Social Ties in the Making of an M&A Deal

Gül Demirtaş
Sabanci University School of Management
Orhanli-Tuzla 34956, Istanbul
Phone: (+90) 5057801103
Fax: (+90) 2164839699
guldemirtas@sabanciuniv.edu

Abstract

This paper investigates whether and how social ties between targets and acquirers affect merger outcomes. I use merger-related SEC filings and news articles to detect if a social tie between directors or executives of merging firms is effective during the making of the deal. When there is a social tie, abnormal announcement returns accruing to the combined entity and to the acquirer firm are reduced by 2.4 and 2.8 percentage points, respectively. This adverse effect is mainly driven by deals in which the social tie is distant. Irrespective of the closeness of the tie, acquirer-target social ties significantly decrease the likelihood of receiving competing bids in the private takeover process. Moreover, connected deals, particularly those involving close ties, are associated with lower financial advisory fees and a shorter negotiation period. Interestingly, although close ties do not affect merger outcomes for shareholders; such ties help target directors by increasing their retention probability.

1   Introduction

In December 2006, Huntington Bancshares Inc., a large regional bank headquartered in Ohio, announced that it would be acquiring its Ohio neighbor, Sky Financial Group Inc. The day after the announcement, Huntington and Sky Financial hosted a joint conference call to inform investors about their expectations from the merger and plans for the future. During this broadcast, Tom Hoaglin, chairman, president and CEO of Huntington, commented on how they viewed the risks associated with the transaction:

> *Obviously all mergers come with execution and integration risks. Let me... outline why we are confident that such risks are low in this transaction. First, as Don [Huntington's CFO] noted earlier, we've completed significant due diligence. Second, Marty [Sky Financial's chairman, president and CEO] and I have known each other for years and the same can be said for managers throughout both organizations. This familiarity makes for open communication and trust, key elements of moving a merger ahead smoothly...[1]*

Tom Hoaglin points out his prior relationship with the target CEO as a catalyst for improving communication and therefore feels confident that risks associated with this transaction is low. The investors, however, were not as confident about this deal as was Mr. Hoaglin. The stock price of Huntington fell by 7% on the day of the conference, reaching its lowest level in 10 months. The investors were mainly concerned about the large deal size, the risks of entering into new markets, the challenges that would be faced by executives who used to operate a smaller bank, and the decreased likelihood of Huntington itself becoming an acquisition target (Mazzucca (2006), Reuters News (21 December 2006)). This sharp fall in stock price also affected what Sky Financial shareholders would receive from the deal, since 90% of the payment was in Huntington stock. How is it possible, thus, that the two CEOs failed to foresee investors' concerns, even if they were better equipped for an open discussion of potential risks given their prior social relationship with each other? More generally, in what ways would familiarity between the directors or executives of merging firms affect the negotiation process and the merger outcomes?

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[1] Huntington Bancshares and Sky Financial Group Announce Merger Agreement - Final. (2006, December 21). Voxant Fair Disclosure Wire.

In this study, I examine the M&A transactions in which a director or an executive from the target and the acquirer are tied to each other. By detecting social ties from the SEC disclosures of the merging firms and from the news articles, I ensure that the tie was actually effective during the making of the deal. I hypothesize that a social tie connecting the two firms may have two counteracting effects: as suggested by Tom Hoaglin's above remarks, a potential bright side of a tie is that it may improve the information flow during the takeover process. A better information flow may, in turn, reduce the significant costs associated with information gathering. Specifically, the parties may feel a lower need for financial advisory services, decreasing the fees paid to investment banks. An improved information flow may also allow the parties to reach an understanding of the other party's operations and intrinsic value more easily, and hence reduce the time it takes to conclude merger talks. Furthermore, as the Huntington CEO states above, an open communication may reduce execution and integration risks, which are of great concern in a merger transaction. Overall, these effects will lead to better merger outcomes, as compared to deals without a social tie.

There is, however, a potential dark side to deals with social ties. The executives or directors who are socially tied may suffer from familiarity bias; a cognitive bias which leads to a tendency to favor familiar choices over unfamiliar ones due to a general fear of the unknown and the unfamiliar. Familiarity bias may cause directors and executives to feel more informed and competent when making deals with connected parties. As a result, they may underestimate the risks of the merger and may overestimate its potential synergies. This unfunded optimism may lead managers to put less emphasis on due diligence. A less vigilant due diligence, in turn, may hasten the negotiation process, possibly resulting in a premature closure. Moreover, due to a pessimistic approach towards unfamiliar firms, familiarity bias may reduce the likelihood of contacting other, and possibly better, merger candidates outside the network. Taken together, I expect the distortions created by the familiarity bias to harm merger performance. The two effects of a social tie, enhanced information exchange and familiarity bias, however, are not mutually exclusive. Which of these two effects is stronger is an important empirical question that I investigate in this study.

For a sample of 522 M&A deals between 2004 and 2008, I identify 79 deals with a social tie between the target and acquirer. Since information sharing may enhance as the degree of the interpersonal tie increases, I further split the connected deals into 37 deals with close ties and 42 with distant ties. I detect the existence and the degree of social ties by reading SEC filings made by the two firms about the transaction and the news covering the deal. If it is stated in

the news sources or SEC filings that a top manager or director from the merging firms knows each other very well or that they are friends or are very familiar with each other, I classify these deals as having close ties. I group the remainder as deals with distant ties.

My research indicates that when a social tie exists at the top level of the two firms, the announcement period cumulative abnormal returns (CAR) for the combined firm (i.e. a value-weighted portfolio of the target and the acquirer firms) is 2.8 percentage points lower compared to non-connected deals. In contrast to the average combined CAR of 2.02% in non-connected deals, this reduction is economically large. This negative effect is mainly driven by deals with distant ties, which reduce combined CARs significantly by 4 percentage points. The results suggest that when there is a distant tie, the negative effect of familiarity bias on combined CARs outbalances any positive effect of improved information exchange. On the other hand, when the tie is close, the information exchange improves further and its greater positive effect is able to offset the negative effect of familiarity. As a result, in terms of combined CARs, there is no difference between deals with close ties and non-connected deals. I find similar results for acquirer CARs. Connected deals reduce acquirer CARs by 2.4 percentage points and this effect is again driven by deals with distant ties, with close ties having no effect on acquirer CARs. With respect to target CARs and premiums paid to targets, connected deals are not significantly different from non-connected deals, irrespective of the closeness of the tie. It is possible that the impact of familiarity bias on the target firm stays limited due to the serious litigation threat faced by target managers and directors.

My results on the impact of social ties on CARs are consistent with those of Ishii and Xuan (2013) and Wu (2011) who also find a negative impact of social ties on acquirer and combined CARs. However, my results are in contrast to those of Cai and Sevilir (2012) who report a positive impact as well as to those of Renneboog and Zhao (2013) who report an insignificant impact. This disparity possibly stems from the alternative definitions of social ties used by these authors. Cai and Sevilir (2012) and Renneboog and Zhao (2013) focus on ties formed by directors working on the same board at the time of the acquisition; Wu (2011) examines ties formed by directors or executives working on both firms within 3 years prior to the merger and Ishii and Xuan (2013) construct a measure based on educational and professional ties formed in the past. The distinction I make is that I identify social ties from the merger-related SEC disclosures and news sources. The first advantage that this method provides is that it does not impose a particular channel by which the social tie could have been formed. Hence it improves upon prior studies which require that interpersonal ties be

formed through a specific channel, such as a past or present educational or professional affiliation. The second advantage of this method is that it ensures that the tie I locate is still active at the time of the takeover and that it actually played a role in the making of the deal. In that regard, it is in contrast to Ishii and Xuan (2013) who assume that a social tie has been formed between two individuals if they went to the same school or worked at the same firm and that this tie still exists during merger negotiations. My method is free of such assumptions since the tie is actually mentioned in recent merger-related documents. Furthermore, my distinction between close and distant ties allows me to observe what effect, if any, a further improvement in information sharing has on merger outcomes.

In further analysis, I investigate how social ties between the acquirer and the target affect various aspects of the negotiation process. I first examine the competitive nature of the takeover process. I find that the existence of a close or a distant tie significantly decreases the likelihood of receiving bids from multiple bidders during the private takeover process. This finding is consistent with the familiarity bias hypothesis, which predicts a failure to fully consider all alternatives due to a dislike of the unfamiliar. I then examine how the length of the private takeover process is affected when there is a social tie between the merging parties. Both familiarity bias and information sharing hypotheses predict a shorter time to complete negotiations. However, deals with close ties may be expected to take even a shorter time to be completed as they are expected to further improve information sharing. The results support these predictions: in the average non-connected deal, it takes around 5 months from the beginning of the merger talks until the announcement of the deal. Holding other things equal, connected deals take about 20 days less to complete. Deals with close ties shorten the takeover process significantly by about 40 days whereas those with distant ties have a negative but insignificant effect. I also investigate whether and how the fees that targets pay to their financial advisors are affected by the existence of a tie. Again, both hypotheses predict lower fees but I expect the effect to be stronger for deals with close ties. In line with this expectation, I find that in connected deals targets pay significantly lower fees to financial advisors and that this effect is mainly driven by deals with close ties.

As a final analysis, I investigate whether the existence of a social tie affects the percentage of target directors who continue to serve in the merged firm's board. My results indicate that when there is a social tie between the merging parties, the percentage of the target board retained in the combined firm increases by 4.4 percentage points. A close tie increases percentage retained by about 10.8 percentage points whereas a distant tie has no effect on

director retention. This relation continues to hold at the director level. A target director is more likely to be retained in the combined board when s/he is closely connected with a director or manager of the acquirer. Furthermore, even if a director is not connected himself/herself, his/her likelihood of being retained increases if another target director or manager is closely connected to the acquirer. Having a distant tie, however, does not increase the odds of a director remaining on the board. It appears that a distant tie is not close enough to generate private benefits for the person with the social tie or his/her colleagues.

