either cash or debt). The negative relationship between the likelihood of stock financing and the extent of insider ownership has been popularly known as the control hypothesis in the literature. Yook et al. (1999) also find support for the control hypothesis in a sample of U.S. acquirers after including more statistical controls.

In another study, Martin (1996) finds that insider stake has a non-linear relationship with the likelihood of stock financing of acquisitions using a sample of U.S. firms. In particular, the negative relationship between the probability of stock-financed acquisitions and insider stake holds only over an intermediate range of ownership levels in the acquiring firms. Ghosh and Ruland (1998) and Faccio and Masulis (2005) lend credibility to Martin's (1996) study by demonstrating that the incentives to pay shareholders of target firms with cash or debt are more pronounced over an intermediate range of insider ownership in the acquiring firms for a sample of U.S. and European acquirers, respectively. In a recent study, Gu and Reed (2016) also confirm that marginal control of insiders in the acquiring firms influences how these firms pay target shareholders.

None of the studies, to the best of our knowledge, addresses the question as to how firms finance acquisitions when the acquiring and target firms share the same set of insiders. This scenario is particularly applicable to markets with business groups where within-group investments are not uncommon. We postulate that blind application of the control hypothesis to markets with business groups is likely to yield inconsistent results if the possibility of common insider ownership in the acquiring and target firms is not taken into account. Our arguments are consistent with the stream of the literature that calls for taking into account the possibility of overlapping ownership in the context of takeover decisions (Goranova et al., 2010).

In a market with the presence of business groups, acquisitions made by firms may be classified into three broad categories: a group-affiliated firm acquiring another firm affiliated with the same group (within-group acquisitions), a group-affiliated firm acquiring either a standalone firm or a firm affiliated with a different group (outside-group acquisitions), and a standalone firm acquiring either a group-affiliated firm or another standalone firm (standalone acquisitions). We represent the classification of acquisitions pictorially in Figure 1. The motives for financing acquisitions falling in each of the three categories are likely to be different. These different sets of acquisitions are likely to differ from one another in terms of considerations of control, as well as financial constraints, in addition to several acquirer, deal, and target characteristics. Thus, they are also likely to have different financial outcomes.

[INSERT FIGURE 1 ABOUT HERE]

In the case of a cash- or debt-financed acquisition, the stake of the insiders in the acquiring firm remains unaffected after the acquisition is complete. However, if an acquirer uses its stock to pay target shareholders, the insiders' stake in the acquirer could come down, and there is a possibility of the insiders losing their control in the acquiring firm post-acquisition in case a different set of insiders controls the target.

We illustrate the considerations of control using a hypothetical example. Suppose an acquirer and a target have N_{acq} and N_{tgt} number of shares outstanding, respectively, before the acquisition of the target with their insiders owning X_{acq} and X_{tgt} fractions of the shares in their respective firms. In case the acquisition is financed with either cash or debt, the insiders of the acquirer continue to own X_{acq} fraction of the shares in the acquiring firm after the acquisition, and their control over the acquiring firm remains unaffected. Alternatively, in the case where the acquirer makes payment with its stock to the target shareholders, it generally issues new shares

to the target shareholders (Erickson & Wang, 1999). If α is the negotiated exchange ratio (i.e., for every share of the target firm, the target shareholders receive α shares of the acquiring firm), the acquiring firm issues $\alpha * N_{tgt}$ number of new shares to the target shareholders. The combined firm has a total of $N_{acq} + \alpha * N_{tgt}$ number of shares outstanding after the 100% acquisition of the target. The issue of shares to the target shareholders brings down the stake of the acquiring firm's insiders to $\frac{N_{acq} * X_{acq}}{N_{acq} + \alpha * N_{tgt}}$, while the target firm's insiders obtain a stake of $\frac{\alpha * N_{tgt} * X_{tgt}}{N_{acq} + \alpha * N_{tgt}}$ in the combined firm. We summarize the impact on insider holdings in the case of a stock-financed acquisition for both the acquirer and the target in Table 1.

[INSERT TABLE 1 ABOUT HERE]

When both the acquirer and the target belong to the same business group (which we term as a within-group acquisition) and share the same group of insiders, not only do the chances of dilution of the insiders' stake in the case of a stock-financed acquisition become less, but the extent of dilution is also lower (in case there is actually a dilution). Three possibilities can arise in the case of such a within-group acquisition. First, if the insiders have a greater stake in the target than that of the acquirer, the stake of the insiders in the acquiring firm will rise after the within-group acquisition. Second, if the insiders hold a greater stake in the acquirer than the target, the stake of the insiders in the acquiring firm will be diluted after the acquisition to some extent depending upon the difference in the insider stake in the two firms. However, the extent of the dilution, in this case, will be much less than in the case of an outside-group acquisition. Finally, if the insiders had the same proportional stake in both the acquirer and the target prior to the acquisition, their stake in the acquirer will remain unchanged after the within-group acquisition.

We illustrate with an example as to how considerations of control can become virtually unimportant to the financing of a deal in the case of a within-group acquisition. Tata Infotech Ltd (TIL)'s merger with Tata Consultancy Services (TCS), both affiliated with Tata Group demonstrates how the promoters of these firms continued to control the combined entity even after the merger. Tata Sons, the promoter (or the holding company) of the Tata Group of companies, held an 80.64% stake in TCS and a 74.18% in TIL at the time of the announcement of the merger. TCS financed the merger entirely with equity by issuing its one share to TIL shareholders for their every two shares. The stake of Tata Sons in the combined firm was expected to be 80.52% after the merger.[9] Irrespective of the means of financing, the promoter stake would have changed very little after the merger as the same promoter group controlled both TIL and TCS with a very similar stake in both firms. Therefore, the considerations for control would not have played a major role in the financing of this within-group acquisition.

Alternatively, if the acquirer is a standalone firm in the case of a stock-financed acquisition, the insiders of the firm not only suffer dilution in their stake, but also stand the risk of losing their control to the insiders of the target firm. This case is equally applicable to outside-group acquisitions as well. We summarize these possibilities and their respective implications on the insider stake of the acquiring and target firms in Table 2. The control of the insiders in the acquiring firm, however, remains intact in the case where the acquisition is financed through either cash or debt.

[INSERT TABLE 2 ABOUT HERE]

[9] See http://investors.tcs.com/investors/investor_news_events/announcements/Pages/TataInfotechLtdmergeswithTataConsultancyServicesLtd.aspx (last accessed on April 23, 2017)

3.2 Financial constraints

When compared to standalone firms, group-affiliated firms face fewer financial constraints (Lensink, van der Molen, & Gangopadhyay, 2003; Masulis et al., 2011; Shin & Park, 1999), which could stem from the existence of internal capital markets, as well as better access to external capital markets. Group-affiliated firms enjoy the advantages of internal capital markets (Almeida, Kim, & Kim, 2015; Carney, Gedajlovic, Heugens, Van Essen, & Van Oosterhout, 2011; S. J. Chang & Hong, 2000; Gopalan et al., 2007; Gopalan, Nanda, & Seru, 2014; Khanna & Palepu, 2000) whose role becomes especially important when the external capital markets are not fully developed. Internal capital markets within business groups, an alternative financing channel, may help the affiliated firms to finance their projects with positive net present values that may otherwise be difficult to finance in markets with underdeveloped external capital markets (Allen et al., 2012), as well as during and immediately after a financial crisis (Almeida et al., 2015). Standalone firms do not have access to this form of financing. Additionally, group-affiliated firms can borrow from other firms within their respective groups at a rate lower than that of the external capital market (Gopalan et al., 2007; Liebeskind, 2000).

In addition to the presence of internal capital markets, group-affiliated firms may have better access to external capital markets, particularly debt markets, than standalone firms do. Group-affiliated firms' improved access to debt financing stems from two reasons. First, financial institutions are likely to prefer lending to reputed firms. This especially holds true in emerging markets like India where investor protection regulations have been relatively weak (Dharmapala & Khanna, 2013; Khanna & Rivkin, 2001). In such environments, the name of a group acts as a substitute for a high quality or a reputed brand for gaining credibility among investors (Khanna & Palepu, 2000; Lensink et al., 2003). In addition, the presence of intra-group

debt guarantees among the member firms of a business group facilitates access to external financing (Ghatak & Kali, 2001; Shin & Park, 1999). We argue that due to fewer financial constraints stemming from the presence of internal capital markets, as well as enhanced access to external capital markets, affiliated firms are likely to find it easy to fund their investments with cash or debt compared to standalone firms.

3.3 Hypotheses development

An acquirer may have a different set of incentives for financing different types of acquisitions. The considerations of control, as discussed in Section 3.1, become important primarily in the case of outside-group acquisitions, as well as that of standalone acquisitions. This is because, if these investments are financed with stock, the control of the insiders will be diluted or at times even lost. Thus, the insiders of group-affiliated firms in the case of outside-group acquisitions, as well as those of standalone firms making acquisitions, have incentives to finance these investments with either cash or debt to keep the control preserved with them. In the case of within-group acquisitions, on the other hand, the control of the insiders remains largely unaffected irrespective of whether the deal is financed with cash, debt, or equity.

Other than the considerations of control, within-group acquisitions are also likely to differ from standalone, as well as outside-group acquisitions, in terms of the extent of information asymmetry between acquirers and targets. Unlike standalone and outside-group acquisitions, there is little or no information asymmetry between acquirers and targets in case of within-group acquisitions. This has two important implications from the standpoint of financing of within-group acquisitions. First, the targets are better informed about the stock prices of the acquiring firms within their respective business groups, and they may not be averse to receiving

the equity of acquiring firms. Second, since the acquirers too are equally informed about the stock prices of the target firms, misevaluation of the targets is no more a reason for the acquiring firms to finance their within-group acquisitions with stock.[10] We, therefore, argue that the information asymmetry considerations should not influence the financing of within-group acquisitions.[11]

We conjecture that the insiders of group-affiliated acquirers have incentives to conserve cash for financing future investments where they stand a risk of diluting or even losing their control. Thus, they may not want to use cash for financing within-group acquisitions in which their control remains largely unaffected even if these acquisitions are financed with equity. If group-affiliated firms conserve cash for financing future investments, both internal and external (including acquisitions) within-group acquisitions should be financed more with equity compared with outside-group or standalone acquisitions. Based on the above arguments, we propose the following hypotheses:

Hypothesis 1. *When compared to outside-group acquisitions, group-affiliated acquirers have a greater propensity to finance within-group acquisitions with stock.*

Hypothesis 2. *When compared to acquisitions by standalone firms, group-affiliated acquirers have a greater propensity to finance within-group acquisitions with stock.*

Financial constraints also play an important role in markets with business groups that can potentially affect the way firms finance investments. Standalone firms, in line with our discussion in Section 3.2, are financially more constrained than group-affiliated firms. If a standalone acquirer does not have enough internally generated cash, it is difficult for the firm to

[10] Hansen (1987) argues that an acquirer may prefer to finance investments with its stock in case where it is less informed about value of the target making the target shareholders share the misvaluation effects after its acquisition.
[11] We capture the role of information asymmetry in influencing the financing of corporate acquisitions using relative deal size and industry relatedness variables discussed in Section 4 of the paper.

pay target shareholders with cash. On the other hand, a group-affiliated firm may be able to pay target shareholders with cash despite not having sufficient cash or bank balance on its books. Due to lower financial constraints on account of the presence of internal capital markets and enhanced access to external capital markets (Gopalan et al., 2007, 2014; Khanna & Palepu, 2000; Masulis et al., 2011; Shin & Park, 1999), group-affiliated firms are likely to find it quite easy to fund their investments with either cash or debt. The role of lower financial constraints comes into play for group-affiliated firms in the case of outside-group acquisitions where the insiders of these firms may end up diluting or even losing their control if these investments are financed with stock. On the other hand, the insiders of standalone firms could find it difficult to finance the same proportion of their acquisitions with either cash or debt due to greater financial constraints and may have to issue equity to the target shareholders.

Apart from facing lower financial constraints, we argue that insiders of group-affiliated firms may value corporate control more than those of standalone firms. Control may be especially important to the insiders of group-affiliated firms to facilitate the redistribution of resources within their groups (George & Kabir, 2008). The redistribution of resources, which can take several forms including intra-group loans (Gopalan et al., 2007), payment of dividends (Goldman & Viswanath, 2017), transfer pricing, or other financial transactions, may be necessary for several reasons, such as smoothing liquidity across firms (Khanna & Yafeh, 2005), providing support to financially weaker firms to avoid negative spillovers to rest of the group (Gopalan et al., 2007), and financing positive net present value projects within the group (Almeida et al., 2015; Gopalan et al., 2014). Insiders of group-affiliated firms may also use the control for their private benefits, such as tunneling (K. Bae, Kang, & Kim, 2002; Bertrand, Mehta, & Mullainathan, 2002; Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2000), retaining

capital within the group even when future investment opportunities dry up (Basu & Sen, 2015), or any other forms of expropriation at the expense of minority shareholders. Irrespective of the form of redistribution of resources and whether it is efficient or opportunistic, the loss of control is likely to be more costly for the insiders of group-affiliated firms than those of standalone firms.

Based on the arguments related to financial constraints and differential control preferences, we propose the following hypothesis:

Hypothesis 3. *When compared to acquisitions by standalone firms, group-affiliated acquirers have a greater propensity to finance outside-group acquisitions with either cash or debt.*

We depict all the three hypotheses pictorially in Figure 2.

[INSERT FIGURE 2 ABOUT HERE]

4 Research design

To test how differently group-affiliated firms finance their within-group acquisitions compared to outside-group acquisitions (Hypothesis 1), we employ a subsample of acquisitions made by group-affiliated acquirers. Using this subsample, we perform a set of probit regressions of the following form modeling the probability of financing acquisitions with equity:

$$PROB(FIN\_EQUITY_i = 1) = \alpha + \beta_1 WITHIN\_GROUP_i + \gamma' CONTROLS_i + \varepsilon_i \quad (1)$$

The dependent variable in Equation 1, *FIN_EQUITY*, is an indicator variable to represent the mode of financing of an acquisition deal. This variable takes a value of one if an acquirer finances the deal with equity and zero if it finances the deal with either corporate cash reserves or debt. Our primary explanatory variable of interest in this equation, *WITHIN_GROUP*, is again

an indicator variable that denotes whether a group-affiliated bidder acquires a firm affiliated with the same group (*WITHIN_GROUP = 1*) or not (*WITHIN_GROUP = 0*). Since we consider only the set of acquisitions made by group-affiliated bidders in Equation 1, if an acquisition is not within the same group of the affiliated acquirer, it has to be outside its group. Thus, the indicator variable for outside-group acquisitions, *OUTSIDE_GROUP*, is perfectly collinear with that of within-group acquisitions, *WITHIN_GROUP*. As such, we omit the *OUTSIDE_GROUP* variable from our research design. The sign and magnitude of *WITHIN_GROUP* appears relative to that of *OUTSIDE_GROUP*. We expect a positive and significant sign on the coefficient of *WITHIN_GROUP* after controlling for variables that are likely to influence the method of payment in line with the prior literature.

Further, to examine how differently group-affiliated firms finance their acquisitions compared to standalone firms (Hypotheses 2 and 3), we use the entire sample of acquisitions and perform a series of probit regressions of the following form modeling the probability of financing acquisitions with equity:

$$PROB(FIN\_EQUITY_i = 1) = \alpha + \beta_1 WITHIN\_GROUP_i + \beta_2 OUTSIDE\_GROUP_i + \gamma' CONTROLS_i + \varepsilon_i \quad (2)$$

In Equation 2, we consider our entire sample of acquisitions including those by group-affiliated, as well as standalone bidders. If an acquisition is neither a within-group acquisition (*WITHIN_GROUP = 0*) or an outside-group acquisition (*OUTSIDE_GROUP = 0*), it must be the one made by a standalone bidder. This implies that the indicator variable for standalone acquisitions, *STANDALONE*, is perfectly collinear with a linear combination of *WITHIN_GROUP* and *OUTSIDE_GROUP* indicator variables and it has, as such, been omitted from the research design. The sign, as well as the magnitude of the coefficients on the indicator

variables *WITHIN_GROUP* and *OUTSIDE_GROUP*, appears relative to that on *STANDALONE*. In line with our stated hypotheses, we expect within-group (outside-group) acquisitions to be financed with equity to a greater (lesser) extent compared to acquisitions made by standalone firms. Thus, we expect the coefficient on *WITHIN_GROUP* to be positive and that on *OUTSIDE_GROUP* to be negative after controlling for the following acquirer, target, and deal characteristics.

Cross-border deal: An acquirer may not be as well known in a target's country as it is known in its own country (Coval & Moskowitz, 1999; French & Poterba, 1991; Grinblatt & Keloharju, 2001). Thus, target shareholders may not like to hold the equity of a "lesser-known" foreign acquirer (Faccio & Masulis, 2005; Martynova & Renneboog, 2009). Also, foreign equity investments may be regulated in the target's country (Faccio & Masulis, 2005). These factors are likely to reduce the likelihood of an acquirer paying a target based in a foreign country with its stock. Therefore, we expect the coefficient on *CROSS_BORDER*, an indicator variable that takes a value of one in the case where a target is located in a foreign country and zero otherwise, to be negative.

Relative deal size: In the case of corporate acquisitions, a target and an acquirer may not have complete information about the value of each other. Hansen (1987) argues that an acquirer may prefer to finance investment with its stock in the case where it is less informed about the value of a target, making the target shareholders share the misvaluation effects after its acquisition. The impact of the problem of information asymmetry, in line with Hansen's (1987) predictions, is likely to be commensurate with the size of a target or alternatively the size of a deal. Larger deals relative to the size of the acquirers are more likely to be financed with stock. We employ *REL_SIZE* to measure the value of the deal relative to the book value of the acquirer's total

assets at the end of the financial year immediately preceding the acquisition announcement, and we expect a positive coefficient on this variable.

Industry relatedness: If an acquirer and a target operate in the same industry, the target is aware of both the prospects, as well as the risks, related to the common industry (Faccio & Masulis, 2005). Due to lower information asymmetry between the acquirer and the target, the target may be less averse to accepting the stock of the acquirer from the same industry. We employ *IND_REL* to measure the industry relatedness between an acquirer and a target based on whether the two share the same four-digit Standard Industrial Classification (SIC) code. The coefficient on *IND_REL*, in line with the above arguments, is expected to be positive.

Cash reserves of acquirer: If an acquiring firm has ample cash on its books, it can make use of its cash reserves to pay the target shareholders. The acquirer is unlikely to go to the market to seek funds when the opportunity cost of using internal cash reserves is lower (Gu & Reed, 2016). This expectation is also in line with the pecking order theory by Myers (1984). We employ *CASH_TO_ASSETS* to measure the natural logarithm of cash and bank balances an acquirer has relative to its assets at the end of the financial year preceding an acquisition announcement. We expect a negative coefficient on this variable.

Financial leverage of acquirer: The financial condition of an acquiring firm may also play a significant role in how a deal is financed. Acquirers that already have a high amount of debt on their books may find it difficult to borrow more from the market as the cost of borrowing can rise with an increase in the debt levels (Baxter, 1967). Thus, we expect highly levered bidders to have a greater tendency to finance their acquisitions with stock. We take the natural logarithm of the ratio of the book value of debt to the book value of assets of an acquirer at the end of the

financial year prior to acquisition to measure the financial leverage of the acquirer, and name this variable *DEBT_TO_ASSETS*.

Acquirer size: The size of an acquirer may also influence the financing of a deal. Larger firms are usually more diversified than smaller ones and have a lower probability of going bankrupt for a given debt ratio. Thus, they have a greater debt capacity (Faccio & Masulis, 2005). We should observe larger acquirers to have a greater propensity to finance their acquisitions with debt. We use *TOTAL_ASSETS*, the natural logarithm of the total assets of an acquirer at the end of the financial year preceding an acquisition announcement, as a proxy for the acquirer size, and expect a negative coefficient on this variable.

Insider ownership in acquirer: Insiders of a firm with concentrated ownership usually prefer to finance investments with either cash or debt in order to retain their control in the firm (Amihud et al., 1990; Harris & Raviv, 1988; Martin, 1996; Stulz, 1988). While Amihud et al. (1990) determine a negative and linear relationship between the likelihood of stock-financed acquisitions and insider ownership, Martin (1996) finds this negative relationship to hold only for intermediate levels of ownership. In all of the estimation models, we control for the proportion of shareholding by insiders in an acquirer (*INSIDER_OWN*), which includes shareholding by individuals, as well as corporate bodies acting as promoters. In addition, we also control for the square of this term (*INSIDER_OWN_SQ*) in some of the estimation models to take into account the possible non-linear relationship between insider ownership and the mode of financing acquisitions.

Acquirer's investment or growth opportunities: Due to a greater degree of discretion involved in equity financing, firms with growth opportunities may prefer raising equity over debt (Jung, Kim, & Stulz, 1996; Martin, 1996). We use *MARKET_TO_BOOK*, the sum of an acquirer's

market value of equity and the book value of debt divided by the book value of its total assets at the end of the financial year immediately preceding the acquisition announcement, as a proxy for the acquirer's investment or growth opportunities. We obtain the market value of equity of a firm by multiplying the number of shares outstanding with the price of its scrip traded on the Bombay Stock Exchange (BSE) on the last trading day of the financial year preceding the acquisition announcement. In case the scrip is not traded on the BSE, we use the National Stock Exchange (NSE) share price data. Further, if the scrip is not traded on either of the two exchanges on any day of the last month of the financial year, we capture the market capitalization on the nearest available date in the same calendar year. In line with the prior literature, we expect a positive coefficient on *MARKET_TO_BOOK*.

Target status: The status of a target may also influence how an acquirer could choose to pay the target shareholders. The owners of the targets that are not public (or not listed) usually have concentrated and illiquid holdings in these firms. Because of their liquidity needs, the owners of non-public targets are less likely to accept stock (Faccio & Masulis, 2005; Martynova & Renneboog, 2009). We construct an indicator variable, *TARGET_PUBLIC*, that takes a value of one if the target is a public firm and zero otherwise. We expect a positive coefficient on this variable.

Financial crisis: A period of financial crisis can also have an impact on how acquirers finance their investments. During a financial crisis, liquidity dries up (Cornett, McNutt, Strahan, & Tehranian, 2011) and the stock market places a greater weight on cash reserves (Y. Chang, Benson, & Faff, 2017). An acquirer may not want to pay target shareholders with cash during these times. Thus, we expect a period of financial crisis to be accompanied by a disproportionately high number of acquisitions financed with stock. We employ two indicator

variables, *CRISIS_2001* and *CRISIS_2007_2009*, for 2001 and 2007- 2009 to indicate the dot-com bubble financial crisis and the global financial crisis, respectively. In line with the above arguments, we expect positive coefficients on these two variables.

5 Data and descriptive statistics

We obtain our initial sample from Thomson Reuters' Thomson One database. It includes acquisitions announced by publicly listed Indian bidders from 1995-2016 and successfully completed subsequent to their announcement. Since there are very few acquisitions made by Indian firms prior to 1995, we start our sample from 1995 in line with the prior literature (Banerjee, Banerjee, De, Jindra, & Mukhopadhyay, 2014; Bhaumik & Selarka, 2012). Our sample spans a period before, as well as after, the global financial crisis. We remove those deals for which the deal size is unavailable as this is one of the important factors in determining how a deal may be financed. We consider only those deals for which acquirers have paid shareholders of the target firms either completely with cash or completely with stock.[12]

We combine the deal data from Thomson One with group-affiliation and firm financial data from the Prowess database maintained by the Centre for Monitoring Indian Economy (CMIE).[13] Prowess, which principally sources its data from the annual reports of firms, is a

[12] There are very few deals by Indian acquirers during our sample period that are financed using a mix of cash and stock. Thus, we do not include the hybrid deals (financed with a mix of cash and equity) in our sample. This is also a reason why we use probit regressions in our research design instead of using ordered probit models.

[13] Consistent with Sarkar, Sarkar, and Sen (2008), we recognize that financial data obtained from CMIE Prowess is sometimes different from that reported in the annual reports of firms. This is primarily because CMIE reclassifies certain items using notes or schedules accompanying the income statement, as well as the balance sheet items, to make the numbers of various firms comparable with each other. We cross-check our sample data from Prowess with that from Ace Equity, a database maintained by Accord Fintech. In the case of unavailability of certain records in Ace Equity, we compile the data from annual reports of firms. Scrutiny of the records reveals that data from Prowess does not differ too much with from that of Ace Equity. Wherever the percentage difference between the numbers reported in Prowess and those in Ace Equity (expressed as a percentage of the numbers reported in the Ace Equity) exceeds 25%, we hand-collect this data from the annual reports of these firms and use the corrected data in our

comprehensive financial database of Indian firms and has been employed in several studies in the past (see, for examples, Khanna and Palepu (2000), Bertrand et al. (2002), and Gopalan et al., (2014)). Since data from Thomson One does not include firm identifier information for the acquirers and the targets for most of the deals in our sample, we use text-based, as well as hand-matching, of company names from the two databases. We also take into account the changes in company names to ensure that we do not miss those deals where the firms changed their names. We drop those deals where we could not match the acquirer names from the two databases.

We exclude the deals in which the acquirers are public sector undertakings as the government could aid in the financing of these deals even if the acquiring firms are unable to finance the deals on their own. As is standard in the literature, we exclude the deals undertaken by financial firms, as well as repurchase deals. We also drop the deals undertaken by group-affiliated acquirers where the affiliation of the target firms could not be ascertained. In the case where we find deals with the same acquirer and target names announced on the same day, we club all such deals together. We drop those deals in which the acquirers' financial data for any of the variables of interest is missing in CMIE Prowess. The final sample consists of 360 deals. We provide the criteria for selecting our sample in Table 3.