Given that connected deals constitute 32% of the total deal volume in my sample of 522 M&A deals in the period from 2004 to 2008, it is important to understand their impact on value creation. Taken together, my results suggest that social ties between two merging firms lead to lower value creation for acquirer shareholders and shareholders overall. A distinction based on the degree of the social tie reveals that deals with distant ties drive this adverse effect. In deals with distant ties, the negative effects of familiarity bias appear to dominate any positive information-based effect. Close ties, on the other hand, have no significant impact on merger performance, implying that these ties lead to a further improvement in information exchange, which in turn enables information-based positive effects to offset the negative effects of familiarity bias. Hence although acquirer managers, like the Huntington CEO above, are likely to feel confident when making connected deals, my results suggest a caution against such deals, especially when the social tie is not close enough to sufficiently improve information flow.

The remainder of the paper is organized as follows. In Section 2, I first construct the counteracting hypotheses about the effects of social ties on merger outcomes and review the related literature. In Section 3, I introduce my sample and the method I use to identify social ties. In Section 4, I analyze the impact of social ties on announcement returns. Section 5 and 6 present how social ties affect the private takeover process and target board retention, respectively. Section 7 concludes the paper.

2   Hypotheses and Related Literature

In the first section of this part, I construct two non-mutually exclusive hypotheses on the potential effect of social ties on merger outcomes. In the second section, I review the prior literature investigating if and how the existence of interpersonal ties in an M&A context affects the merger process and outcomes.

2.1   Potential Effects of Social Ties on Merger Outcomes

2.1.1   The dark side: Familiarity bias

Familiarity bias can be defined as a "general sense of comfort with the known and discomfort with-even distaste for and fear of-the alien and distant" (Huberman (2001)). In their seminal work on familiarity bias, Heath and Tversky (1991) ask people general knowledge questions and request them to assess the probability with which their answer is correct. The respondents are then provided a choice between betting on their own response or on a lottery. The probability of winning the lottery is set equal to the probability that the respondent believes his own response to be correct. The authors hypothesize that people will prefer to bet on their own judgment in a context where they feel knowledgeable or competent but that they will prefer the lottery when they feel uninformed. With a series of experiments, Heath and Tversky (1991) provide strong evidence for this competence hypothesis. Furthermore, they show that the strategy of betting on own judgment performs worse than that of betting on the lottery.

A preference for the familiar, which Heath and Tversky (1991) document from their controlled experiments, also manifests itself in multiple financial settings. French and Poterba (1991) observe that investors display a home country bias and hold almost all of their wealth in domestic assets, foregoing the possibility of reducing their risks significantly by better international diversification. Coval and Moskowitz (1999) extend home country bias to the local case. They show that the US mutual fund managers prefer to hold stocks of firms headquartered in nearby locations. Another widespread manifestation of familiarity bias is employees' preference for their employer's stock when allocating their retirement savings (Benartzi (2001)). Due to this so-called own company bias, employees face the risk of losing both their labor income and pension funds upon the failure of their company. Familiarity bias is observed even in product markets: Customers of a given company are significantly more likely than customers of other companies to invest in the corresponding company's stock (Huberman (2001), Keloharju, Knupfer, and Linnainmaa (2012)).

In all of the above cases, investors' behavior contradicts the prescription of portfolio theory for holding well-diversified portfolios (Markowitz (1952), Sharpe (1964), Lintner (1965)). A view of familiarity bias purely as a psychological heuristic without any rational background would predict that a portfolio overweighed on familiar assets should not overperform a well-diversified portfolio. Indeed, Cohen (2009) and Keloharju, Knupfer, and Linnainmaa (2012)

show that allocations to familiar assets do not lead to higher portfolio performance while Benartzi (2001) and Døskeland and Hvide (2011) document that they actually lead to significantly lower performance. This evidence may indicate that people choose to invest in the familiar just because they 'feel' more informed, more competent and more comfortable. A series of prior studies suggest that this is indeed the case. First, surveys of investors reveal that they expect higher returns from familiar assets and view them as less risky. (Benartzi (2001), Strong and Xu (2003), Kilka and Weber (2000)). Second, in an experiment in which participants try to guess the winner of NBA matches, Hall, Ariss, and Todorov (2007) report that people have a tendency to predict that more familiar teams are more likely to win even though statistical data obviously favor the less familiar teams. This lower reliance on statistical cues impairs decision making and decreases participants' accuracy in predicting outcomes. Third, the familiarity bias model of Cao et al. (2011) posits that individuals who are faced with uncertainty are inclined to focus on worst-case (or at least, bad-case) scenarios when they consider whether to choose unfamiliar strategies, such as investing in unfamiliar stocks. An individual prefers a strategy over the familiar strategy only when that strategy has a higher expected utility even under bad-case scenarios.

Given the prior evidence on familiarity bias influencing many different financial decisions, it is reasonable to expect that the behavior of top managers and directors may also be distorted by this bias during deal making. If this is indeed the case, how would the negotiation process and outcomes be affected in deals with socially connected firms? In accordance with the model of Cao et al. (2011), directors and top managers may focus on bad-case scenarios when considering merging with unfamiliar firms; due to this pessimistic perspective, they may fail to consider better alternatives outside of their network, leading to reduced competition. The extract below provides a concrete example and may suggest that Harris Simmons, CEO of Zions, may have missed better alternatives if he had put unwarranted priority to Amegy Bancorp among all possible acquisition candidates:

> *Johnson [Amegy's Chairman] and Zions CEO Harris Simmons had worked together at Allied back in the early 1980s and had kept in close contact ever since... "We were close enough where I said, 'If you're ever interested in a deal, please tell us," Simmons says.*

Directors and top managers may perceive themselves as more informed and competent when making deals with connected parties. Analogous to the survey results by Benartzi (2001),

Strong and Xu (2003) and Kilka and Weber (2000) above, they may underestimate the risks involved in the integration process and may overestimate potential synergies. This unfounded optimism coupled with a decreased reliance on statistical cues as suggested by Hall, Ariss, and Todorov (2007) may cause firms to be less vigilant in due diligence and to be less willing to ask for professional advice from investment banks.

Furthermore, a less cautious due diligence review and reduced competition may precipitate the private negotiation process. However, as suggested by Jemison and Sitkin (1986), a hurried negotiation process is dysfunctional when it forces premature closure since "premature closure can reduce the opportunity for more careful and dispassionate consideration of issues of both strategic and organizational fit", possibly leading to less successful deals.

In conclusion, familiarity bias is expected to reduce the competition in the takeover process, to decrease decision makers' reliance on professional investment advice and to result in a premature closure by shortening the negotiation process. Overall, these effects will potentially lead to lower abnormal returns around the announcement date. However, the negative impact of familiarity bias on target announcement returns may remain limited since target managers and directors are likely to be more cautious in decision making due to the severe litigation threat that they face around the sale of the firm.

2.1.2 *The bright side: Better information flow*

A potential bright side of a social tie in an M&A context is that it may improve the information flow during the negotiation process. Evidence from group decision making literature lends support for this argument. Zaccaro and Lowe (1988) study the effect of interpersonal cohesion on group performance, where interpersonal cohesion is defined as "the degree to which positive interpersonal relationships exist among members of a group". They hypothesize that interpersonal cohesion will increase the number of interactions among group members. They assign 158 US students to small groups and observe their behavior when performing a task and find strong evidence for their hypothesis. In a similar study, Jehn and Shah (1997) distinguish between groups made up only of friends or only of acquaintances and study how these two kinds of groups differ in their functioning. One of their hypotheses is that friendship based groups will share more information than will acquaintance based ones. These researchers find support for this hypothesis by observing the behavior of small groups when assigned a decision-making or a motor task. Gruenfeld et al. (1996) extend this

line of literature by studying how group members behave when information is not fully shared among them. They design an experiment in which each group member possesses several unique clues for solving a murder mystery to which no other member has access. It turns out that groups with familiar members are more likely to correctly solve the murder case, by pooling all necessary information to identify the correct suspect.

Studies above from group decision making literature indicate that as interpersonal ties intensify, information sharing increases. This evidence from carefully controlled experiments is also supported by survey data: Knapp, Ellis, and Williams (1980) survey 1,114 individuals and ask them to rate their communicative behavior across six different types of relationship levels, ranging from acquaintance to lover. The results reveal that survey participants perceive increases in communication and information exchange as the relationship intensifies. DiMaggio and Louch (1998), on the other hand, survey 1,444 participants and investigate the forces in effect when individuals are making purchases from sellers with whom they have noncommercial ties. Participants are asked whether they would reveal that the car they were selling, although currently sound, had transmission problems in the past. Results show that sellers are twice as likely to hide this fact from strangers as from relatives.

Recent studies show that personal ties lead to enhanced information flow in a wide range of financial contexts, too. Engelberg, Gao, and Parsons (2012) show that interpersonal ties between firms and their banks lead to more favorable financing terms but these favorable terms are justified by better ex-post performance, suggesting that social networks lead to better information flow. Cohen, Frazzini, and Malloy (2010) show that sell-side analysts outperform on their stock recommendations when they have an educational link to the top management of the company that they cover. This result is consistent with social networks providing cheaper access to information. In a related study, Cohen, Frazzini, and Malloy (2008) find a similar effect of educational ties between mutual fund portfolio managers and directors of public companies. Portfolio managers invest more on connected firms and have significantly higher returns on these holdings relative to the returns from non-connected ones. Pan, Cai, and Li (2012) report that firms with executives and directors that are more central in the social network experience smaller IPO underpricing. The researchers attribute this finding to a higher ability of well-connected managers to mitigate information asymmetry in IPO firms.

Given the above evidence on the relation between interpersonal connections and improved information exchange, a social tie between target and acquirer firms can be expected to improve information flow during the negotiation process and hence to reduce the significant costs associated with information gathering. A direct impact of enhanced information exchange could be a lower dependence on investment banks for financial advice (Cai and Sevilir, 2012). This prediction also follows from Golubov, Petmezas, and Travlos (2012) who report that bidders are less likely to retain a financial advisor when information asymmetry in the deal is lower. A better information flow may also reduce the ambiguities about the details on the merger agreement. These ambiguities may bring about disputes in the integration phase and increase integration risks (Jemison and Sitkin, 1986). Hence, a social tie between the two parties may lower integration risks by ironing out these ambiguities. On the other hand, Aktas et al. (2012) argue that a less opaque target may be easier to value and so may require a shorter private deal process. In a similar vein, I expect that deals with a social tie take a shorter time to complete. However, this shorter duration does not indicate a premature closure, as opposed to the discussions about familiarity bias above.