[INSERT TABLE 3 ABOUT HERE]

Table 4 summarizes the distribution of acquisitions by year, type, and industry. Among 360 acquisitions, 149 (41.4%) are made by standalone firms (standalone acquisitions) and the remaining 211 (58.6%) by group-affiliated firms. Of 211 acquisitions made by group affiliates, in 93 (25.8% of the overall sample) cases both the acquirer and the target belong to the same business group (within-group acquisitions). In the remaining 118 (32.8% of the overall sample),

empirical analyses. However, we rely solely on the Prowess database for the group-affiliation data. Thus, we ensure that our results are largely free from data credibility issues.

the target is either a standalone firm or a firm affiliated with a group different from that of the acquirer (outside-group acquisitions). The acquisition activity is relatively scarce prior to 2005. Further, the activity is dominated by acquirers from materials and hi-tech industries, and these industries together constitute 43% of the sample acquisitions.

[INSERT TABLE 4 ABOUT HERE]

Panel A of Table 5 provides the descriptive statistics for our overall sample, while Panel B of Table 5 reports the descriptive statistics based on the classification of the acquisitions into three categories: standalone acquisitions, within-group acquisitions, and outside-group acquisitions. Twenty-eight percent of the sample acquisitions are financed with equity. The distribution of financing, however, varies across the three categories. While only 14% of outside-group acquisitions are financed with equity, 59% of within-group acquisitions are financed with equity. The financing of standalone acquisitions with equity stands at 19%, which lies in-between that of within-group and outside-group acquisitions. This is in line with our expectations. The differences in the financing of acquisitions with equity are statistically significant between within-group and standalone, and within-group and outside-group, but not between outside-group and standalone acquisitions.

The mean (median) ownership of the insiders in the acquiring firms is 50% (51%). The differences in equity ownership of the insiders between any two categories are not statistically significant, which is consistent with the study by Sarkar and Sarkar (2008).[14] This is not surprising considering that a vast majority of both group-affiliated and standalone firms in India are family firms (Bang et al., 2017). This also indicates that the ownership of insiders in the

[14] Sarkar and Sarkar (2008) do not find any significant difference between the insider ownership in group-affiliated and that in standalone firms in their sample of Indian firms.

acquiring firms is unlikely to be a reason for differences in the pattern of financing among the three categories.

[INSERT TABLE 5 ABOUT HERE]

Since our prediction of greater financing of standalone acquisitions relative to that of outside-group acquisitions is primarily based on the premise of higher financial constraints faced by standalone acquirers as compared to group-affiliated acquirers, we check if this is indeed the case for our sample of acquisitions. Following Hadlock and Pierce (2010), we compute the size-age index for acquirers in our three sets of acquisitions. We find significantly higher value of the size-age index for standalone acquirers compared to group-affiliated acquirers undertaking both within-group and outside-group acquisitions. This lends credibility to our assumption that standalone acquirers face greater financial constraints relative to their group-affiliated counterparts.

6 Empirical analysis

6.1 Empirical findings

Following the specifications of Equation (1), Table 6 reports the results for a set of probit regression models with heteroskedasticity-robust standard errors clustered at the acquirer level for a subsample of 211 acquisitions, all made by group-affiliated acquirers. The results indicate how differently group-affiliated firms finance their within-group acquisitions compared to outside-group acquisitions. Model (1) includes only our main variable of interest, *WITHIN_GROUP*. Models (2) and (4) include only a set of control variables. Models (3) and (5) include explanatory, as well as control variables. While Models (2) and (3) include the ownership stake of insiders in the acquiring firm, Models (4) and (5) include not only this term,

but also its square to accommodate for a possible non-linear relationship between the mode of financing and insider ownership in the acquiring firms. Consistent with Hypothesis 1, we find the coefficient on *WITHIN_GROUP* to be positive and significant at the 1% level across all of our models with this variable.

Next, we augment Models (2)-(5) with the inclusion of year fixed effects as well as acquirer industry fixed effects at the one-digit SIC level and arrive at Models (6)-(9), respectively. This step narrows down the number of acquisitions made by the group-affiliated firms in the sample from 211 to 205 because the deals for which the year and the acquirer industry indicators completely determine the mode of financing are dropped from the sample. The results shown in Table 6 indicate that the coefficient on *WITHIN_GROUP* continues to remain significant at the 1% level even after the inclusion of the acquirer industry and the year fixed effects lending further support to Hypothesis 1.[15] In particular, Models (7) and (9) in Table 6 indicate that within-group acquisitions, on average, have about 21 to 22 percentage points greater likelihood of being financed with equity than outside-group acquisitions, which is statistically, as well as economically, significant.

To determine whether the inclusion of the within-group indicator variable (*WITHIN_GROUP*) increases the explanatory power of the base model with only the control variables, we perform Likelihood Ratio (LR) tests for Models (3), (5), (7), and (9) using Models (2), (4), (6), and (8), respectively, as the baseline models. We are able to reject the null hypotheses that within-group indicator variable does not impact how acquirers finance their acquisitions in *all* the four cases at the 1% level.

[15] Year fixed effects are based on the year of completion of the deals in all of the estimation models. The results remain robust to the inclusion of year fixed effects based on the year of announcement of the deals.

We also report the sensitivity, the specificity, and the correctly specified percentage for each model in Table 6. The sensitivity (specificity) of a model provides the percentage of equity (cash or debt) deals that the model can predict correctly. Model (9), having both the explanatory and the control variables along with industry and year fixed effects, can correctly predict about 87%, 92%, and 77% of all deals, cash or debt deals, and stock deals, respectively. Consistent with the prior literature, we also find that the acquirers' propensity to finance the deals with equity is higher in the case of domestic deals, deals that are large relative to their size, and during the period of the global financial crisis.

[INSERT TABLE 6 ABOUT HERE]

Next, following the specification in Equation (2) and using our entire sample of 360 acquisitions, we examine how differently group-affiliated firms finance their acquisitions compared to standalone firms. In Table 7, we report the results of this sample for a set of probit regression models with heteroskedasticity-robust standard errors clustered at the acquirer level. Model (1) includes only our main variables of interest, *WITHIN_GROUP* and *OUTSIDE_GROUP*. Models (2) and (4) include only a set of control variables, while Models (3) and (5) include explanatory, as well as control variables. Similar to the reported results in Table 6, Models (2) and (3) include the ownership stake of insiders in the acquiring firm and Models (4) and (5) include not only this term, but also its square.

Consistent with Hypothesis 2, we find the coefficient on *WITHIN_GROUP* to be positive and significant at the 1% level across all of our models with this variable implying that within-group acquisitions are financed, to a greater extent, with equity compared to standalone acquisitions. Further, the coefficient on *OUTSIDE_GROUP* is negative and significant at the 5%

level in Models (3) and (5) lending support to Hypothesis 3 and implying that outside-group acquisitions are financed, to a lesser extent, with equity compared to standalone acquisitions.

Next, we augment Models (2)-(5) with the inclusion of year fixed effects as well as acquirer industry fixed effects at the one-digit SIC level and arrive at Models (6)-(9), respectively. This step drops two sample deals for analysis as the deals for which the year and the acquirer industry indicators completely determine the mode of financing are dropped from the sample. The results reported in Table 7 indicate that the coefficient on *WITHIN_GROUP* (*OUTSIDE_GROUP)* remains significant at the 1% (5%) level even after the inclusion of industry and year fixed effects, lending further support to Hypothesis 2 (Hypothesis 3). In terms of economic significance, Models (7) and (9) in Table 7 reveal that within-group (outside-group) acquisitions, on average, have about 14 (10) percentage points greater (less) likelihood of being financed with equity when compared to acquisitions by standalone firms. Consistent with the prior literature, we also find that the acquirers' propensity to finance deals with equity is greater in case of domestic deals, deals that are large relative to their size, deals involving public targets, and during the period of the global financial crisis. We also find limited evidence of horizontal mergers being financed more often with stock relative to conglomerate mergers [as seen from the coefficient on *IND_REL*, which is marginally significant in Models (3) and (5)].

Further, to determine whether the inclusion of the *WITHIN_GROUP* and the *OUTSIDE_GROUP* indicator variables increases the explanatory power of the base model with only the control variables, we perform Likelihood Ratio (LR) tests for Models (3), (5), (7), and (9) using Models (2), (4), (6), and (8), respectively, as the baseline models. We reject the null hypotheses that inclusion of the *WITHIN_GROUP* and the *OUTSIDE_GROUP* indicator

variables does not impact how acquirers finance their acquisitions in *all* the four cases at the 1% level.

All of the control variables related to acquirer, target, and deal characteristics in Table 7 carry the expected signs on their respective coefficients. Models (7) and (9) employing both the explanatory and the control variables have the most predictive power of all the models. These two models are able to correctly predict about 85%, 93%, and 66% of all deals, cash or debt deals, and stock deals, respectively.

[INSERT TABLE 7 ABOUT HERE]

In unreported results, we find that if we use a single indicator variable to denote the acquisitions made by group-affiliated acquirers instead of segregating them into within-group and outside-group acquisitions, we do not find this indicator variable to be significant. We could erroneously conclude that the acquisition financing choices of group-affiliated and standalone firms are not significantly different. This is because the financing decisions of group-affiliated firms are very much dependent upon whether an affiliate makes an acquisition within or outside the group (as can be seen from Figure 2). Thus, failure to distinguish between within-group and outside-group acquisitions may lead us to arrive at erroneous conclusions about the differences in the acquisitions financing choices of standalone and group-affiliated firms.

Further, absolute control in the form of holding more than 50% of the voting shares by insiders of a firm allows them not only to dominate, but also legally control the firm (Yen & André, 2007).[16] If having absolute control is more important to insiders than just having dominant shareholding positions, we should expect acquisitions where the acquirers have absolute control before making acquisitions to be financed with either cash or debt so that these

[16] Considering that at least 50% favourable votes are required for passing ordinary resolutions in India (Jetley & Mondal, 2015), attaining absolute control could be especially advantageous to firms in India.

firms can continue to enjoy the benefits of absolute control after making the acquisitions. Furthermore, the propensity to finance acquisitions with cash or debt in such cases should be more pronounced for group-affiliated acquirers as these firms possibly have higher private benefits of control and face lesser financial constraints (in line with the arguments presented in Section 3). The loss of absolute control for insiders of group-affiliated acquirers is much more likely in the case of outside-group acquisitions than it is for within-group acquisitions when these deals are financed with stock. Thus, we segregate our sample into two subsamples: one where insiders have absolute control in their firms prior to making acquisitions and the other where they do not.

Table 8 reports the results of the likelihood of financing acquisitions with equity for the two subsamples based on whether the insiders of the acquiring firms have absolute control (i.e., have a stake of more than 50%) in their firms prior to making acquisitions. Models (1) and (2) report the results for the subsample in which acquiring firms enjoy absolute control before making acquisitions. Consistent with the greater private benefits of absolute control for group-affiliated firms, as well as the lower financial constraints faced by these firms, Models (1) and (2) reveal that outside-group acquisitions have the lowest propensity to be financed with equity or, alternatively, the greatest tendency to keep their absolute control preserved. However, we do not find a significantly different pattern of financing between standalone and within-group acquisitions. This could be due to the higher financial constraints faced by standalone acquirers, as well as the limited benefits of preserving absolute control.

[INSERT TABLE 8 ABOUT HERE]

Models (3) and (4) of Table 8 display the results for the subsample in which the acquiring firms do not have absolute control prior to making the acquisition. We find that within-group

acquisitions have the highest propensity to be financed with equity in this subsample. The financing of within-group acquisitions with equity for this subsample is not only likely to increase the control of the insiders of group-affiliated acquirers, but also possibly help them to obtain absolute control in the combined firm. This is because the insiders of group-affiliated firms in India command a stake well above 50%, on average.[17] The stake of the insiders is likely to be even higher in privately held targets. Considering that 35% of our targets are not public, in the case of within-group acquisitions (as is evident from Panel B of Table 5), it may be reasonable to assume that insiders in group-affiliated targets, on average, own a stake well above 50%. Under this assumption, a within-group acquisition will actually increase the control of the acquirer's insiders who do not have absolute control in the acquirer prior to making the acquisition. The tendency of within-group acquisitions to be financed with equity when the insiders of the acquiring firms do not enjoy the benefits of absolute control is again consistent with the higher private benefits of absolute control for group-affiliated firms. On the other hand, the financing pattern is not significantly different between standalone and outside-group acquisitions when the insiders of these firms do not have absolute control in their respective firms. This indicates that insiders of group-affiliated firms do not have as strong preferences to avoid the dilution of their stake as they have when they enjoy absolute control.

Our research design is highly unlikely to suffer from the problem of simultaneity or reverse causality for two reasons. First, we employ the affiliation status of the acquiring and the target firms (in addition to the financial variables) prior to the acquisition announcement. In addition, it is just not possible for an acquiring firm to change its affiliation (from a standalone to

[17] For instance, Basu and Sen (2015, p. 123) observe in Panel B of Table 1 that insiders own a stake of 55.46%, on average, in group-affiliated firms as of March 31, 2014. In the case of within-group acquisitions, the insiders of the group-affiliated targets in our sample command a stake of about 56%, on average, (based on the available data of 55 targets of 93 cases of within-group acquisitions).

a group-affiliated firm, from a group-affiliated to a standalone firm, or from one group-affiliated firm to another group-affiliated firm) in anticipation of the mode of financing of an acquisition deal. Therefore, we can safely attribute the method of financing of a deal to our main variables of interest after controlling for the variables given in the prior literature.