In conclusion, an improved information exchange will decrease information gathering costs and the dependence on financial advisors, shorten the time to closure, and will reduce integration risks. Overall, these effects will potentially lead to better merger outcomes, represented by higher cumulative abnormal returns around the announcement date. Since the evidence above from group decision making literature and surveys indicate that information exchange increases as the relationship ties grows stronger, I expect information exchange to be more efficient and its effects stronger in deals involving closely tied individuals as compared to deals with distant ties.

Familiarity bias hypothesis and information sharing hypothesis are not mutually exclusive. They may both be present in a connected deal, acting as opposite forces on the success of mergers. The net effect of the two forces will be reflected on announcement returns.

2.2 Related Literature

In the recent years, there has been a growing interest in whether and how the existence of personal ties in an M&A context affects the merger process and outcomes. A series of studies have examined this question from different angles. A subset of these studies focuses on a firm's connectedness to all other firms in the network via its directors and provides evidence that the director network acts as an information channel which spreads major corporate

financial practices across firms (Stuart and Yim (2010), Bouwman and Xuan (2012) and which lowers acquisition-related information asymmetries (Schonlau and Singh (2009)). A second subset of studies examines how an agent connecting the acquirer and the target (e.g. a common financial advisor) affects merger outcomes and finds that a common agent improves merger performance by enhancing information flow but that the information advantage is usually tilted in favor of the acquirer (Gompers and Xuan (2009), Dhaliwal et al. (2013), Agrawal et al. (2013)). A third subset of studies focuses on how a direct link between the target and the acquirer affects the probability of these two parties merging. These studies report that board interlocks, either historical or contemporaneous, increase the likelihood of merging by reducing the information asymmetry between the target and the acquirer (Cukurova (2012), Rousseau and Stroup (2013)).

The final subset of studies investigates how direct links between the target and the acquirer affect the merger process and performance and hence is most relevant for my study. Of the studies in this subset, Ishii and Xuan (2013) and Wu (2011) find a negative impact of interpersonal ties on acquirer and combined CARs whereas Cai and Sevilir (2012) report a positive impact on acquirer CARs and Renneboog and Zhao (2013) report an insignificant impact. A likely explanation for the conflicting evidence from these studies is their focus on rather different types of interpersonal ties. Cai and Sevilir (2012) study two types of board connections: a "first-degree connection" where the target and acquirer have a common director before the deal announcement and a "second-degree connection" where a director from each firm are serving on a third board. Consistent with the enhanced information exchange hypothesis, both types of connections lead to significantly higher acquirer announcement returns. First degree connections improve acquirer returns by lowering target premiums while second degree connections do so by creating greater combined value, as evidenced by higher combined returns. Applying Cai and Sevilir's (2012) definition of first-degree connections to an M&A sample from the UK, Renneboog and Zhao (2013) do not find a significant impact of connections on acquirer CARs. They argue that this insignificant impact may be due to the failure of information-based benefits of a connection to overweigh its costs, such as a "false trust" in the target. Wu (2011) uses a broader version of first-degree connections: She identifies an interlock if one person has served at both companies as either a director or an officer within the three years prior to deal announcement and is still employed by either company in the year right before the announcement. Hence this definition covers the first-degree connections of Cai and Sevilir (2012) but also allows for interlocks created by

officers and for lagged interlocks. Inconsistent with the predictions of the enhanced information exchange hypothesis, Wu (2011) finds a negative impact of interlocks on acquirer and combined CARs. On the other hand, Ishii and Xuan (2013) define a director or an executive of the merging parties as tied if they went to the same school or worked at the same firm in the past. They compute a deal-level "average connection" measure by dividing the total number of ties between the merging firms' executives and directors by the maximum number of ties that could be present. Consistent with the familiarity bias hypothesis, they find that average connection is negatively related to acquirer CARs and combined CARs. Although these four studies report inconsistent evidence regarding acquirer and combined CARs, they all agree that the impact of connections on target premiums or target CARs is insignificant, with the exception of Cai and Sevilir (2012) who report a negative impact of first-degree connections.

In contrast to the prior studies investigating the direct links between the target and the acquirer firms, I identify social ties between executives or directors of the two firms by reading the merger-related SEC disclosures and the news articles covering the deal. This method enables me not to impose any particular channel through which the tie could have formed. The individuals could have gotten to know each other by working in the same firm, attending the same school, doing business together, becoming acquainted in industry shows or in a club or even in the neighborhood. There are no boundaries. Another important feature of this method is that it ensures the tie I locate is still active at the time of the takeover and is sufficiently material to have played a role in the making of the deal. Furthermore, my distinction between close and distant ties allows me to observe what effect a further improvement in information sharing has on merger outcomes. This paper also contributes to the prior literature by examining the impact of social ties on the private takeover process, which starts with the first contact between the merging parties and ends with deal announcement. I extract the required data from SEC filings and provide evidence on the impact of social ties on the length of the private takeover process and the competition involved.

3 Sample Formation and Data Collection

3.1 Sample Formation

I identify a set of mergers and acquisitions announced between January 1, 2004 and December 31, 2008 from U.S. Mergers and Acquisitions database of Thomson Reuters SDC

Platinum. I apply the filters commonly used in the literature that the transaction is completed and that the deal value is greater than $5 million. To ensure that there is a change-in-control in the target and that the target is entirely owned by the acquirer after the deal, I restrict the sample to those deals in which the acquirer owns less than 50% of the target when the deal is announced and increases its ownership to 100% with the deal. I require that both the target and the acquirer be U.S. public firms as of the announcement date since I need to calculate announcement returns for both. I match the resulting sample to the Center for Research in Security Prices (CRSP) database and require that both the target and the acquirer are available in CRSP as of the announcement date. To have sufficient observations for estimating the market model, I keep only the observations in which both firms have at least 100 days of return data in the period (-316, -64) prior to deal announcement. I then match the sample to Compustat and exclude those deals in which either the target or the acquirer does not have financial statement data in the fiscal year just prior to the announcement. These filters leave 540 observations. For identifying social ties, I refer to the merger documents filed with the SEC by either the target or the acquirer or both. Therefore, I drop the 6 deals that do not have a merger document in the EDGAR database. Finally, I exclude the 12 deals in which the merging parties have a common director for reasons discussed in Section 3.2.

3.2 Identification of Social Ties

To collect the data on social ties, I first refer to the EDGAR filing system of the SEC. For each transaction in my sample, I search the EDGAR for the M&A filings by the acquirer and/or the target after the deal is announced. The details of the transaction are usually found in the documents with the following codes:

- DEFM14A: Definitive proxy statements relating to merger or acquisition
- S-4: Registration of securities, business combinations
- SC TO-T: Tender offer statement by third party
- 14D-9: Tender offer solicitation, recommendation statements

The "Background of the Merger" or "Background of the Offer" sections of these documents disclose information on issues such as how and when the merger talks first started and how they proceeded, the names of the financial and legal advisors retained, the meetings held and decisions taken by the board of directors, contacts made with and bids received from other potential bidders, etc. From these background sections, I detect whether a tie between the top managers or directors of the merging firms is mentioned to be effective in the initiation or the

negotiation phase of the merger. Top managers include those individuals to whom SEC filings refer to as C-level executives, the president, vice presidents or senior managers. For further analyses, I also record some other aspects of the merger process: (i) whether the target or the acquirer initiated the talks (Masulis and Simsir (2013)), (ii) the number of potential acquirers contacted and the number of potential acquirers making private bids (Boone and Mulherin (2007)), (iii) the length of the private takeover process (Aktas et al. (2012)).

My second data source for identifying social ties is the Dow Jones Factiva database. From this database, I download all the merger-related articles that cite the names of both the acquirer and the target. It is not feasible to read the large volume of articles about each deal. I make a list of keywords to help me identify the presence of a tie between the top management of the two firms. I extract a comprehensive list of keywords from the passages in the M&A filings from which I detected a tie. For each deal, I search for these keywords in the news articles and after reading the passages containing the keywords, I record whether there is indeed a social tie. If needed, I expand the initial list of keywords with relevant keywords from the news articles. The final list of keywords is provided in Appendix A.

The procedure outlined above produces 79 connected deals out of the 522 deals comprising the sample. A salient difference across these 79 deals is the degree of the interpersonal tie. It ranges from professional acquaintances to close friends who have known each other for years. Therefore, as a next step, I categorize connected deals into two groups based on the closeness of the tie. If the M&A filing or Factiva news states that a top manager or director from each firm knows each other very well or that they are very familiar with each other, these deals are classified as deals with close ties. Friends or relatives are included in this group, too. I provide below an extract from the M&A filing of a deal which I flagged as having a close tie:

> *Francis J. Wiatr, NewMil's [target] Chairman, President and Chief Executive Officer, and James C. Smith, Chairman and Chief Executive Officer of Webster [acquirer], have known each other professionally and socially for a long period of time and from time to time have had informal conversations about the possibility of a merger. During these conversations, Mr. Smith had indicated a willingness to initiate discussions regarding a possible business combination between Webster and NewMil if NewMil so desired.*

On the other hand, if it is stated that a top manager or director from each firm are acquainted or familiar with each other or have worked with each other or are working in another firm's board together but it is not stated that their relationship is close or has lasted for many years, I classify the deal as having a distant tie. For instance, due the following statement by Scott Fainor, President and CEO of KNBT Bancorp, during a press conference about their acquisition of National Penn Bancshares, I label this deal as possessing a distant tie amongst the merging parties:

> *Jorge Leon from National Penn and Carl Kovacs from KNBT will serve as co-heads of the merger integration team. I have worked with Jorge at Wachovia and Carl at KNBT and have great confidence in their ability to provide the leadership necessary to make this integration happen in a successful fashion.*

Deals in which a top manager or director of the target (acquirer) has a previous or current business relationship with the acquirer (target) are also categorized as deals with a distant tie. For instance, a case in which a director from the acquirer is acquainted with the target through his employment at the target's investment bank would be included in this category. Note that cases in which a director from the target and another from the acquirer serve in a third firm are also classified as deals with distant ties. Cai and Sevilir (2012) calls such ties as second degree connections. The difference, here, is that I require that the tie is mentioned to have played a role in the private takeover process.

Note also that my social tie definition excludes ties formed by a single person serving at both firms during the takeover process. Hence 12 deals with common directors between the merging parties are excluded from the sample. The first reason for this choice is that, as argued by Rousseau and Stroup (2013), such single-person ties at the deal announcement are likely to be plagued with agency conflicts. For instance, if the common director also serves as an executive of the acquirer, he may have incentives to negotiate a price which favors the acquirer at the expense of the target. However, when the tie is between one person from each firm, there is less room for such incentives since each person acts in the interest of his own firm (Cai and Sevilir (2012)). Hence excluding single-person ties allows for a cleaner analysis of enhanced information exchange and familiarity bias hypotheses. The second reason for this choice is that my tie identification method which ensures that the tie is actually active at deal announcement, does not present any advantage in the case of single-person interlocks. The tie is obviously active if it involves only one person. Hence, such an analysis

would not offer a contribution over the first-degree connection analysis of Cai and Sevilir (2012).

3.3 Sample Statistics

The final sample consists of 522 M&A transactions, out of which 37 are classified as deals with close ties and 42 are classified as deals with distant ties. Panel A of Table 1 provides the distribution of deals over the 12 Fama-French industries (Fama and French, 1997). In the entire sample, there is a concentration in finance and business equipment industries, with 34.7% and 24.7% of the acquirers operating in these two industries, respectively. In the following columns, I report the same distribution for the subsamples of non-connected deals, connected deals and deals with close and distant ties. The industry distribution of these subsamples generally follows the pattern in the full sample. Panel B of Table 1 presents the distribution of deals over announcement years. In the full sample, the number of transactions per year is fairly stable until it drops in year 2008, presumably due to the decline in overall capital liquidity as the global financial crisis sets in. The subsample of deals with close ties appears to slightly deviate from the trend observed in the full sample. However, it is difficult to suggest a systematic reason as to why deals with close ties would be more concentrated in some years. In any case, my multivariate regressions include year and industry dummies to control for any time and industry trends that may exist.

Table 2 presents summary statistics for various target, acquirer, and deal characteristics. All variables are defined in Appendix B. I provide the medians for continuous variables and means for discrete variables. The first column presents the statistics for the full sample, followed by the four subsamples of non-connected deals, connected deals and deals with close and distant ties, respectively. In the subsequent four columns, I report the difference between these statistics across different subsamples.

On average, targets in connected deals are larger compared to targets in non-connected deals. This difference in size is driven by deals with close ties: The median target in deals with close ties is four times larger than that in non-connected deals. In contrast, there is no significant difference in acquirer sizes across the subsamples. As a result, the relative deal size is significantly higher in deals with close ties (68.8%) compared to non-connected deals (15.2%). A median relative size of 68.8% in deals with close ties implies that these deals are rather crucial investment decisions on the part of acquirers.

The median acquirer has a leverage ratio of 17.4% in connected deals as compared to 10.7% in non-connected deals. A higher leverage may force managers to be extra vigilant in decision making and hence may enhance decision making (Jensen (1986)). Indeed, Maloney, McCormick, and Mitchell (1993) report that acquirer announcement returns increase as acquirer leverage increases.

Interestingly, both targets and acquirers in connected deals have lower Tobin's q than their counterparts in non-connected deals. The difference is again driven by deals with close ties. If q is interpreted as a measure of managerial performance as suggested by Servaes (1991), this observation indicates that targets and acquirers in deals with close ties perform poorly as compared to those in non-connected deals.

With regard to deal characteristics, when there is a close or a distant social tie between the merging parties, the likelihood of all-equity financing is higher. A tie may be leading targets to be more willing to accept the acquirer stock as a medium of exchange, by enhancing information on the true value of the acquirer. On the other hand, consistent with familiarity bias hypothesis, connected deals are associated with lower competition during the private takeover process. Although 45.1% of targets in non-connected deals receive more than one bid, this figure is only 24.1% for targets in connected deals. Another interesting finding is that deals with close ties are twice as likely to be local deals as non-connected deals.[2] This difference is reasonable. It is probably easier for individuals to form close ties when they work in the same neighborhood. Finally, tender offers are more common in non-connected deals as compared to connected deals.

Connected and non-connected deals significantly differ in terms of various target, acquirer, and deal characteristics. I will control for these characteristics in the multivariate regression analysis.

4   Social Ties and Cumulative Abnormal Returns

In this section, I analyze how a social tie between the target and the acquirer affects announcement period cumulative abnormal returns (CARs) accruing to the hypothetical combined firm and to the target and the acquirer, separately. CARs around the date of deal

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[2] Following Uysal, Kedia, and Panchapagesan (2008), I define a deal to be local when the headquarters of the merging firms are within 100 kilometers of each other.

announcement are commonly used in the literature to measure the value created with the acquisition. They indicate how successful the shareholders view the acquisition.

I calculate CARs based on the standard event study methodology suggested by Brown and Warner (1985). I first estimate the market model for each firm by regressing that firm's daily returns on market returns over the period (-316, -64) relative to deal announcement. I use CRSP value-weighted portfolio returns as a proxy for market returns and require each firm to have at least 100 days of non-missing return data over the estimation period. After estimating the market model parameters, I calculate daily abnormal returns of each firm by subtracting the market model predicted daily returns from actual daily returns. I reach announcement period CARs by summing up daily abnormal returns over the event window, (-t, +t) around the deal announcement date.

Following Bradley, Desai, and Kim (1988), I calculate combined CARs as CARs accruing to a value-weighted portfolio of the target and the acquirer. The portfolio weights are calculated based on each firm's market value of equity as of the 64th trading day before the deal announcement. If the acquirer has a toehold in the target, I adjust the target's weight for this toehold.

4.1   Univariate Analysis

Table 3 presents the mean and median values for acquirer CARs, target CARs, and combined CARs over the event window (-5, +5). In the first row, I report the statistics for the full sample, followed by those for non-connected deals, connected deals, and deals with close and distant ties, respectively. In the bottom rows, I compare the different subsamples with respect to their CAR values.

For the full sample, the mean (median) abnormal return for the combined firm is 1.69% (0.94%) over the period (-5, +5). The average combined CAR is significantly greater than zero, implying that an average deal creates value for the two firms as a whole. This observation is consistent with the earlier evidence on positive combined CARs (Bradley, Desai, and Kim (1988), Moeller, Schlingemann, and Stulz (2004)). However, when I divide the sample into two subsamples based on the existence of a social tie, it turns out that although mean combined CARs in non-connected deals (2.02%) is significantly positive, those in connected deals (-0.18%) are not statistically different from zero. Hence, connected deals on average do not create value. This evidence is consistent with Ishii and Xuan (2013).

Furthermore, the difference between connected and non-connected deals mostly stems from deals with distant ties. There is no statistically significant difference between deals with close ties and those with no ties, in terms of combined CARs. In contrast, a deal with a distant tie has, on average, a combined CAR that is 3.62 percentage points lower than that of a non-connected deal. This evidence suggests that connected deals lead to lower overall value creation, specifically when the social tie is distant.

A lower average combined CAR in connected deals may arise from a loss suffered by acquirer or target shareholders, or both firms' shareholders. Therefore it is necessary to separately analyze how acquirer and target CARs are affected when there is a social tie between the two firms. For the full sample, the mean (median) acquirer cumulative abnormal return is -1.58% (-1.09%) and is significantly negative. These statistics are comparable to Masulis, Wang, and Xie (2007) who report a mean (median) CAR of -1.48% (-1.19%) for firms acquiring public targets. Irrespective of whether there is a social tie between the acquirer and the target, the acquirers lose on average. However, their loss is significantly greater when a tie does exist. The mean (median) acquirer CAR in non-connected deals is -1.15% (-0.77%) whereas it is -3.98% (-3.91%) in connected deals. With regard to acquirer CARs, there is no significant difference between deals with close ties and those with distant ties. It appears that the average deal in our sample destroys value for acquirer shareholders but significantly more so for acquirers in connected deals. This evidence is consistent with Ishii and Xuan (2013) and Wu (2011). On the other hand, target shareholders experience a substantial gain in all subsamples, regardless of the existence or the degree of a tie. Nevertheless, there is a significant difference between connected and non-connected deals: Targets in non-connected deals obtain a mean (median) CAR of 25.92% (20.26%) whereas their counterparts in connected deals experience a mean (median) CAR of 17.97% (16.32%). This difference is mainly driven by deals with close ties. Deals with distant ties are not significantly different from non-connected deals, in terms of target CARs.

Overall, the univariate analysis indicates that existence of a social tie results in lower target, acquirer, and combined CARs. This evidence may suggest that the negative impact of familiarity bias in connected deals outbalances the positive impact of enhanced information sharing. Moreover, although distant ties are on average associated with lower combined CARs, when the tie is close, average combined CARs are not different from those in non-connected deals.

4.2   Multivariate Analysis

As reported in Table 2 connected deals, especially those with close ties, are significantly different than non-connected deals with respect to several target, acquirer and deal attributes. Given that these attributes are known to affect CARs, it is necessary to control for them in a multivariate setting to check the robustness of the results from the univariate analysis. To this end, in this section I will run multivariate regressions with combined, acquirer and target CARs as dependent variables, respectively.