6.2 Alternative explanations

In addition to the control considerations becoming unimportant, the greater financing of within-group acquisitions with stock can be potentially driven by at least two alternative explanations – propping and tunneling. Below we discuss each of these alternatives along with the necessary empirical tests.

6.2.1 Propping

Insiders of group-affiliated firms prop up or support the member firms in financial trouble for protecting their reputation and for tunneling them in the future (G. S. Bae, Cheon, & Kang, 2008; Friedman, Johnson, & Mitton, 2003; Gopalan et al., 2007). One of the ways to rescue the troubled firms from defaulting on their obligations is by making successful member firms acquire them (K. Bae et al., 2002).[18] It is quite possible that the within-group rescue acquisitions are financed with stock for conserving cash that can subsequently be used to retire the debt of the troubled targets once the acquisition is complete. If rescue acquisitions are financed more with stock, it could be the case that the rescue acquisitions at least partly drive the stock-financing of within-group acquisitions, and it is not just due to control considerations becoming unimportant as we predict while formulating our hypotheses.

Following Bae, Kang, and Kim (2002), we classify a target as financially troubled if either its net income or book value of equity at the end of the financial year immediately

[18] We term the acquisitions of within-group troubled targets as rescue acquisitions.

preceding the acquisition announcement is negative. Out of the 93 cases of within-group acquisitions in our sample, the data on both net income and book value are available for 75 cases, and for another 2 cases only the data on the book value of equity are available. Using this data for 77 within-group acquisitions, we find that 24 (31%) targets are in financial trouble in the case of within-group acquisitions. Further, we find that out of these 24 rescue acquisitions, only 13 (54%) are financed with stock. The incidence of stock-financing of within-group rescue acquisitions is not significantly different from that of other within-group acquisitions which stands at 60%. Furthermore, we run our regression models after excluding these 24 within-group rescue acquisitions, and we continue to find in untabulated results that within-group acquisitions are financed significantly higher with stock compared to both outside-group as well as standalone acquisitions. Thus, we can rule out the possibility that rescue acquisitions partly drive the greater stock-financing of within-group acquisitions.

6.2.2 Tunneling

In addition to propping-up, another motive of a within-group acquisition could be to tunnel resources from one firm to another within the same group and benefit the controlling shareholders of the group firms at the expense of their minority shareholders (K. Bae et al., 2002). Further, if within-group acquisitions are used as a means to tunnel resources, it can happen in cash- or debt-financed acquisitions as well as stock-financed acquisitions. However, when the medium of financing is stock, acquirers can overpay (underpay) the target shareholders using their undervalued (overvalued) stock and thus increase the extent of tunneling than it is possible in a cash- or debt-financed acquisition. For instance, Jeong and Bae (2013) document that group-affiliated acquirers in Korea manage their earnings downward to tunnel cash-flows to member target firms in stock-financed acquisitions.

If business groups in India plan within-group acquisitions primarily to tunnel resources, it is possible that much of the tunneling is happening through stock-financed acquisitions, and it could partly drive our results on the greater extent of stock-financing of within-group acquisitions. In a within-group acquisition, tunneling can take place either from an acquirer to a target or from a target to an acquirer. We check for these possibilities by observing the stock market reactions to the announcements of acquisitions. If within-group acquisitions are motivated by tunneling from an acquirer (target) to a target (acquirer), we should observe significantly lower (higher) abnormal returns for acquirers and higher (lower) abnormal returns for targets around the acquisition announcements in the case of within-group acquisitions compared to both standalone and outside-group acquisitions.

Conditional on data available for computing abnormal returns, we are left with 319 acquisitions for further analysis. Table 9 reports the cumulative abnormal returns separately for within-group, outside-group, and standalone acquisitions. We observe that acquirers' abnormal returns in within-group acquisitions are neither significantly different from that of standalone acquisitions nor from that of outside-group acquisitions. We find similar results (not tabulated) with regard to listed targets' abnormal returns as well.[19]

[INSERT TABLE 9 ABOUT HERE]

Further, in the multivariate regression analysis, we examine if acquirers in within-group acquisitions earn significantly different abnormal returns than that of standalone acquisitions after controlling for relevant factors from the prior literature. The results shown in Table 10 indicate that the coefficient on *WITHIN_GROUP* is not significant, implying that the acquirers in

[19] The sample size for examining the abnormal stock returns to target firms around the acquisition announcement dates is limited to 106 targets that are listed and have sufficient stock price data available to compute abnormal returns.

within-group acquisitions do not have a significantly different market reaction from that of acquirers in standalone acquisitions. In unreported results, we take a subsample of acquisitions made by group-affiliated firms and repeat the multivariate regression analysis for this subsample. We do not find a significant difference in the stock market reactions between acquirers in within-group and those in outside-group acquisitions. The above results allow us to infer that there is no significant tunneling taking place either from acquirers to targets or from targets to acquirers in the case of within-group acquisitions in India. Thus, we can safely rule out tunneling as an alternative explanation to significantly higher stock-financing of within-group acquisitions compared to other two sub-groups.

[INSERT TABLE 10 ABOUT HERE]

6.3 Robustness checks

6.3.1 Method of payment versus method of financing

In this section, we briefly report the results of various robustness checks. Martynova and Renneboog (2009) highlight that the method of payment in an acquisition deal may be different from the method of financing it. In an acquisition deal, when an acquirer pays a target with its equity, the method of financing the deal is same as the method of payment (i.e., equity). However, when an acquirer pays the target with cash, the deal may be financed with the acquirer's internal cash reserves, a debt issue, an equity issue, or a mix of the three. Martynova and Renneboog (2009) find that approximately 11% of the all-cash deals in their sample of European acquirers are at least partially financed with equity. If this holds true for our sample, it can potentially induce some inaccuracies in the results. We explore whether any of the acquiring firms paying the target shareholders with cash in our sample have issued equity between the dates of the announcement and completion of the deals. We use the Prime database, which has

also been employed extensively in the prior literature (see, for example, Bubna and Prabhala, 2011), to collect the data on follow-on public offerings and rights issues for the Indian firms in our sample. We do not find any acquiring firm in our sample raising money through either of these two routes between the dates of announcement and completion of the deal.[20] Thus, we can rule out potential inaccuracies for using the method of payment and the method of financing interchangeably for our sample acquisitions.

6.3.2 Hybrid deals

Restricting the sample to cash-only and stock-only modes of payment can be potentially costly if there are a large number of hybrid deals (i.e., deals financed with a mix of cash and debt). In our sample, however, we have only 8 hybrid deals. Out of the 8 hybrid deals, 2 deals have been financed in equal proportions with cash and stock, and therefore we exclude them from our analysis. Conditional on the data available for regression analysis, we are left with only 3 hybrid deals for inclusion in our sample for further robustness checks. Though the inclusion of such a small number to our sample is unlikely to change our results, we check the robustness of our results after including these hybrid deals in our sample and clubbing them with either cash-only or stock-only deals depending on whether majority of the payment to the target shareholders has been made with cash or stock, respectively. Not unexpectedly, our results (not tabulated) continue to hold after including the hybrid deals in our sample.

6.3.3 Alternative definitions of industrial relatedness

In our empirical analysis, we classify an acquisition into a related industry if the acquiring and the target firms share the same four-digit SIC code. We use three alternative

[20] There is only one acquiring firm that has issued equity about one month prior to the acquisition announcement date. Our results are robust to the exclusion of this acquisition deal. All of the other deals in our sample have acquisition announcement dates at least three months away from the equity issue closing date and acquisition completion dates at least three months prior to the equity issue opening date.

definitions of industry relatedness based on the matching of one-, two-, and three-digit SIC codes, and examine whether our results are affected by using them as one of our control variables one by one. Our results remain robust to using any of the three alternative industrial classifications.

6.3.4 Target industry fixed effects

In unreported results, we also find that the inclusion of target industry fixed effects at the one-digit SIC level does not qualitatively change our results (though it does reduce the number of observations for the empirical analysis as those deals are dropped from the sample for which the target industry indicators completely determine the mode of financing acquisitions).

6.3.5 Alternative proxy for growth opportunities

In our estimation models, we use market-to-book as a proxy for an acquirer's growth opportunities. Our results remain robust to using an acquirer's sales growth (compounded annual growth rate in sales over a three-year fiscal period immediately preceding the acquisition announcement) as an alternative proxy for its growth opportunities. The use of sale growth, however, reduces our sample size as we have to drop deals for which we do not have the sales growth data for the acquirers.

6.3.6 Insider ownership

Some studies find that the relation between insider ownership and the mode of financing acquisitions is non-linear and that it may hold only over an intermediate range of insider holdings (Faccio & Masulis, 2005; Ghosh & Ruland, 1998; Martin, 1996). To control for the possible linear, as well as non-linear, relation between insider ownership and the mode of financing acquisitions, we have considered only the level and square terms of the proportion of shareholding by insiders (individuals, as well as corporate bodies, acting as promoters) in

acquiring firms in our main analysis. Following Faccio and Masulis (2005), we include the cube of insider ownership, as well in our estimation models, and still find our main predictions to hold in untabulated results (though the cube of insider ownership does attain significance in some of the estimation models). Further, we replace insider ownership with marginal control, which takes a value of one if insider holdings lie in the range between 20% and 60% and zero otherwise. The marginal control remains insignificant in our empirical results (untabulated), and our main results remain qualitatively unchanged.

Finally, the coverage of promoter or insider ownership data for Indian firms in CMIE Prowess starts from 2001 onward. Similar to Banerjee et al. (2014), we have used the ownership data of the earliest available date (i.e., the first quarter of 2001) for 23 acquisitions announced prior to the first quarter of 2001 for our empirical analysis. Our results remain largely unaffected after exclusion of 23 acquisitions announced prior to 2001.

7 Discussion and conclusion

7.1 Summary

In this paper, we propose and test a new order of financing investments made by firms in markets with business groups. Specifically, we examine how differently group-affiliated firms finance their acquisitions compared to standalone (non-affiliated) firms. The control hypothesis (Amihud et al., 1990), which attributes a greater propensity to finance investments with either cash or debt to a greater ownership of insiders in the firm undertaking those investments, fails to explain why within-group investments are financed more often with equity. We also highlight two major differences related to financial constraints and the value of control between group-affiliated and standalone firms that are likely to drive the differences in the financing decisions

by these two sets of firms. We conjecture that the insiders of group-affiliated firms value control more than their standalone counterparts based on their desire to redistribute resources within their groups for overt or covert reasons (George & Kabir, 2008). Thus, they have a greater tendency to finance those investments with either cash or debt that dilutes their control. The lower financial constraints aid the insiders of group-affiliated firms to preserve their control by allowing them to finance a greater proportion of the acquisitions made outside their respective groups with either cash or debt.

Based on the considerations of control, as well as financial constraints, we demonstrate that the propensity of group-affiliated bidders to finance investments with equity is highest in case of acquisitions of firms affiliated with the same group (within-group acquisitions) and lowest in case of acquisitions of firms not affiliated with their group (outside-group acquisitions). The propensity of standalone firms to finance their acquisitions (standalone acquisitions) with equity lies in between the above two extremes. We also find that absolute control, which allows insiders of a firm not only to dominate, but also legally control the firm, is valued more by group-affiliated firms than their standalone counterparts. We conclude that differences related to considerations of control, as well as financial constraints facing a firm, dictate a new order of the means of financing investments in markets with business groups. Overall, our results suggest that firms whose insiders value control more, as well as firms that are less financially constrained due to a greater reputation in the capital markets, the existence of debt guarantees, or access to alternative financing channels, have a greater tendency to avoid issuing equity to finance investments when their insiders are likely to suffer a dilution in their stakes.

7.2 Limitations

This study suffers from a few limitations. First, the sample of acquisitions in this study is small compared to that of several developed countries, which is primarily due to relatively low acquisition activity in India compared to these countries.[21] In addition, our sample understates the number of acquisitions made by group-affiliated firms because we exclude from our sample the acquisition deals completed by group-affiliates for which we are unable to ascertain affiliation of the target firms. Moreover, we recognize that in a takeover transaction, both a bidder and a potential target can influence how the bidder pays to the target. The proposed takeover deal may, however, be aborted if the target's desired mode of payment is unacceptable to the bidder (Faccio & Masulis, 2005). Thus, a bidder's choice of mode of payment takes precedence over that of the target.

Further, we recognize that corporate control may be even more valuable to insiders of firms in countries with weak creditor rights, as well as weak investor protection. The bankruptcy regime in India during the period of our study has been relatively weak and gave undue advantage to management over creditors (Gopalan et al., 2016, 2007; Narayanaswamy et al., 2012). It is possible that the insiders of Indian firms value control more than those in countries with stronger creditor rights and vigorously enforced regulations. Since the private benefits of control are possibly higher for the insiders of group-affiliated firms than those of standalone firms, it is quite possible that the weaker bankruptcy law, as well as weakly enforced investor protection regulations in India, make the value of control even greater for group-affiliated firms

[21] Almost all of the studies based on acquisitions by Indian firms have their deal samples limited to a few hundred at most. See Banerjee et al. (2014), Bhaumik and Selarka (2012), Col and Sen (2017), and Gubbi et al. (2010) for examples.

than for standalone firms. More research into investment financing patterns should be carried out in countries with stronger creditor rights and strongly enforced regulations.