Table 4 presents the regressions explaining combined CARs over the period (-5, +5). The variables of interest are Any Tie, Close Tie and Distant Tie. Close Tie takes on a value of 1 when there is a close tie connecting the directors or top managers of the target and the acquirer, and zero otherwise. Distant Tie is equal to 1 if the social tie(s) connecting the two firms is distant and zero otherwise. Finally, Any Tie is set to 1 when either Close Tie or Distant Tie is equal to 1. In the first two columns, the only explanatory variables are the variables of interest. Then, I add control variables that have been shown to influence target or acquirer CARs by prior studies: acquirer size (Moeller, Schlingemann, and Stulz (2004)), acquisitions in which target and acquirer are in the same industry (Morck, Shleifer, and Vishny (1990)), form of acquisition (Jensen and Ruback (1983)), hostility (Schwert (2000)), competition (Bradley, Desai, and Kim (1988)), Boone and Mulherin (2007)), method of payment (Travlos (1987), Fuller, Netter, and Stegemoller (2002)), relative size (Asquith, Bruner, and Mullins (1983)), Tobin's q (Lang, Stulz, and Walkling (1989), Servaes (1991)), leverage (Maloney, McCormick, and Mitchell (1993)), initiation (Masulis and Simsir (2013)), toehold (Betton and Eckbo (2000)). I also control for year and industry effects by adding dummies for each of the 12 Fama French industries and for each announcement year. In the final two columns of Table 4, I add proxies for target and acquirer performance prior to deal announcement. I do not include these variables in the baseline model because they reduce the sample size due to a greater frequency of missing observations: As a proxy for prior performance, I use buy-and-hold abnormal return over the period (-316, -64) and I require that the firm has a complete return series over this period. As an extra robustness check, I also include a local deal dummy in these models. Uysal, Kedia, and Panchapagesan (2008) find that acquirer returns in local deals are more than twice that in non-local deals. Given that the existence of a tie may be correlated with the proximity of the two firms, the omission of a control for local deals may lead to inconsistent estimates.

The first two models in Table 4, which have no control variables, show that a social tie between the target and the acquirer is associated with lower combined CARs, and that this effect is driven by deals with distant ties. This observation continues to hold in the next 2 columns even after controlling for firm and deal characteristics: According to Model (3), a social tie between the firms decreases combined abnormal returns by 2.8 percentage points. In contrast to the mean combined CAR of 2.02% in non-connected deals, this reduction is economically large. Model (4) shows that the existence of a distant tie lowers combined returns by 4 percentage points and this coefficient is significant at the 1% level. On the other hand, the coefficient of Close Tie, although negative, is not significantly different from zero. These findings remain unchanged when I include additional control variables in models (5) and (6). Taken together, there is evidence of a negative impact of close and distant ties on combined abnormal returns, consistent with the familiarity bias hypothesis. This evidence does not rule out the possibility that a tie also improves information flow. However, the positive impact of better information flow clearly fails to offset the negative impact of familiarity bias, in the case of deals with distant ties. Interestingly, when the tie is close, its negative impact on combined returns decreases in magnitude and loses significance. Consistent with the experimental evidence of Jehn and Shah (1997), who find that friendship groups share more information than acquaintance groups, a close tie may improve information exchange more so than does a distant tie. In this case, the positive impact of information sharing would be greater in deals with close ties and the results suggest that this positive impact cancels out the negative effect of the familiarity bias.

Among the control variables in Table 4, hostility, stock payment, relative deal size, target prior performance, acquirer and target leverage have strong explanatory power for combined CARs in all models. The coefficients of these variables are consistent with earlier studies. In line with Schwert (2000) who finds a slightly positive effect of SDC-defined hostility on target premiums, I find a positive relation between hostility and combined CARs. Payment with acquirer stock turns out to reduce combined CARs, in accordance with Travlos (1987) and Fuller, Netter, and Stegemoller (2002) who report a negative impact of stock payment on acquirer CARs. Similar to Asquith, Bruner, and Mullins (1983) and Delong (2001), I find that a higher relative size improves combined returns. As in Maloney, McCormick, and Mitchell (1993) who find a positive relation between acquirer leverage and acquirer CARs, the coefficient of acquirer leverage is positive. This evidence supports the disciplinary effect of debt on managers (Jensen (1986)). Finally, similar to Delong (2001), I find that pre-merger

performance of targets have a negative impact on combined CARs. This result suggests that the investors expect the merger to improve the performance of poorly performing targets.

I examine acquirer CARs in Table 5. The explanatory variables used in the models are identical to those in Table 4. The first two models indicate that deals with ties have significantly lower acquirer abnormal returns, regardless of the type of the tie. When I add control variables in Model (3), the impact of Any Tie remains unaffected. When there is a tie between the merging parties, acquirer CARs are lower by 2.4 percentage points. In Model (4), with the addition of control variables, the coefficient of Close Tie loses its significance. Hence, keeping everything else constant, a close tie does not alter acquirer announcement returns. On the other hand, acquirers in deals with a distant tie experience abnormal returns that are 3.1 percentage points lower than non-connected deals. Compared to the mean acquirer CAR of -1.15% in non-connected deals, a reduction of 3.1 percentage points is of economic importance. The results are robust to the inclusion of prior performance and local deal variables. Overall, the impact of ties on acquirer CARs are broadly similar to their impact on combined CARs. Ishii and Xuan (2013) and Wu (2011) also find that the acquirers in connected deals experience lower abnormal returns.

Lower acquirer CARs in connected deals may possibly be due to higher premiums paid to target shareholders. In that case, ties would merely suggest a wealth transfer from acquirer shareholders to target shareholders. To investigate this possibility, I examine the target CARs and takeover premiums, in Tables 6 and 7, respectively. Although the first two columns of Table 6 indicate that target CARs are lower when there is a social tie between the two firms, this effect disappears when I control for firm and deal characteristics, in the subsequent columns. Neither deals with close ties nor those with distant ties are any different than non-connected deals in terms of target shareholder gains. It is possible that the effect of familiarity bias stays limited in this case due to the higher shareholder pressure on target managers and directors. Krishnan et al. (2012) reports that 10% of all M&A offers result in target shareholder class action lawsuits. The threat of a lawsuit may make the target management and target board more objective and careful in decision making. The finding that target-acquirer connections do not affect target CARs is consistent across all related studies (Ishii and Xuan (2013), Cai and Sevilir (2012), Wu (2011), Renneboog and Zhao (2013)), even though connection definitions differ considerably.

Table 7 presents the regression explaining premiums paid to targets. The dependent variable is defined as the offer price divided by price of target stock 64 trading days prior to deal announcement minus 1. Here, the existence of a tie does not influence premiums paid even in a univariate setting. This evidence is inconsistent with a potential agency costs hypothesis, whereby target managers would agree to lower premiums to favor their friends in the acquiring firm.

Taken together, the results in this section imply that when there is a distant tie between the two firms, the negative effect of familiarity bias on acquirer CARs appears to outbalance the positive effect of improved information exchange. On the other hand, when the tie is close, the information exchange improves further and its greater positive effect is able to offset the negative effect of familiarity. As a result, in terms of acquirer CARs there is no difference between deals with close ties and non-connected deals. I find similar results for combined CARs. However, a tie has no effect on target CARs, regardless of its degree. It is possible that the impact of familiarity bias on the target firm stays limited due to the litigation threat faced by target managers and directors.

5   Social Ties and the Private Takeover Process

As I discuss in Section 2.1, target – acquirer social ties may be expected to affect various other aspects of the private takeover process. Specifically, I predict that familiarity bias would reduce the likelihood of competition and that both familiarity bias and improved information sharing would shorten the length of the private takeover process and lower advisory costs. In this section, I explore whether these predictions hold.

5.1   Competition in the Private Takeover Process

If a firm has the option of merging with another firm with which it has a social tie, its directors and top managers may focus on worst-case or at least bad-case scenarios when evaluating alternative options involving unfamiliar firms. Due to this skeptical approach, target firm managers and directors may fail to consider other potential acquirers, leading to reduced competition. These predictions are drawn from the familiarity bias model of Cao et al. (2011) as discussed in Section 2.1.1.

Following Boone and Mulherin (2007), I extract competition data from SEC M&A filings by counting the number of bidders making a formal bid in the private takeover process. Table 8 presents the results of the logistic model predicting the likelihood of a competitive takeover

process. The dependent variable, Competition, is set equal to 1 when number of bidders making a formal bid in the private takeover process is greater than 1.[3] Control variables are taken directly from Boone and Mulherin (2007) model and are defined in Appendix B. The first model indicates that the existence of a social tie between the merging firms significantly decreases the likelihood of competing bids. Specifically, when there is a tie, the likelihood of competition decreases by around 14%, when the marginal effect is evaluated at the medians of the other explanatory variables. Furthermore, Model (2) reveals that this effect holds irrespective of the nature of the tie. The coefficients of Distant Tie and Close Tie are not significantly different from each other. Hence consistent with the familiarity hypothesis, the existence of a close or distant tie is associated with lower competition. Controlling for year and industry effects in models (3) and (4) does not change the results.

5.2 *Length of the Private Takeover Process*

Following Aktas et al. (2012), I define the length of the private takeover process as the number of days between the date on which the target and the acquirer first met for merger talks and the date the deal was announced. I hand-collect the beginning date of the merger talks from the SEC M&A filings. As discussed in Section 2.1, I expect familiarity bias to hasten the private takeover process since it causes parties to underemphasize due diligence and to spend less time on evaluating alternative merger partners. An improved information flow is also expected to shorten the process since it may allow the parties to reach an understanding of each other's intrinsic value at a shorter time. Moreover, close ties may be associated with an even shorter negotiation process as they are expected to further improve information sharing.

Table 9 presents the results of the regressions explaining the length of the private takeover process. In the first two columns, I use the control variables in Aktas et al. (2012) since it is the only study available that investigates the duration of the private takeover process. In the following two columns, I add several control variables from the prior studies which model the duration of the public takeover process, i.e. the time it takes to close the deal after the announcement date (Bao and Edmans (2009), Song, Wei and Zhou (2013), Walter, Yawson, and Yeung (2008)). The results indicate that the existence of a tie decreases the negotiation period by around 25 days. This result is consistent with Renneboog and Zhao (2013) who

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[3] The results are unchanged if I define Competition as equal to 1 if the number of parties contacted by the target firm is greater than 1 and 0 otherwise.

report a negative impact of a common director between the target and the acquirer on the length of the public takeover process. Furthermore, Model (2) and Model (4) reveal that the effect is mainly driven by deals with close ties. A close tie significantly shortens the private takeover process by 40 days. Given that it takes 150 days to complete a non-connected deal, a reduction of 40 days is economically meaningful. On the other hand, a distant tie has a negative but insignificant effect. Overall, the results are consistent with the prediction that the private takeover process should be shorter in connected deals and that this effect should be stronger in deals with close ties by virtue of a more open communication.

5.3 Fees Paid to Financial Advisors

In this section, I test how a social tie between the target and the acquirer affects financial advisory fees paid during the takeover process. I expect both familiarity bias and enhanced information exchange hypotheses to lower the reliance on financial advisors: On the one hand, when managers' actions are distorted by familiarity bias, they may view themselves as more informed and competent and hence may have a tendency to ignore professional advice from investment banks. On the other hand, a social tie between the two parties may facilitate information flow and may lower parties' need to refer to investment banks when seeking merger partner candidates or when evaluating potential synergy gains resulting from the merger (Cai and Sevilir (2012)). Again, the negative effect of ties on financial advisory fees is expected to be stronger in deals with close ties, which are expected to be associated with a further improvement in information flow.

Table 10 presents the results from the regression explaining the advisor fees paid by the target during the takeover process. I only investigate the fees paid by targets because the data for acquirers is available in SDC only for 91 deals and hence would not allow me to reliably distinguish the effects of connected deals over non-connected ones. The control variables are taken from Cai and Sevilir (2012). I also add a local deal dummy since a local deal is likely to both decrease advisor fees and to increase the probability of social ties. In the last two columns, I also add year and industry dummies. Holding all else equal, the existence of a tie significantly decreases the target's financial advisory fees by 26%. This result is consistent with that of Cai and Sevilir (2012) who find a significantly negative impact of board interlocks on financial advisory fees. Table 10 shows that both close and distant ties have a negative effect on advisory fees but only close ties' impact is significant. Hence the effect is

again driven by deals with close ties, lending support for the expectation that deals with close ties should be associated with an even lower need for financial advisors.

6   Further Analysis: Social Ties and Likelihood of Director Retention

Harford (2003) reports that directors of the target firm are rarely retained on the board of the combined company following a merger. Furthermore, once the director loses his or her board seat in the target, the lost directorship is difficult to be replaced with a board seat in another firm, even two years after the completion of the deal. Given this evidence, target directors may be tempted to use their social ties with the acquirer firm as a means to remain on the combined board. However, directors with close ties to the acquirer may be more likely to succeed in remaining on board since they have a more friendly relation with the counterparty compared to those with distant ties. To test these predictions, I examine in this section whether and how social ties between the merging parties affect the overall target board retention and individual target director retention, respectively.

Following Ishii and Xuan (2013), I obtain the last proxy statement filed by the target prior to the deal announcement and the first proxy statement filed by the combined firm after the completion of the deal. I determine whether each director who used to serve on the target board prior to the deal still served on the combined firm's board after the deal's completion. I construct two measures for target board retention: the number of target directors who remain on the board of the combined firm as a percentage of target board size and the same number as a percentage of the combined firm's board size.

The first two columns of Table 11 present results of the regression explaining the number of target directors retained as a percentage of pre-acquisition target board size. The control variables are created based on Ishii and Xuan (2013), Renneboog and Zhao (2013) and Harford (2003). I add a local deal dummy since a director may be more likely to be retained if s/he works in the neighborhood. I also add a dummy for transactions structured as a merger of equals, in which case the targets could ask for a higher board representation. The results indicate that the existence of a social tie between the merging parties significantly increases the percentage of directors retained by 4.4. This evidence is consistent with Ishii and Xuan (2013) and Renneboog and Zhao (2013), who also report a positive impact of interpersonal relations between the merging parties on target board retention. Distinguishing between close and distant ties in column (2) reveals that the effect is significant only for deals with close ties, which is consistent with my expectations. A close tie increases the percentage of target

directors retained by 10.8. Similar results hold when I define the dependent variable as a percentage of the combined board size in the last two columns.

Table 12 presents the results of a logistic regression explaining the likelihood of an individual target director being retained on the combined firm's board. Each observation is at the director level and hence there are 3,999 observations in this regression. In addition to the control variables used by Ishii and Xuan (2013) to explain individual director retention, I add director-level control variables which are used by Harford (2003). According to Model (1), a director's tie to the acquirer does not improve his chances of being retained. However, results from Model (2) reveal that a close tie with the acquirer significantly increases a director's likelihood of being retained. Having a distant tie, on the other hand, has no significant impact on retention likelihood. In the last column, I analyze whether and how a director's retention likelihood is affected when another person from his or her firm is connected to the acquirer. I add two dummies, Close (Distant) Tie due to Another Person, which is equal to 1 when the target has a close (distant) connection to the acquirer via an individual other than that director. It turns out that even if a director is not connected to the acquirer himself or herself, his/her likelihood of retention increases if another target director or manager is closely connected to the acquirer.

The director-level control variables in Table 12 indicate that a director is significantly more likely to be retained if s/he has been at the target board for a longer period of time or if s/he is also the CEO of the target and is less likely to be retained if s/he has passed the retirement age. Harford (2003) also reports a positive impact of the CEO title on the likelihood of being retained in the combined board.

The coefficients of deal and target-related control variables from Tables 11 and 12 also provide some interesting evidence. Results from both tables indicate that a higher relative deal size is associated with a higher likelihood of retention. Designing the deal as a merger of equals also positively affects retention. These effects are reasonable since a higher relative size and a merger of equals transaction increases target's influence on the combined firm. Possibly for the same reason, an all-stock deal is associated with a higher likelihood of target director retention. On the other hand, when the acquirer and target operate in different industries, the likelihood of target director retention is lower probably because target directors may be less valuable in a different industry. Consistent with my expectations, when

the headquarters of the target and acquirer are within 100 kilometers of each other, the likelihood of retention increases.

Overall, although a close tie does not affect merger outcomes for the target or acquirer shareholders, the results from Tables 11 and 12 suggest it does improve merger outcomes for target directors by increasing their retention probability. On the other hand, it appears that a distant tie is not close enough to generate private benefits for the person in the relationship or his/her colleagues.

7 Conclusion

This paper examines how a social tie connecting the two parties of an M&A deal affects merger outcomes. I identify the existence of social ties from merger-related SEC filings and news sources and I make a further distinction based on the degree of the social tie. My identification method frees the social tie definition from any particular route through which the tie could have been formed and ensures that the tie is still active during the making of the deal. Overall, my results suggest that social ties between executives or directors of target and acquirer firms lead to lower value creation for acquirer shareholders and the shareholders overall. A closer look reveals that deals with distant ties drive this adverse effect. In deals with distant ties, the effects of familiarity bias clearly dominate any positive information-based effect. The lower competition observed in these deals implies a failure to consider better alternatives outside the network and is a potential source for poorer outcomes. On the other hand, close ties do not significantly affect merger performance, implying that these ties further improve information exchange, enabling its positive effects to offset the negative effect of the familiarity bias. Interestingly, although close ties do not affect merger outcomes for the shareholders, such ties do improve merger outcomes for target directors by increasing their retention probability. I also document that connected deals are associated with lower financial advisory fees paid by the target and a shorter private takeover process, as compared to non-connected deals. However, these effects are stronger in deals with close ties, possibly due to a further improvement in information flow.

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9 Appendix

9.1 *Appendix A: List of Keywords*

I use the following list of keywords for identifying social ties from merger-related articles obtained from Dow Jones Factiva database.

friend, personal/personally, familiar, non-business, informal, professionally, acquainted, affiliation, social/socially, relationship, know/knew/known each other, well known to one another, know/knew/known one another, know/knew/known her, know/knew/known him, encountered, serve/served on, serve/served as, resign/resigned, resignation, recuse/recused, abstain/abstained, conflict of interest, from time to time, acquaintance, personally, I have known, I've known, she/he has known, lunch, breakfast, dinner, tie, work/working/worked with, work/working/worked together, casually, former employee, former employer, long standing

9.2   *Appendix B: Variable Definitions*

Table A1 Varible Definitions

Variables	Definitions	Data sources
	Panel A: Measures of merger performance	
CCAR(-5, +5)	Cumulative abnormal return for a value-weighted portfolio of the acquirer and the target over the period (-5, +5) relative to the deal announcement date, calculated based on the market model. The weights of the target and acquirer are calculated based on their market value of equity as of the 64th trading day before deal announcement. If the acquirer has a toehold in the target, target's weight is adjusted for this toehold. The market model is estimated over the period (-316, -64) with the CRSP value-weighted portfolio used as the market index.	CRSP
ACAR(-5, +5)	Cumulative abnormal return for the acquirer over the period (-5, +5) relative to the deal announcement date, calculated based on the market model. The market model is estimated over the period (-316, -64) with the CRSP value-weighted portfolio used as the market index.	CRSP
TCAR(-5, +5)	Cumulative abnormal return for the target over the period (-5, +5) relative to the deal announcement date, calculated based on the market model. The market model is estimated over the period (-316, -64) with the CRSP value-weighted portfolio used as the market index.	CRSP
Takeover premium	The offer price divided by the price of the target stock 64 trading days prior to deal announcement minus 1.	SDC/CRSP
	Panel B: Firm characteristics	
Firm size ($ mil)	Inflation adjusted market value of equity in millions as of the 64th trading day before deal announcement.	CRSP
Tobin's q	Market value of assets over book value of assets as of the fiscal year-end prior to the deal announcement.	Compustat
Leverage	Book value of debt over market value of total assets as of the fiscal year-end prior to the deal announcement.	Compustat
Adjusted return (-316, -64)	The buy-and-hold abnormal return over the period (-316, -64) for the firm, calculated as the difference between the buy-and-hold return for the firm minus the buy-and-hold return to the CRSP value-weighted index over the same period.	CRSP
Idiosycnratic volatility	The standard deviation of the residuals from the market model estimated over the period (-316, -64) relative to the deal announcement date.	CRSP
Firm in regulated industry	Dummy variable: 1 if the firm operates in a regulated (finance or utilities) industry, 0 otherwise.	Compustat
ln(# of target industries)	Natural logarithm of the total number of different 4-digit SIC codes the target operates in.	SDC
Pre-3 years no of deals	Total number of mergers or acquisitions of majority interest attempted or completed by the firm in the 3 years preceding the deal announcement.	SDC
Target board tenure	The average tenure of directors on the target board as of the proxy statement prior to deal announcement.	SEC DEF-14A filings
Target board outside director %	The percentage of outside (affiliated + independent) directors on the target board.	SEC DEF-14A filings
Target board other directorships	Average number of other directorships held by independent directors of the target.	SEC DEF-14A filings