Appendix. The table of definitions and sources of data

Variable	Definition	Source
CASH_TO_ASSETS	Ratio of cash and cash equivalents to total assets of the acquirer at the end of the financial year immediately preceding the acquisition announcement.	CMIE Prowess
CRISIS_2001	Equal to one if the acquisition is announced during the year 2001.	Thomson One
CRISIS_2007_2009	Equal to one if the acquisition is announced during the years 2007, 2008, or 2009.	Thomson One
CROSS_BORDER	Equal to one if the target is not based in India and zero otherwise.	Thomson One
DEBT_TO_ASSETS	Ratio of debt to total assets of the acquirer at the end of the financial year immediately preceding the acquisition announcement.	CMIE Prowess
FIN_EQUITY	Equal to one if the acquirer pays the target shareholders with equity and zero otherwise.	Thomson One
IND_REL	Equal to one if the acquirer and the target share the same four-digit SIC code and zero otherwise.	Thomson One
INSIDER_OWN	Proportion of the total shares held by the promoter group (including individuals, as well as corporate bodies acting as promoters) of the acquirer at the end of the quarter immediately preceding the acquisition announcement.	CMIE Prowess
INSIDER_OWN_SQ	Square of the proportion of total shares held by the promoter group (including individuals, as well as corporate bodies acting as promoters) of the acquirer at the end of the quarter immediately preceding the acquisition announcement.	CMIE Prowess
MARKET_TO_BOOK	Sum of the acquirer's market value of equity and the book value of debt divided by the book value of its total assets at the end of the financial year immediately preceding the acquisition announcement.	CMIE Prowess
OUTSIDE_GROUP	Equal to one if the acquirer is a group-affiliated firm and it acquires either a standalone firm or a firm from a different business group and zero otherwise.	CMIE Prowess
REL_SIZE	Size of the deal relative to size of the acquirer, arrived at by dividing the deal size (converted to Indian Rupees using the USD-to-Rupee Exchange Rate) with the total assets of the acquirer at the end of the financial year immediately preceding the acquisition announcement.	Thomson One, RBI, CMIE Prowess
STANDALONE	Equal to one if the acquisition is made by a standalone firm (not affiliated with any business group) and zero otherwise.	CMIE Prowess
TARGET_PUBLIC	Equal to one if the target is a publicly listed firm and zero otherwise.	Thomson One
TOTAL_ASSETS	Natural logarithm of the total assets of the acquirer at the end of the financial year immediately preceding the acquisition announcement.	CMIE Prowess
WITHIN_GROUP	Equal to one if the acquirer is a group-affiliated firm and it acquires another firm from the same group and zero otherwise.	CMIE Prowess

References

Allen, F., Chakrabarti, R., De, S., Qian, J. "QJ," & Qian, M. (2012). Financing firms in India. *Journal of Financial Intermediation*, *21*(3), 409–445. https://doi.org/10.1016/j.jfi.2012.01.003

Almeida, H., Kim, C.-S., & Kim, H. B. (2015). Internal capital markets in business groups: Evidence from the Asian financial crisis. *Journal of Finance*, *70*(6), 2539–2586. https://doi.org/10.1111/jofi.12309

Amihud, Y., Lev, B., & Travlos, N. G. (1990). Corporate control and the choice of investment financing: The case of corporate acquisitions. *Journal of Finance*, *45*(2), 603–616. https://doi.org/10.2307/2328673

Bae, G. S., Cheon, Y. S., & Kang, J.-K. (2008). Intragroup propping: Evidence from the stock-price effects of earnings announcements by Korean business groups. *Review of Financial Studies*, *21*(5), 2015–2060. https://doi.org/10.1093/rfs/hhn055

Bae, K., Kang, J., & Kim, J. (2002). Tunneling or value added? Evidence from mergers by Korean business groups. *Journal of Finance*, *57*(6), 2695–2740. https://doi.org/10.1111/1540-6261.00510

Balasubramanian, N., Black, B. S., & Khanna, V. (2010). The relation between firm-level corporate governance and market value: A case study of India. *Emerging Markets Review*, *11*(4), 319–340. https://doi.org/10.1016/j.ememar.2010.05.001

Banerjee, P., Banerjee, P., De, S., Jindra, J., & Mukhopadhyay, J. (2014). Acquisition pricing in India during 1995–2011: Have Indian acquirers really beaten the odds? *Journal of Banking & Finance*, *38*(1), 14–30. https://doi.org/10.1016/j.jbankfin.2013.09.011

Bang, N. P., Ray, S., & Ramachandran, K. (2017). *Family businesses: The emerging landscape 1990 - 2015*. Retrieved from http://www.isb.edu/sites/default/files/WP-FB-The-Emerging-Landscape_0_0.pdf

Basu, D., & Sen, K. (2015). Financial decisions by business groups in India: Is it "fair and square"? *Journal of Contemporary Accounting & Economics*, *11*(2), 121–137. https://doi.org/10.1016/j.jcae.2015.02.001

Baxter, N. D. (1967). Leverage, risk of ruin and the cost of capital. *Journal of Finance*, *22*(3), 395–403. https://doi.org/10.2307/2978892

Bertrand, M., Mehta, P., & Mullainathan, S. (2002). Ferreting out tunneling: An application to Indian business groups. *The Quarterly Journal of Economics*, *117*(1), 121–148. https://doi.org/10.1162/003355302753399463

Bhaumik, S. K., & Selarka, E. (2012). Does ownership concentration improve M&A outcomes in emerging markets? Evidence from India. *Journal of Corporate Finance*, *18*(4), 717–726. https://doi.org/10.1016/j.jcorpfin.2012.04.001

Bubna, A., & Prabhala, N. R. (2011). IPOs with and without allocation discretion: Empirical

evidence. *Journal of Financial Intermediation*, *20*(4), 530–561. https://doi.org/10.1016/j.jfi.2010.12.004

Carney, M., Gedajlovic, E. R., Heugens, P. P. M. A. R., Van Essen, M., & Van Oosterhout, J. (2011). Business group affiliation, performance, context, and strategy: A meta-analysis. *Academy of Management Journal*, *54*(3), 437–460. https://doi.org/10.5465/AMJ.2011.61967812

Chakrabarti, R., Megginson, W., & Yadav, P. K. (2008). Corporate governance in India. *Journal of Applied Corporate Finance*, *20*(1), 59–72. https://doi.org/10.1111/j.1745-6622.2008.00169.x

Chang, S. J., & Hong, J. (2000). Economic performance of group-affiliated companies in Korea : Intragroup resource sharing and internal business transactions. *Academy of Management Journal*, *43*(3), 429–448. https://doi.org/10.2307/1556403

Chang, Y., Benson, K., & Faff, R. (2017). Are excess cash holdings more valuable to firms in times of crisis? Financial constraints and governance matters. *Pacific-Basin Finance Journal*, *45*, 157–173. https://doi.org/10.1016/j.pacfin.2016.05.007

Col, B., & Sen, K. (2017). The role of corporate governance for acquisitions by the emerging market multinationals: Evidence from India. *Journal of Corporate Finance*. https://doi.org/10.1016/j.jcorpfin.2017.09.014

Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011). Liquidity risk management and credit supply in the financial crisis. *Journal of Financial Economics*, *101*(2), 297–312. https://doi.org/10.1016/j.jfineco.2011.03.001

Coval, J. D., & Moskowitz, T. J. (1999). Home bias at home: Local equity preference in domestic portfolios. *Journal of Finance*, *54*(6), 2045–2073. https://doi.org/10.1111/0022-1082.00181

Dharmapala, D., & Khanna, V. (2013). Corporate governance, enforcement, and firm value: Evidence from India. *Journal of Law, Economics, and Organization*, *29*(5), 1056–1084. https://doi.org/10.1093/jleo/ews011

Erickson, M., & Wang, S. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics*, *27*(2), 149–176. https://doi.org/10.1016/S0165-4101(99)00008-7

Faccio, M., & Masulis, R. W. (2005). The choice of payment method in European mergers and acquisitions. *Journal of Finance*, *60*(3), 1345–1388. https://doi.org/10.1111/j.1540-6261.2005.00764.x

French, K. R., & Poterba, J. M. (1991). Investor diversification and international equity markets. *American Economic Review*, *81*(2), 222–226.

Friedman, E., Johnson, S., & Mitton, T. (2003). Propping and tunneling. *Journal of Comparative Economics*, *31*(4), 732–750. https://doi.org/10.1016/j.jce.2003.08.004

George, R., & Kabir, R. (2008). Business groups and profit redistribution: A boon or bane for firms? *Journal of Business Research*, *61*(9), 1004–1014. https://doi.org/10.1016/j.jbusres.2007.12.002

Ghatak, M., & Kali, R. (2001). Financially interlinked business groups. *Journal of Economics & Management Strategy*, *10*(4), 591–619. https://doi.org/10.1162/105864001753356114

Ghosh, A., & Ruland, W. (1998). Managerial ownership, the method of payment for acquisitions, and executive job retention. *Journal of Finance*, *53*(2), 785–798. https://doi.org/10.1111/0022-1082.325125

Goldman, E., & Viswanath, P. V. (2017). Internal capital markets, forms of intragroup transfers, and dividend policy: Evidence from Indian corporates. *Journal of Financial Research*, *40*(4), 567–610. https://doi.org/10.1111/jfir.12135

Gopalan, R., Martin, X., & Srinivasan, K. (2016). *Accounting based regulation and earnings management*. Retrieved from https://ssrn.com/abstract=2674272

Gopalan, R., Nanda, V., & Seru, A. (2007). Affiliated firms and financial support: Evidence from Indian business groups. *Journal of Financial Economics*, *86*(3), 759–795. https://doi.org/10.1016/j.jfineco.2006.09.008

Gopalan, R., Nanda, V., & Seru, A. (2014). Internal capital market and dividend policies: Evidence from business groups. *Review of Financial Studies*, *27*(4), 1102–1142. https://doi.org/10.1093/rfs/hhu004

Goranova, M., Dharwadkar, R., & Brandes, P. (2010). Owners on both sides of the deal: Mergers and acquisitions and overlapping institutional ownership. *Strategic Management Journal*, *31*(10), 1114–1135. https://doi.org/10.1002/smj.849

Grinblatt, M., & Keloharju, M. (2001). How distance, language, and culture influence stockholdings and trades. *Journal of Finance*, *56*(3), 1053–1073. https://doi.org/10.1111/0022-1082.00355

Gu, L., & Reed, W. R. (2016). Does financing of Chinese mergers and acquisitions have "Chinese characteristics"? *Economics Letters*, *139*, 11–14. https://doi.org/10.1016/j.econlet.2015.11.036

Gubbi, S. R., Aulakh, P. S., Ray, S., Sarkar, M. B., & Chittoor, R. (2010). Do international acquisitions by emerging-economy firms create shareholder value? The case of Indian firms. *Journal of International Business Studies*, *41*(3), 397–418. https://doi.org/10.1057/jibs.2009.47

Hadlock, C. J., & Pierce, J. R. (2010). New evidence on measuring financial constraints: Moving beyond the KZ index. *Review of Financial Studies*, *23*(5), 1909–1940. https://doi.org/10.1093/rfs/hhq009

Hansen, R. G. (1987). A theory for the choice of exchange medium in mergers and acquisitions. *The Journal of Business*, *60*(1), 75–95.

Harris, M., & Raviv, A. (1988). Corporate control contests and capital structure. *Journal of Financial Economics*, *20*(1–2), 55–86. https://doi.org/10.1016/0304-405X(88)90040-2

Jackling, B., & Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies. *Corporate Governance: An International Review*, *17*(4), 492–509. https://doi.org/10.1111/j.1467-8683.2009.00760.x

Jeong, J. W., & Bae, G. (2013). Do acquiring firms knowingly pay too much for target firms? Evidence from earnings management in member-firm mergers in Korean business groups. *Asia-Pacific Journal of Accounting & Economics*, *20*(3), 223–251. https://doi.org/10.1080/16081625.2012.761938

Jetley, G., & Mondal, S. S. (2015). Rights issues and creeping acquisitions in India. *Emerging Markets Review*, *23*, 68–95. https://doi.org/10.1016/j.ememar.2015.04.005

Johnson, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2000). Tunneling. *American Economic Review*, *90*(2), 22–27. https://doi.org/10.1257/aer.90.2.22

Jung, K., Kim, Y.-C., & Stulz, R. (1996). Timing, investment opportunities, managerial discretion, and the security issue decision. *Journal of Financial Economics*, *42*(2), 159–186. https://doi.org/10.1016/0304-405X(96)00881-1

Khanna, T., & Palepu, K. (2000). Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. *Journal of Finance*, *55*(2), 867–891. https://doi.org/10.1111/0022-1082.00229

Khanna, T., & Rivkin, J. W. (2001). Estimating the performance effects of business groups in emerging markets. *Strategic Management Journal*, *22*(1), 45–74. https://doi.org/10.1002/1097-0266(200101)22:1<45::AID-SMJ147>3.0.CO;2-F

Khanna, T., & Yafeh, Y. (2005). Business groups and risk sharing around the world. *The Journal of Business*, *78*(1), 301–340. https://doi.org/10.1086/jb.2005.78.issue-1

Khanna, T., & Yafeh, Y. (2007). Business groups in emerging markets: Paragons or parasites? *Journal of Economic Literature*, *45*(2), 331–372. https://doi.org/10.1257/jel.45.2.331

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, *58*(1–2), 3–27. https://doi.org/10.1016/S0304-405X(00)00065-9

Lensink, R., van der Molen, R., & Gangopadhyay, S. (2003). Business groups, financing constraints and investment: The case of India. *Journal of Development Studies*, *40*(2), 93–119. https://doi.org/10.1080/00220380412331293787

Liebeskind, J. P. (2000). Internal capital markets: Benefits, costs, and organizational arrangements. *Organization Science*, *11*(1), 58–76. https://doi.org/10.1287/orsc.11.1.58.12568

Martin, K. J. (1996). The method of payment in corporate acquisitions, investment opportunities, and management ownership. *Journal of Finance*, *51*(4), 1227–1246.

https://doi.org/10.2307/2329393

Martynova, M., & Renneboog, L. (2009). What determines the financing decision in corporate takeovers: Cost of capital, agency problems, or the means of payment? *Journal of Corporate Finance*, *15*(3), 290–315. https://doi.org/10.1016/j.jcorpfin.2008.12.004

Masulis, R. W., Pham, P. K., & Zein, J. (2011). Family business groups around the world: Financing advantages, control motivations, and organizational choices. *Review of Financial Studies*, *24*(11), 3556–3600. https://doi.org/10.1093/rfs/hhr052

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, *48*(3), 261–297.

Myers, S. C. (1984). The capital structure puzzle. *Journal of Finance*, *39*(3), 574–592. https://doi.org/10.1111/j.1540-6261.1984.tb03646.x

Narayanaswamy, R., Raghunandan, K., & Rama, D. V. (2012). Corporate governance in the Indian context. *Accounting Horizons*, *26*(3), 583–599. https://doi.org/10.2308/acch-50179

Sarkar, J., & Sarkar, S. (2008). Debt and corporate governance in emerging economies: Evidence from India. *The Economics of Transition*, *16*(2), 293–334. https://doi.org/10.1111/j.1468-0351.2008.00307.x

Sarkar, J., Sarkar, S., & Sen, K. (2008). Board of directors and opportunistic earnings management: Evidence from India. *Journal of Accounting, Auditing & Finance*, *23*(4), 517–551. https://doi.org/10.1177/0148558X0802300405

Shin, H.-H., & Park, Y. S. (1999). Financing constraints and internal capital markets: Evidence from Korean "chaebols." *Journal of Corporate Finance*, *5*(2), 169–191. https://doi.org/10.1016/S0929-1199(99)00002-4

Stulz, R. M. (1988). Managerial control of voting rights. *Journal of Financial Economics*, *20*, 25–54. https://doi.org/10.1016/0304-405X(88)90039-6

Yang, J., Guariglia, A., & Guo, J. (Michael). (2017). To what extent does corporate liquidity affect M&A decisions, method of payment and performance? Evidence from China. *Journal of Corporate Finance*. https://doi.org/10.1016/j.jcorpfin.2017.09.012

Yen, T.-Y., & André, P. (2007). Ownership structure and operating performance of acquiring firms: The case of English-origin countries. *Journal of Economics and Business*, *59*(5), 380–405. https://doi.org/10.1016/j.jeconbus.2007.04.003

Yook, K. C., Gangopadhyay, P., & McCabe, G. M. (1999). Information asymmetry, management control, and method of payment in acquisitions. *Journal of Financial Research*, *22*(4), 413–427. https://doi.org/10.1111/j.1475-6803.1999.tb00703.x

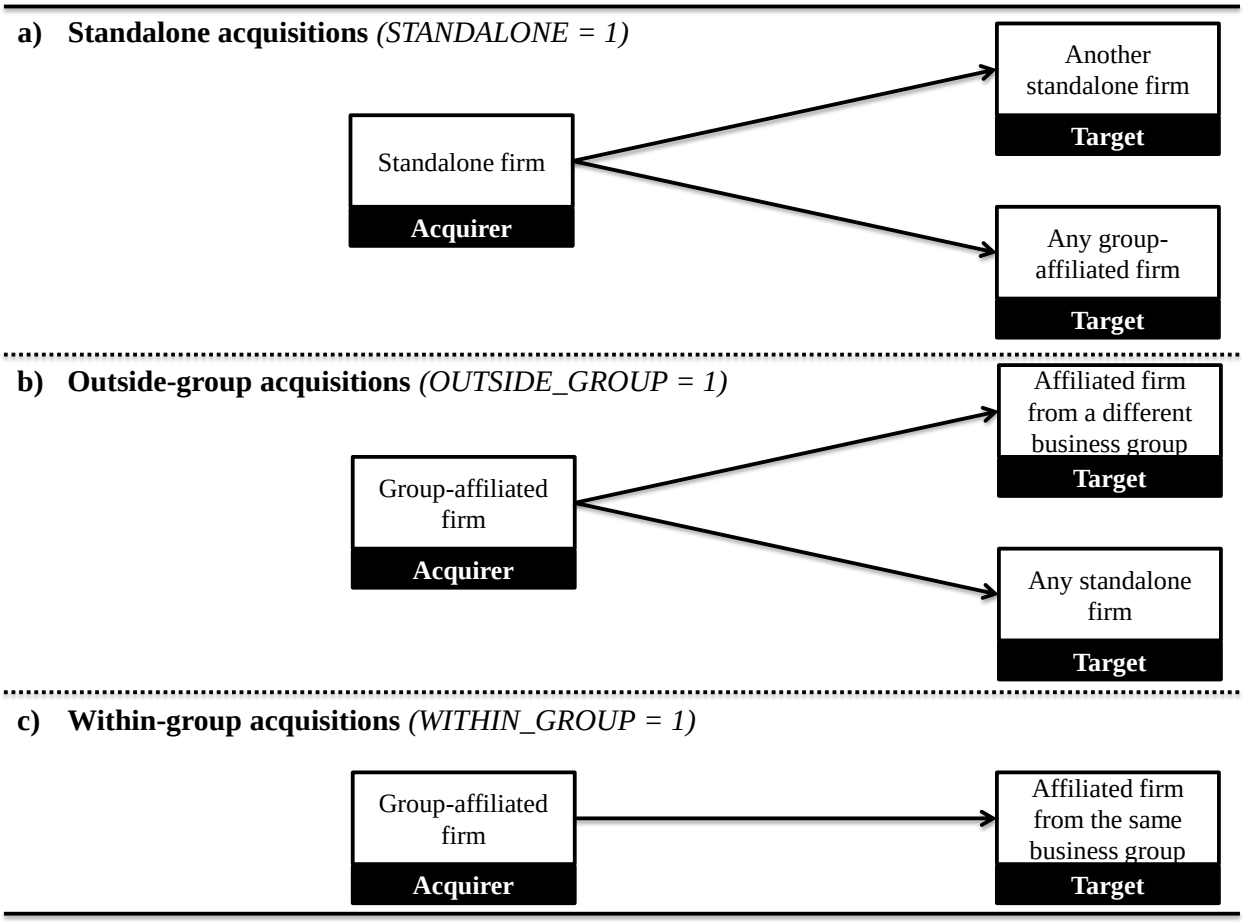

Figure 1: Classification of acquisitions in markets with business groups into three broad categories

This figure presents the classification of acquisitions in markets with the presence of business groups into three broad categories: standalone, within-group, and outside-group acquisitions. Standalone acquisitions refer to acquisitions made by standalone (non-affiliated) acquirers of either standalone firms or firms from a business group. Outside-group acquisitions refer to acquisitions made by group-affiliated firms of either standalone firms or firms from a different business group. Within-group acquisitions refer to acquisitions made by group-affiliated firms of firms affiliated with the same business group.

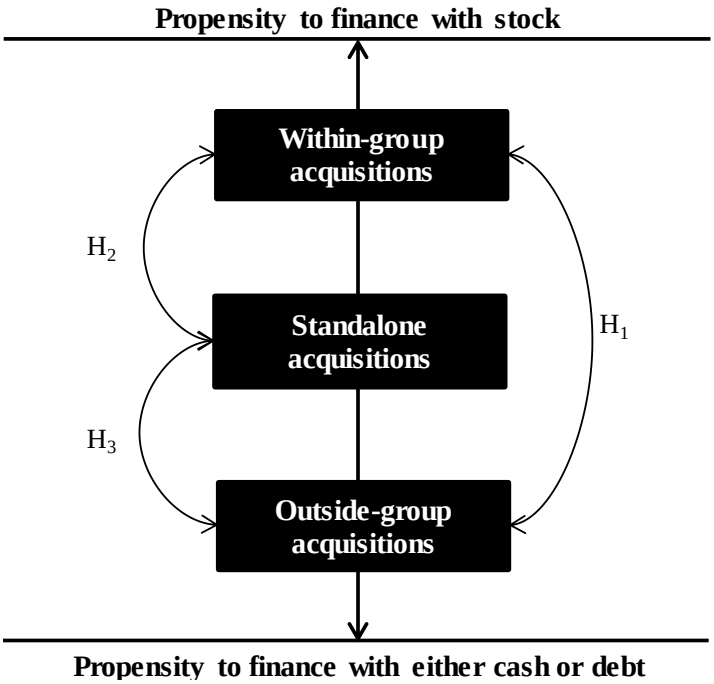

Figure 2: The proposed order of financing investments in markets with business groups

This figure provides the proposed order of financing different kinds of acquisitions with stock and either cash or debt. Standalone acquisitions refer to acquisitions made by standalone (non-affiliated) acquirers. Outside-group acquisitions refer to acquisitions made by group-affiliated firms of either standalone firms or firms from a different business group. Within-group acquisitions refer to acquisitions made by group-affiliated firms of firms affiliated with the same business group. H_1, H_2, and H_3 refer to Hypotheses 1, 2, and 3, respectively, and depict how the three categories of acquisitions differ in terms of their mode of financing by acquirers.

Table 1: The impact of a stock-financed acquisition on insider holdings of an acquirer and a target

This table reports how the control of insiders of an acquirer and that of a target is impacted in a stock-financed acquisition. N_{acq} and N_{tgt} denote the number of shares and X_{acq} and X_{tgt} indicate the fraction of total shares outstanding of the acquiring and the target firms, respectively, prior to the acquisition. It is assumed that the acquiring firm acquires a 100% stake in the target firm by issuing new shares to the target shareholders with a negotiated exchange ratio of α (i.e., for every share of the target firm, the target shareholders receive α shares of the acquiring firm). The target firm ceases to exist after its acquisition by (or merger with) the acquirer.

	Acquirer	Target
Before acquisition		
Number of shares outstanding	N_{acq}	N_{tgt}
Respective insider stake (%)	X_{acq}	X_{tgt}
Number of shares with respective insiders	$N_{acq} * X_{acq}$	$N_{tgt} * X_{tgt}$
After acquisition		
Number of shares outstanding	$N_{acq} + \alpha * N_{tgt}$	–
Number of shares with acquirer's insiders	$N_{acq} * X_{acq}$	–
Number of shares with erstwhile target's insiders	$\alpha * N_{tgt} * X_{tgt}$	–
Stake of acquirer's insiders (%)	$\frac{N_{acq} * X_{acq}}{N_{acq} + \alpha * N_{tgt}}$	–
Stake of erstwhile target's insiders (%)	$\frac{\alpha * N_{tgt} * X_{tgt}}{N_{acq} + \alpha * N_{tgt}}$	–

Table 2: The impact on the control of an acquirer's insiders in a stock-financed acquisition

This table reports how the control of an acquirer's insiders is impacted after it acquires a target in a stock-financed acquisition that can take any one of the following three forms: standalone acquisition, within-group acquisition, or outside-group acquisition. Standalone acquisitions refer to acquisitions made by standalone (non-affiliated) acquirers. Outside-group acquisitions refer to acquisitions made by group-affiliated firms of either standalone firms or firms affiliated with different business groups. Within-group acquisitions refer to acquisitions made by group-affiliated firms of firms affiliated with the same business group. N_{acq} and N_{tgt} denote the number of shares and X_{acq} and X_{tgt} indicate the fraction of total shares outstanding of the acquiring and the target firms, respectively, prior to the acquisition. It is assumed that the acquiring firm acquires a 100% stake in the target firm by issuing new shares to the target shareholders with a negotiated exchange ratio of α (i.e., for every share of the target firm the target shareholders receive α shares of the acquiring firm).

Case	Standalone acquisitions	Outside-group acquisitions	Within-group acquisitions
$N_{acq} * X_{acq} < \alpha * N_{tgt} * X_{tgt}$	Change of control	Change of control	Increase in control
$N_{acq} * X_{acq} = \alpha * N_{tgt} * X_{tgt}$	Sharing of control	Sharing of control	No change in control
$N_{acq} * X_{acq} > \alpha * N_{tgt} * X_{tgt}$	Dilution of control	Dilution of control	Less dilution of control

Table 3: Sample selection

This table details the step-by-step procedure to arrive at the final sample of 360 acquisitions. While the sample period starts from 1995 through 2016, there is no acquisition deal satisfying all of the sample selection steps from 1995 and 1996. Thus, the final sample pertains to acquisitions made by India's publicly listed firms from 1997 to 2016.