Table A1 Varible Definitions (continued)

Variables	Definitions	Data sources
	Panel C: Deal characteristics	
Any tie	Dummy variable: 1 if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, 0 otherwise.	SEC M&A filings/Factiva
Close tie	Dummy variable: 1 the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target and that the connected individuals know each other very well or that they are friends or are very familiar with each other, 0 otherwise.	SEC M&A filings/Factiva
Distant tie	Dummy variable: 1 the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target but the tie is not close, 0 otherwise.	SEC M&A filings/Factiva
All stock payment	Dummy variable: 1 if deal is financed 100% with acquirer stock, 0 otherwise.	SDC
All cash payment	Dummy variable: 1 if deal is financed 100% with cash, 0 otherwise.	SDC
Any stock payment	Dummy variable: 1 for deals financed partially or fully with acquirer stock, 0 otherwise.	SDC
Percentage stock	Percentage of deal value financed with acquirer stock.	SDC
Deal value	Inflation adjusted deal value.	SDC
Relative size	Deal value divided by acquirer's market value of equity as of the 64th trading day before deal announcement.	SDC/CRSP
Tender offer	Dummy variable: 1 if the bid is recorded by SDC as a tender offer, 0 otherwise.	SDC
Hostile deal	Dummy variable: 1 if the bid is recorded by SDC as hostile or unsolicited, 0 otherwise.	SDC
Competition	Dummy variable: 1 if the number of parties that made a formal bid for the target in the private takeover process exceeds one, 0 otherwise.	SEC M&A filings
Diversifying deal	Dummy variable: 1 if bidder and target do not share the same Fama French - 48 industry, 0 otherwise .	Compustat
Toehold	Dummy variable: 1 if the acquirer owns a non-zero percentage of target's stock prior to deal announcement, 0 otherwise.	SDC
Merger of equals	Dummy variable: 1 if the deal is a merger of equals, 0 otherwise.	SDC
Buyer initiated	Dummy variable: 1 if the deal is buyer-initiated, 0 otherwise.	SEC M&A filings
Seller initiated	Dummy variable: 1 if the deal is seller-initiated, 0 otherwise.	SEC M&A filings
Local deal	Dummy variable: 1 if the headquarters of the merging firms are within 100 kilometers of each other, 0 otherwise.	SDC
Number of T&A advisors	Total number of target and acquirer financial advisors.	SDC
Length of private takeover process	The number of days between the date on which the target and the acquirer first met for merger talks and the date the deal was announced.	SEC M&A filings
ln(Target Financial Advisory Fees)	Natural logarithm of the inflation adjusted financial advisory fees paid by the target.	SDC
Target directors retained as a % of target board	The number of target directors who remain on the board of the combined firm as a percentage of pre-acquisition target board size.	SEC DEF-14A filings
Target directors retained as a % of combined firm board	The number of target directors who remain on the board of the combined firm as a percentage of the board size of the combined firm.	SEC DEF-14A filings

Table A1 Varible Definitions (continued)

Variables	Definitions	Data sources
	Panel D: Director characteristics	
Director tenure	The number of years the director has been on board as of the proxy statement prior to deal announcement.	SEC DEF-14A filings
Director passed retirement age	Dummy variable: 1 if the director is older than 65 years old as of the proxy statement prior to deal announcement, 0 otherwise.	SEC DEF-14A filings
Director is CEO	Dummy variable: 1 if the director is also the CEO, 0 otherwise.	SEC DEF-14A filings
Director with a tie	Dummy variable: 1 if the director is connected to a director or executive of the acquirer, 0 otherwise.	SEC M&A filings/Factiva
Director with a close tie	Dummy variable: 1 if the director has a close tie with a director or executive of the acquirer, 0 otherwise.	SEC M&A filings/Factiva
Director with a distant tie	Dummy variable: 1 if the director has a distant tie with a director or executive of the acquirer, 0 otherwise.	SEC M&A filings/Factiva
Close tie due to another person	Dummy variable: 1 if the target has a close tie to the acquirer via an individual other than the current director.	SEC M&A filings/Factiva
Distant tie due to another person	Dummy variable: 1 if the target has a distant tie to the acquirer via an individual other than the current director.	SEC M&A filings/Factiva
Director retained	Dummy variable: 1 if the target director is retained on the board of the combined firm, 0 otherwise.	SEC DEF-14A filings

Table 1 Sample Distribution

This table presents the frequency distribution of 522 M&A transactions between U.S. public firms announced in the period from 2004 to 2008. Each deal is completed and has a value of at least $5 million. The acquirer owns less than 50% of the target before the deal and owns 100% of it after the deal. Both the target and acquirer are covered by CRSP and Compustat. For each deal, there is a deal-related SEC filing available at EDGAR. Panel A and B provide the distribution of deals by acquirer industry and announcement year, respectively. The first column reports the numbers for the entire sample, followed by the four subsamples of non-connected deals, connected deals and deals with close and distant ties, respectively. A deal is classified as connected if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target. Each connected deal is further classified as a deal with a close or a distant tie based on the degree of the social tie connecting the two parties. The acquirer's industry is defined by the Fama-French 12-industry categories. All variables are defined in Appendix B.

Panel A: By acquirer industry

	Full sample		Non-connected deals		Connected deals		Close Tie		Distant Tie	
FF12 industry of the acquirer	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Consumer NonDurables	14	2.7%	13	2.9%	1	1.3%	1	2.7%	0	0.0%
Consumer Durables	2	0.4%	1	0.2%	1	1.3%	0	0.0%	1	2.4%
Manufacturing	27	5.2%	26	5.9%	1	1.3%	0	0.0%	1	2.4%
Energy	16	3.1%	12	2.7%	4	5.1%	3	8.1%	1	2.4%
Chemicals and Allied Products	10	1.9%	9	2.0%	1	1.3%	0	0.0%	1	2.4%
Business Equipment	129	24.7%	118	26.6%	11	13.9%	4	10.8%	7	16.7%
Telephone and Television Transmission	20	3.8%	14	3.2%	6	7.6%	2	5.4%	4	9.5%
Utilities	5	1.0%	4	0.9%	1	1.3%	1	2.7%	0	0.0%
Wholesale, Retail, and Some Services	26	5.0%	19	4.3%	7	8.9%	3	8.1%	4	9.5%
Healthcare, Medical Equipment, and Drug	61	11.7%	55	12.4%	6	7.6%	2	5.4%	4	9.5%
Finance	181	34.7%	145	32.7%	36	45.6%	18	48.6%	18	42.9%
Other	31	5.9%	27	6.1%	4	5.1%	3	8.1%	1	2.4%
Total	522	100.0%	443	100.0%	79	100.0%	37	100.0%	42	100.0%

Panel B: By announcement year

Deal announcement year	Full sample		Non-connected deals		Connected deals		Close tie		Distant tie	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2004	127	24.3%	104	23.5%	23	29.1%	13	35.1%	10	23.8%
2005	106	20.3%	92	20.8%	14	17.7%	5	13.5%	9	21.4%
2006	109	20.9%	90	20.3%	19	24.1%	13	35.1%	6	14.3%
2007	105	20.1%	92	20.8%	13	16.5%	2	5.4%	11	26.2%
2008	75	14.4%	65	14.7%	10	12.7%	4	10.8%	6	14.3%
Total	522	100.0%	443	100.0%	79	100.0%	37	100.0%	42	100.0%

Table 2 Summary Statistics

This table presents the summary statistics of 522 M&A transactions between U.S. public firms announced in the period from 2004 to 2008. Medians are provided for continuous variables and means for discrete variables. Each deal is completed and has a value of at least $5 million. The acquirer owns less than 50% of the target before the deal and owns 100% of it after the deal. Both the target and acquirer are covered by CRSP and Compustat. For each deal, there is a deal-related SEC filing available at EDGAR. The first column reports the numbers for the entire sample, followed by the four subsamples of non-connected deals, connected deals and deals with close and distant ties, respectively. The subsequent four columns report the difference between the statistics across the different subsamples. A deal is classified as connected if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target. Each connected deal is further classified as a deal with a close or a distant tie based on the degree of the social tie connecting the two parties. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. All variables are defined in Appendix B.