Step	Count
Number of deals announced and successfully completed by Indian public acquirers from 1995- 2016 with known transaction values	1,560
Less: deals with method of payment unknown or undisclosed or hybrid	(810)
Less: deals undertaken by acquirers that could not be found in CMIE Prowess	(13)
Less: deals undertaken by government acquirers	(19)
Less: deals undertaken by financial firms	(69)
Less: deals where the acquirer and target are the same (i.e., repurchase deals)	(68)
Less: deals where it cannot not be ascertained whether the deal is within a business group or outside the group	(177)
Less: reduction in number of observations due to clubbing of deals with the same announcement dates, acquirers, and targets	(19)
Less: deals where data on any of the explanatory variables is missing	(25)
Final sample	360

Table 4: Acquisition activity

This table lists the distribution of acquisitions from 1997 to 2016. Panel A reports the number, as well as the percentage, of acquisitions made by Indian acquirers across each year by three types: standalone, within-group, and outside-group acquisitions. Standalone acquisitions refer to acquisitions made by standalone (non-affiliated) acquirers. Outside-group acquisitions refer to acquisitions made by group-affiliated firms of either standalone firms or firms affiliated with different business groups. Within-group acquisitions refer to acquisitions made by group-affiliated firms of firms affiliated with the same business group. Panel B provides the distribution of acquisitions based on the broad industry classification of the acquiring firms.

Panel A: Distribution by year and acquisition type

	Overall		Standalone		Within-group		Outside-group	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1997	2	0.6	0	0.0	2	2.2	0	0.0
1998	5	1.4	2	1.3	0	0.0	3	2.5
1999	6	1.7	0	0.0	1	1.1	5	4.2
2000	10	2.8	4	2.7	5	5.4	1	0.8
2001	8	2.2	1	0.7	3	3.2	4	3.4
2002	11	3.1	6	4.0	3	3.2	2	1.7
2003	12	3.3	6	4.0	1	1.1	5	4.2
2004	3	0.8	0	0.0	2	2.2	1	0.8
2005	18	5.0	6	4.0	7	7.5	5	4.2
2006	22	6.1	12	8.1	3	3.2	7	5.9
2007	33	9.2	17	11.4	5	5.4	11	9.3
2008	22	6.1	8	5.4	7	7.5	7	5.9
2009	28	7.8	13	8.7	13	14.0	2	1.7
2010	34	9.4	13	8.7	11	11.8	10	8.5
2011	22	6.1	6	4.0	5	5.4	11	9.3
2012	24	6.7	4	2.7	12	12.9	8	6.8
2013	20	5.6	10	6.7	3	3.2	7	5.9
2014	12	3.3	3	2.0	1	1.1	8	6.8
2015	42	11.7	26	17.4	6	6.5	10	8.5
2016	26	7.2	12	8.1	3	3.2	11	9.3
Total	360	100.0	149	100.0	93	100.0	118	100.0
Percentage	100.0		41.4		25.8		32.8	

Panel B: Distribution by acquirer industry

	Number	Percentage
Consumer products and services	30	8.3
Consumer staples	43	11.9
Energy and power	16	4.4
Healthcare	40	11.1
High technology	70	19.4
Industrials	45	12.5
Materials	85	23.6
Media and entertainment	14	3.9
Real estate	9	2.5
Retail	2	0.6
Telecommunications	6	1.7
Total	360	100.0

Table 5: Descriptive statistics

The table presents the summary statistics for the sample of acquisitions announced from 1997 to 2016 and successfully completed by publicly listed bidders for the complete sample, as well as segregated into various subgroups. Standalone acquisitions refer to acquisitions made by standalone (non-affiliated) acquirers. Outside-group acquisitions refer to acquisitions made by group-affiliated firms of either standalone firms or firms from a different business group. Within-group acquisitions refer to acquisitions made by group-affiliated firms of firms affiliated with the same business group. A two sample t-test (Wilcoxon-Mann-Whitney rank sum test) was used to determine whether the difference in means (medians) of a variable between the two subgroups is significantly different from zero between the within-group and standalone acquisitions, between the outside-group and standalone acquisitions, and, finally, between the within-group and outside-group acquisitions. The definitions of variables are provided in the appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Descriptive statistics for the overall sample

Variable	N	Mean	St Dev	Min	Q1	Median	Q3	Max
FIN_EQUITY	360	0.28	0.45	0	0	0	1	1
WITHIN_GROUP	360	0.26	0.44	0	0	0	1	1
OUTSIDE_GROUP	360	0.33	0.47	0	0	0	1	1
STANDALONE	360	0.41	0.49	0	0	0	1	1
CROSS_BORDER	360	0.23	0.42	0	0	0	0	1
REL_SIZE	360	0.37	1.00	0.00	0.01	0.06	0.25	10.95
IND_REL	360	0.38	0.48	0	0	0	1	1
CASH_TO_ASSETS	360	0.08	0.12	-0.05	0.01	0.03	0.11	0.72
DEBT_TO_ASSETS	360	0.21	0.17	0	0.05	0.18	0.34	0.73
TOTAL_ASSETS	360	9.41	1.98	1.74	8.13	9.40	10.72	14.74
INSIDER_OWN	360	0.50	0.20	0.08	0.33	0.51	0.66	0.94
INSIDER_OWN_SQ	360	0.29	0.20	0.01	0.11	0.26	0.43	0.89
MARKET_TO_BOOK	360	3.59	23.88	0.10	0.82	1.59	2.76	451.70
TARGET_PUBLIC	360	0.38	0.49	0	0	0	1	1
CRISIS_2001	360	0.02	0.15	0	0	0	0	1
CRISIS_2007_2009	360	0.23	0.42	0	0	0	0	1

Panel B: Descriptive statistics for various subgroups

	Standalone acquisitions (A) N = 149		Within-group acquisitions (B) N = 93		Outside-group acquisitions (C) N = 118		Test of difference (B - A)		Test of difference (C - A)		Test of difference (B - C)	
	Mean	Median	Mean	Median	Mean	Median	t-test	Wilcoxon z-test	t-test	Wilcoxon z-test	t-test	Wilcoxon z-test
FIN_EQUITY	0.19	0	0.59	1	0.14	0	0.40***	1***	-0.05	0	0.45***	1***
CROSS_BORDER	0.37	0	0.00	0	0.24	0	-0.37***	0***	-0.13**	0**	-0.24***	0***
REL_SIZE	0.37	0.11	0.37	0.05	0.36	0.04	0.00	-0.06**	-0.01	-0.07**	0.02	0.01
IND_REL	0.37	0	0.29	0	0.45	0	-0.08	0	0.08	0	-0.16**	0**
CASH_TO_ASSETS	0.12	0.06	0.05	0.03	0.06	0.02	-0.06***	-0.03***	-0.06***	-0.04***	0.00	0.01
DEBT_TO_ASSETS	0.17	0.14	0.24	0.22	0.23	0.23	0.07***	0.08***	0.06***	0.09***	0.01	-0.01
TOTAL_ASSETS	8.37	8.47	10.25	10.31	10.06	10.03	1.88***	1.84***	1.69***	1.56***	0.19	0.28
INSIDER_OWN	0.48	0.51	0.51	0.51	0.52	0.51	0.02	0	0.04	0	-0.01	0.00
INSIDER_OWN_SQ	0.28	0.26	0.28	0.26	0.30	0.26	0.00	0	0.02	0	-0.02	0.00
MARKET_TO_BOOK	2.65	1.78	1.86	1.18	6.15	1.61	-0.79*	-0.6*	3.50	-0.17	-4.28	-0.43*
TARGET_PUBLIC	0.18	0	0.65	1	0.43	0	0.46***	1***	0.25***	0***	0.21***	1***
CRISIS_2001	0.01	0	0.03	0	0.03	0	0.03	0	0.03	0	0.00	0
CRISIS_2007_2009	0.26	0	0.27	0	0.17	0	0.01	0	-0.09*	0*	0.10*	0*

Table 6: Determinants of the sources of financing acquisitions for group-affiliated firms

This table reports the results for a set of probit regression models of the likelihood that an acquiring firm finances a deal with its equity (the dependent variable is *FIN_EQUITY*, which takes a value of one if an acquirer finances the deal with equity and zero if it finances the deal with either corporate cash reserves or debt). The *z*-statistics are provided in parentheses and are based on standard errors robust to heteroskedasticity and clustering at the acquirer level. The average marginal effects for our main variable of interest (*WITHIN_GROUP*) are reported in square brackets. Model (1) includes only the main variable of interest. Models (2), (4), (6), and (8) include only the control variables, while Models (3), (5), (7), and (9) include explanatory, as well as control variables. While Models (2), (3), (6), and (7) include the ownership stake of insiders in the acquiring firm, Models (4), (5), (8), and (9) include the square of this term. Models (1)-(5) do not control for the year and industry fixed effects of the acquiring firms. In Models (6)-(9), we include year fixed effects and acquirer industry fixed effects at the one-digit SIC level. The definitions of the variables are provided in the appendix. Sensitivity (specificity) provides the percentage of equity (cash or debt) deals that the model is able to predict correctly. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

		FIN_EQUITY								
	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WITHIN_GROUP	+	1.293***		1.280***		1.273***		1.441***		1.389***
		(6.433)		(5.407)		(5.399)		(4.579)		(4.324)
		[0.386]		[0.275]		[0.272]		[0.223]		[0.211]
CROSS_BORDER	-		-2.115***	-1.707*	-2.096***	-1.697*	-3.991***	-3.926***	-4.150***	-4.017***
			(-2.914)	(-1.889)	(-2.840)	(-1.858)	(-2.626)	(-2.614)	(-2.645)	(-2.600)
REL_SIZE	+		1.532***	1.629***	1.515***	1.617***	2.000***	2.060***	1.948***	2.010***
			(4.975)	(4.677)	(4.976)	(4.842)	(4.407)	(4.379)	(4.448)	(4.347)
IND_REL	+		-0.127	0.117	-0.126	0.125	-0.380	-0.088	-0.371	-0.070
			(-0.628)	(0.516)	(-0.613)	(0.553)	(-1.528)	(-0.336)	(-1.508)	(-0.270)
CASH_TO_ASSETS	-		0.212	0.654	0.192	0.638	-0.057	1.618	-0.313	1.421
			(0.160)	(0.512)	(0.143)	(0.491)	(-0.032)	(0.813)	(-0.177)	(0.718)
DEBT_TO_ASSETS	+		-0.056	0.192	-0.130	0.133	0.030	0.399	-0.093	0.352
			(-0.082)	(0.264)	(-0.189)	(0.180)	(0.037)	(0.444)	(-0.109)	(0.378)
TOTAL_ASSETS	-		0.117	0.084	0.124*	0.092	0.254***	0.159	0.291***	0.188
			(1.645)	(0.945)	(1.774)	(1.071)	(2.589)	(1.288)	(3.111)	(1.561)
INSIDER_OWN	+/-		-0.018	-0.201	4.292	3.551	-0.050	-0.226	7.912**	4.731
			(-0.032)	(-0.322)	(1.494)	(1.063)	(-0.073)	(-0.311)	(2.099)	(1.074)

	Expected sign	FIN_EQUITY								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
INSIDER_OWN_SQ	-/+				-4.167	-3.638			-7.656**	-4.793
					(-1.575)	(-1.193)			(-2.273)	(-1.223)
MARKET_TO_BOOK	+		-0.004	0.000	-0.003	0.000	0.001	0.006*	0.001	0.006*
			(-0.383)	(0.001)	(-0.710)	(0.001)	(0.229)	(1.778)	(0.308)	(1.727)
TARGET_PUBLIC	+		0.761***	0.709***	0.781***	0.730***	0.931***	0.741**	0.911***	0.742**
			(2.864)	(2.732)	(2.908)	(2.778)	(2.648)	(2.264)	(2.632)	(2.278)
CRISIS_2001	+		-0.508	-0.662	-0.514	-0.676	-0.490	-0.488	-0.472	-0.498
			(-0.768)	(-1.093)	(-0.811)	(-1.158)	(-0.435)	(-0.416)	(-0.412)	(-0.418)
CRISIS_2007_2009	+		0.546**	0.456*	0.580**	0.484*	0.606	0.908	0.691	0.912
			(2.360)	(1.746)	(2.444)	(1.786)	(0.957)	(1.452)	(1.163)	(1.511)
Constant		-1.062***	-2.327**	-2.775**	-3.374***	-3.712***	-4.013***	-3.427*	-6.429***	-4.967**
		(-7.537)	(-2.443)	(-2.377)	(-2.978)	(-2.883)	(-2.784)	(-1.937)	(-3.363)	(-2.142)
Acquirer industry fixed effects		No	No	No	No	No	Yes	Yes	Yes	Yes
Year fixed effects		No	No	No	No	No	Yes	Yes	Yes	Yes
Observations		211	211	211	211	211	205	205	205	205
Pseudo R^2		0.176	0.288	0.399	0.295	0.403	0.479	0.565	0.492	0.570
Sensitivity		76.4%	51.4%	69.4%	52.8%	70.8%	72.5%	75.4%	75.4%	76.8%
Specificity		72.7%	89.2%	85.6%	88.5%	87.1%	91.2%	91.9%	91.9%	91.9%
Correctly classified		73.9%	76.3%	80.1%	76.3%	81.5%	84.9%	86.3%	86.3%	86.8%

Table 7: Determinants of the sources of financing acquisitions for all firms

This table reports the results for a set of probit regression models of the likelihood that an acquiring firm finances a deal with its equity (the dependent variable is *FIN_EQUITY*, which takes a value of one if an acquirer finances the deal with equity and zero if it finances the deal with either corporate cash reserves or debt). The *z*-statistics are provided in parentheses and are based on standard errors robust to heteroskedasticity and clustering at the acquirer level. The average marginal effects for our variables of interest (*WITHIN_GROUP* and *OUTSIDE_GROUP*) are reported in square brackets. Model (1) includes only the main variables of interest. Models (2), (4), (6), and (8) include a set of control variables. Models (3), (5), (7), and (9) include explanatory, as well as control variables. While Models (2), (3), (6), and (7) include the ownership stake of insiders in the acquiring firm, Models (4), (5), (8), and (9) include the square of this term. Models (1)-(5) do not control for the year and industry fixed effects of the acquiring firms. In Models (6)-(9), we include year fixed effects and acquirer industry fixed effects at the one-digit SIC level. The definitions of the variables are provided in the appendix. Sensitivity (specificity) provides the percentage of equity (cash or debt) deals that the model can predict correctly. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

		FIN_EQUITY								
	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WITHIN_GROUP	+	1.092***		0.685***		0.665***		0.804***		0.817***
		(5.690)		(2.696)		(2.627)		(2.599)		(2.579)
		[0.315]		[0.144]		[0.140]		[0.139]		[0.141]
OUTSIDE_GROUP	-	-0.201		-0.530**		-0.541**		-0.588**		-0.587**
		(-1.054)		(-2.025)		(-2.090)		(-2.059)		(-2.048)
		[-0.058]		[-0.111]		[-0.114]		[-0.102]		[-0.101]
CROSS_BORDER	-		-1.929***	-1.713***	-1.898***	-1.699***	-2.293***	-2.145***	-2.280***	-2.153***
			(-3.800)	(-3.218)	(-3.733)	(-3.164)	(-4.140)	(-3.592)	(-4.148)	(-3.656)
REL_SIZE	+		0.937***	0.908***	0.946***	0.923***	1.171***	1.230***	1.170***	1.229***
			(5.079)	(4.414)	(5.003)	(4.320)	(5.333)	(5.270)	(5.332)	(5.285)
IND_REL	+		0.144	0.320*	0.126	0.305*	0.039	0.221	0.033	0.227
			(0.895)	(1.821)	(0.788)	(1.738)	(0.215)	(1.121)	(0.187)	(1.148)
CASH_TO_ASSETS	-		-0.519	-0.274	-0.515	-0.287	-0.175	0.365	-0.182	0.387
			(-0.589)	(-0.302)	(-0.587)	(-0.316)	(-0.193)	(0.385)	(-0.202)	(0.405)
DEBT_TO_ASSETS	+		-0.260	-0.086	-0.295	-0.109	0.006	0.058	0.001	0.058
			(-0.496)	(-0.155)	(-0.562)	(-0.197)	(0.009)	(0.092)	(0.001)	(0.091)

	Expected sign	FIN_EQUITY								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TOTAL_ASSETS	-		0.047	0.014	0.045	0.016	0.060	-0.003	0.063	-0.006
			(1.012)	(0.241)	(1.000)	(0.275)	(1.076)	(-0.039)	(1.111)	(-0.078)
INSIDER_OWN	+/-		0.176	0.157	2.748	2.119	0.150	0.005	1.218	-0.869
			(0.387)	(0.320)	(1.222)	(0.875)	(0.314)	(0.011)	(0.511)	(-0.329)
INSIDER_OWN_SQ	-/+				-2.532	-1.938			-1.047	0.860
					(-1.190)	(-0.849)			(-0.455)	(0.342)
MARKET_TO_BOOK	+		-0.030	-0.019	-0.025	-0.016	-0.036	-0.032	-0.034	-0.033
			(-0.966)	(-0.721)	(-0.851)	(-0.610)	(-1.308)	(-1.049)	(-1.263)	(-1.113)
TARGET_PUBLIC	+		0.734***	0.691***	0.733***	0.694***	0.762***	0.671***	0.762***	0.669***
			(3.842)	(3.518)	(3.844)	(3.537)	(3.322)	(2.863)	(3.325)	(2.852)
CRISIS_2001	+		-0.760	-0.881	-0.778	-0.892*	-1.786*	-1.712*	-1.796*	-1.703*
			(-1.257)	(-1.606)	(-1.308)	(-1.656)	(-1.795)	(-1.781)	(-1.802)	(-1.783)
CRISIS_2007_2009	+		0.796***	0.737***	0.803***	0.741***	1.342**	1.532***	1.347**	1.532***
			(4.081)	(3.565)	(4.117)	(3.578)	(2.546)	(2.815)	(2.567)	(2.813)
Constant		-0.861***	-1.600***	-1.500**	-2.148***	-1.934**	-1.729**	-0.937	-2.006*	-0.699
		(-6.666)	(-2.907)	(-2.441)	(-2.977)	(-2.534)	(-2.048)	(-0.989)	(-1.883)	(-0.576)
Acquirer industry fixed effects		No	No	No	No	No	Yes	Yes	Yes	Yes
Year fixed effects		No	No	No	No	No	Yes	Yes	Yes	Yes
Observations		360	360	360	360	360	358	358	358	358
Pseudo R^2		0.134	0.301	0.370	0.304	0.372	0.405	0.470	0.405	0.470
Sensitivity		54.5%	47.5%	62.4%	46.5%	62.4%	59.6%	65.7%	60.6%	65.7%
Specificity		85.3%	94.2%	90.0%	93.8%	91.1%	93.4%	93.1%	93.4%	92.7%
Correctly classified		76.7%	81.1%	82.2%	80.6%	83.1%	84.1%	85.5%	84.4%	85.2%

Table 8: Subsample analysis based on absolute control

This table reports the results for a set of probit regression models of the likelihood that an acquiring firm finances a deal with its equity (the dependent variable is *FIN_EQUITY*, which takes a value of one if an acquirer finances the deal with equity and zero if it finances the deal with either corporate cash reserves or debt). The *z*-statistics are provided in parentheses and are based on standard errors robust to heteroskedasticity and clustering at the acquirer level. While Models (1) and (2) present the results for the subsample in which the acquirers had absolute control prior to making the acquisitions, Models (3) and (4) provide the results for the subsample in which absolute control was not vested with the acquirers' insiders. The definitions of the variables are provided in the appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	INSIDER_OWN > 50%		INSIDER_OWN <= 50%	
	(1)	(2)	(3)	(4)
WITHIN_GROUP	0.278	0.004	1.533***	1.382**
	(0.882)	(0.007)	(2.994)	(2.103)
OUTSIDE_GROUP	-1.291***	-2.267***	0.143	0.103
	(-3.053)	(-2.981)	(0.284)	(0.176)
CROSS_BORDER	-2.260**	-8.323***	-1.702***	-3.923***
	(-2.458)	(-4.185)	(-2.760)	(-3.139)
REL_SIZE	1.258***	3.525***	0.659*	1.383***
	(4.337)	(4.231)	(1.919)	(2.777)
IND_REL	0.621**	0.278	-0.025	-0.093
	(2.440)	(0.798)	(-0.087)	(-0.245)
CASH_TO_ASSETS	-1.183	-0.522	-0.594	5.013*
	(-1.303)	(-0.344)	(-0.282)	(1.725)
DEBT_TO_ASSETS	-0.774	0.409	0.795	-0.377
	(-1.084)	(0.382)	(0.762)	(-0.215)
TOTAL_ASSETS	0.162*	0.550***	-0.263**	-0.394***
	(1.753)	(3.710)	(-2.542)	(-2.605)
INSIDER_OWN	-0.456	2.088	1.387	1.286
	(-0.415)	(1.207)	(0.957)	(0.590)
MARKET_TO_BOOK	-0.026	0.002	0.147	0.137
	(-0.973)	(0.041)	(1.598)	(1.126)
TARGET_PUBLIC	0.223	0.106	1.224***	2.406***
	(0.928)	(0.254)	(3.073)	(3.585)
CRISIS_2001	0.023	5.654***		
	(0.034)	(5.610)		
CRISIS_2007_2009	1.056***	9.241***	0.897***	0.316
	(3.321)	(3.688)	(2.644)	(0.415)
Constant	-2.010	-9.146***	-0.401	2.649
	(-1.579)	(-3.714)	(-0.438)	(1.386)
Acquirer industry fixed effects	No	Yes	No	Yes
Year fixed effects	No	Yes	No	Yes
Observations	192	190	163	142
Pseudo R^2	0.414	0.645	0.448	0.603

Table 9: Stock market reactions (clubbed by sub-groups) for bidders around the acquisition announcement dates

This table reports the 5-day cumulative abnormal returns (in percentage terms) centered at the acquisition announcement date separately for within-group, outside-group, and standalone acquisitions. It also shows the differences in the cumulative abnormal returns between the various sub-groups. The cumulative abnormal returns for acquirer i have been computed using the following equation: $CAR_i(-2,+2) = \sum_{t=-2}^{+2}(R_{it} - (\alpha_i + \beta_i R_{mt}))$ where R_{mt} represents the return on the value-weighted Nifty 100 index, R_{it} denotes the observed return of the acquiring firm under consideration, and α_i and β_i are parameters of the market model estimated using a 200-trading-day estimation window ending 30 trading days prior to the acquisition announcement date for acquirer i. The definitions of the variables are provided in the appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Observations	Mean	Median
WITHIN_GROUP (A)	84	0.85%	0.37%
OUTSIDE_GROUP (B)	103	1.16%	1.07%
STANDALONE_ACQUIRER (C)	132	1.59%	0.80%
A - B (test of difference p-value)		-0.31% (0.78)	-0.70% (0.29)
A - C (test of difference p-value)		-0.73% (0.53)	-0.43% (0.29)

Table 10: Multivariate analysis of market reactions to bidders' stocks for acquisition announcements for the entire sample

This table reports the results for a set of OLS regression models of the determinants of stock market reactions for bidders around the acquisition announcements. The dependent variable is the 5-day cumulative abnormal returns centered at the acquisition announcement date and computed using the following equation: $CAR_i(-2,+2) = \sum_{t=-2}^{+2}(R_{it} - (\alpha_i + \beta_i R_{mt}))$, where R_{mt} represents the return on the value-weighted Nifty 100 index, R_{it} denotes the observed return of the acquiring firm i, and α_i and β_i are parameters of the market model estimated using a 200-trading-day estimation window ending 30 trading days prior to the acquisition announcement date for acquirer i. The coefficients on *WITHIN_GROUP* and *OUTSIDE_GROUP* varibables appears relative to that on *STANDALONE_ACQUIRER*. The *t*-statistics are provided in parentheses and are based on standard errors robust to heteroskedasticity and clustering at the acquirer level. The definitions of the variables are provided in the appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	CAR (-2,+2)			
	(1)	(2)	(3)	(4)
WITHIN_GROUP	2.114	2.177	2.329	2.261
	(1.566)	(1.613)	(1.548)	(1.516)
OUTSIDE_GROUP	1.347	1.441	1.312	1.330
	(1.106)	(1.135)	(1.002)	(0.995)
CROSS_BORDER	2.791**	2.830**	2.896**	2.898**
	(2.403)	(2.326)	(2.361)	(2.193)
REL_SIZE	1.271*	1.193*	1.250*	1.177*
	(1.804)	(1.764)	(1.748)	(1.723)
IND_REL	0.684	0.596	1.038	0.950
	(0.699)	(0.613)	(1.038)	(0.947)
CASH_TO_ASSETS	5.631	6.226	6.994	7.225
	(1.320)	(1.419)	(1.536)	(1.550)
DEBT_TO_ASSETS	4.546	4.040	4.644	3.979
	(1.364)	(1.270)	(1.343)	(1.211)
TOTAL_ASSETS	-0.504*	-0.378	-0.603*	-0.423
	(-1.686)	(-1.219)	(-1.701)	(-1.178)
INSIDER_OWN	-22.105*	-17.600	-16.851	-12.672
	(-1.786)	(-1.419)	(-1.350)	(-1.012)
INSIDER_OWN_SQ	22.924*	18.425	17.687	13.237
	(1.869)	(1.517)	(1.398)	(1.047)
MARKET_TO_BOOK	-0.412***	-0.431***	-0.429***	-0.435***
	(-3.019)	(-3.281)	(-3.280)	(-3.496)
TARGET_PUBLIC	-1.644	-1.322	-1.478	-1.359
	(-1.651)	(-1.388)	(-1.457)	(-1.302)
Constant	8.352*	3.244	7.760	2.194
	(1.804)	(0.633)	(1.244)	(0.333)
Acquirer industry fixed effects	No	Yes	No	Yes
Year fixed effects	No	No	Yes	Yes
Observations	319	319	319	319
R^2	0.101	0.124	0.134	0.158