	(I) Full sample	(II) Non-connected deals	(III) Connected Deals	(IV) Close Ties	(V) Distant Ties	(III)-(II) Connected - Non-connected	(IV)-(II) Close Ties - Non-connected	(V)-(II) Distant Ties - Non-connected	(V)-(IV) Distant Ties - Close Ties	No of Observations
Target related										
Firm size ($ mil)	305.207	278.375	489.836	1,152.034	354.651	211.461 ***	873.659 ***	76.276	-797.383 **	522
Tobin's q	1.427	1.455	1.293	1.144	1.388	-0.161 *	-0.310 **	-0.067	0.243	520
Leverage	0.085	0.075	0.155	0.188	0.122	0.080 ***	0.113 ***	0.047	-0.066 ***	519
Adjusted return (-316, -64)	-0.077	-0.074	-0.089	-0.089	-0.089	-0.015	-0.015	-0.015	0.001	497
Acquirer related										
Firm size ($ mil)	3,156.506	3,192.092	2,863.130	2,653.192	3,888.645	-328.962	-538.900	696.553	1,235.453	522
Tobin's q	1.477	1.537	1.247	1.234	1.252	-0.290 ***	-0.303 ***	-0.285 *	0.018	521
Leverage	0.113	0.107	0.174	0.184	0.155	0.066 ***	0.077 ***	0.048	-0.029	516
Adjusted return (-316, -64)	-0.004	-0.001	-0.020	0.011	-0.049	-0.019	0.011	-0.048 **	-0.060 **	507
Deal characteristics										
All stock	0.220	0.185	0.418	0.324	0.500	0.233 ***	0.139 **	0.315 ***	0.176	522
Relative size	0.175	0.152	0.380	0.688	0.199	0.228 ***	0.536 ***	0.048	-0.489 ***	522
Tender offer	0.102	0.113	0.038	0.027	0.048	-0.075 **	-0.086	-0.065	0.021	522
Hostile	0.031	0.032	0.025	0.054	0.000	-0.006	0.022	-0.032	-0.054	522
Competition	0.420	0.451	0.241	0.243	0.238	-0.211 ***	-0.208 **	-0.213 ***	-0.005	522
Diversifying	0.238	0.246	0.190	0.135	0.238	-0.056	-0.111	-0.008	0.103	522
Buyer initiated	0.531	0.544	0.456	0.432	0.476	-0.088	-0.112	-0.068	0.044	522
Local	0.243	0.224	0.346	0.444	0.262	0.122 **	0.220 ***	0.037	-0.183 *	519

Table 3 Univariate CAR Analysis

This table presents the mean and median cumulative abnormal returns for a combined portfolio of the target and acquirer (CCAR), for the acquirer (ACAR), and for the target (TCAR) over the period (-5, +5) relative to deal announcement date for the sample of 522 completed M&A transactions. Each deal is announced in the period from 2004 to 2008 and has a value of at least $5 million. The acquirer owns less than 50% of the target before the deal and owns 100% of it after the deal. Both the target and acquirer are U.S. public firms covered by CRSP and Compustat. For each deal, there is a deal-related SEC filing available at EDGAR. The first row reports the statistics for the full sample, followed by those for non-connected deals, connected deals, and deals with close and distant ties, respectively. The four bottom rows report the difference between the statistics across the different subsamples. A deal is classified as connected if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target. Each connected deal is further classified as a deal with a close or a distant tie based on the degree of the social tie connecting the two parties. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. All variables are defined in Appendix B.

	n	Means			Medians		
		CCAR	ACAR	TCAR	CCAR	ACAR	TCAR
(I) Full Sample	522	1.69 ***	-1.58 ***	24.72 ***	0.94 ***	-1.09 ***	19.92 ***
(II) Non-Connected Deals	443	2.02 ***	-1.15 ***	25.92 ***	1.11 ***	-0.77 ***	20.26 ***
(III) Connected Deals	79	-0.18	-3.98 ***	17.97 ***	-0.31	-3.91 ***	16.32 ***
(IV) Close Ties	37	1.42	-3.55 ***	16.19 ***	0.09	-4.24 ***	16.32 ***
(V) Distant Ties	42	-1.60	-4.35 ***	19.53 ***	-1.23	-2.52 ***	16.26 ***
Connected - Non-Connected		-2.21 **	-2.82 ***	-7.96 **	-1.43 **	-3.14 ***	-3.94 **
Close Ties - Non-Connected		-0.60	-2.39 *	-9.73 *	-1.02	-3.47 ***	-3.94 **
Distant Ties - Non-Connected		-3.62 ***	-3.20 **	-6.39	-2.35 ***	-1.75 **	-4.00
Distant Ties - Close Ties		-3.02 *	-0.80	3.34	-1.33	1.72	-0.06

Table 4 Multivariate Analysis of Combined Cumulative Abnormal Returns

This table reports the results of OLS regressions for cumulative abnormal returns accruing to the combined entity (CCAR): the dependent variable is calculated as the abnormal returns accruing to a value-weighted portfolio of the target and the acquirer over the event window (-5, +5), with portfolio weights based on each firm's market value of equity as of the 64th trading day before the deal announcement. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: CCAR(-5,+5)	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Any tie	-0.022**		-0.028***		-0.026**	
	(-2.386)		(-2.932)		(-2.497)	
Close tie		-0.006		-0.014		-0.010
		(-0.535)		(-1.235)		(-0.886)
Distant tie		-0.036***		-0.040***		-0.039***
		(-2.799)		(-3.070)		(-2.734)
ln(Acquirer size)			-0.002	-0.003	-0.003	-0.004
			(-0.795)	(-0.893)	(-0.950)	(-1.019)
Diversifying deal			-0.007	-0.007	-0.008	-0.008
			(-0.691)	(-0.680)	(-0.828)	(-0.841)
Tender offer			0.002	0.001	0.004	0.003
			(0.121)	(0.078)	(0.290)	(0.225)
Hostile deal			0.064**	0.063**	0.064**	0.062**
			(2.526)	(2.474)	(2.277)	(2.218)
Competition			-0.009	-0.009	-0.010	-0.010
			(-1.287)	(-1.306)	(-1.399)	(-1.398)
Any stock payment			-0.037***	-0.038***	-0.039***	-0.039***
			(-4.388)	(-4.440)	(-4.370)	(-4.403)
ln(Relative size)			0.010***	0.010***	0.010***	0.010***
			(3.174)	(3.030)	(2.726)	(2.635)
Acquirer Tobin's Q			0.002	0.002	0.002	0.002
			(0.513)	(0.556)	(0.415)	(0.481)
Acquirer leverage			0.087***	0.088***	0.102***	0.102***
			(2.662)	(2.680)	(2.975)	(2.951)
Target Tobin's Q			-0.001	-0.001	0.001	0.001
			(-0.416)	(-0.383)	(0.284)	(0.306)
Target leverage			-0.047*	-0.050*	-0.047*	-0.049*
			(-1.829)	(-1.939)	(-1.737)	(-1.829)
Toehold			0.007	0.008	0.013	0.015
			(0.108)	(0.137)	(0.182)	(0.212)
Buyer initiated			0.003	0.004	-0.000	-0.000
			(0.480)	(0.509)	(-0.055)	(-0.020)
Acquirer adjusted return (-316, -64)					0.005	0.004
					(0.353)	(0.284)
Target adjusted return (-316, -64)					-0.027***	-0.027***
					(-2.893)	(-2.854)
Local deal					-0.001	-0.002
					(-0.155)	(-0.238)
Constant	0.020***	0.020***	0.077***	0.078***	0.088***	0.088***
	(5.133)	(5.128)	(2.620)	(2.680)	(2.923)	(2.970)
Industry dummies	No	No	Yes	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	Yes	Yes
Adjusted R^2	0.00741	0.0106	0.137	0.139	0.145	0.148
Sample size	522	522	513	513	474	474

Table 5 Multivariate Analysis of Acquirer Cumulative Abnormal Returns

This table reports the results of OLS regressions for acquirer cumulative abnormal returns: the dependent variable is the cumulative abnormal returns accruing to the acquirer over the event window (-5, +5). Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: ACAR(-5,+5)	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Any tie	-0.028***		-0.024**		-0.025**	
	(-3.211)		(-2.569)		(-2.389)	
Close tie		-0.024**		-0.016		-0.016
		(-2.275)		(-1.368)		(-1.287)
Distant tie		-0.032**		-0.031**		-0.032**
		(-2.536)		(-2.481)		(-2.303)
ln(Acquirer size)			-0.002	-0.002	-0.002	-0.002
			(-0.609)	(-0.670)	(-0.641)	(-0.685)
Diversifying deal			0.001	0.002	-0.001	-0.001
			(0.145)	(0.151)	(-0.094)	(-0.102)
Tender offer			-0.010	-0.010	-0.009	-0.009
			(-0.799)	(-0.821)	(-0.699)	(-0.736)
Hostile deal			0.024	0.023	0.020	0.019
			(1.496)	(1.461)	(1.225)	(1.185)
Competition			-0.008	-0.008	-0.008	-0.008
			(-1.106)	(-1.119)	(-0.921)	(-0.923)
Any stock payment			-0.040***	-0.041***	-0.041***	-0.041***
			(-4.199)	(-4.233)	(-4.030)	(-4.049)
ln(Relative size)			-0.004	-0.004	-0.005	-0.005
			(-1.332)	(-1.391)	(-1.315)	(-1.356)
Acquirer Tobin's Q			0.002	0.002	0.004	0.004
			(0.472)	(0.495)	(0.785)	(0.819)
Acquirer leverage			0.090**	0.091**	0.104**	0.103**
			(2.267)	(2.281)	(2.428)	(2.416)
Target Tobin's Q			0.000	0.001	-0.000	-0.000
			(0.162)	(0.191)	(-0.067)	(-0.055)
Target leverage			-0.033	-0.035	-0.038	-0.039
			(-1.215)	(-1.279)	(-1.299)	(-1.355)
Toehold			-0.030	-0.029	-0.034	-0.033
			(-1.371)	(-1.311)	(-1.595)	(-1.522)
Buyer initiated			0.002	0.002	0.002	0.002
			(0.310)	(0.324)	(0.267)	(0.286)
Acquirer adjusted return (-316, -64)					-0.001	-0.001
					(-0.061)	(-0.101)
Target adjusted return (-316, -64)					-0.013	-0.013
					(-1.392)	(-1.367)
Local deal					0.002	0.002
					(0.233)	(0.194)
Constant	-0.012***	-0.012***	0.043	0.044	0.047	0.048
	(-2.896)	(-2.894)	(1.170)	(1.187)	(1.258)	(1.267)
Industry dummies	No	No	Yes	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	Yes	Yes
Adjusted R^2	0.0132	0.0116	0.0957	0.0951	0.0901	0.0894
Sample size	522	522	513	513	474	474

Table 6 Multivariate Analysis of Target Cumulative Abnormal Returns

This table reports the results of OLS regressions for target cumulative abnormal returns: the dependent variable is the cumulative abnormal returns accruing to the target over the event window (-5, +5). Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: TCAR(-5,+5)	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Any tie	-0.080***		-0.005		-0.013	
	(-3.177)		(-0.216)		(-0.493)	
Close tie		-0.097***		0.024		0.023
		(-3.350)		(0.917)		(0.887)
Distant tie		-0.064*		-0.028		-0.040
		(-1.844)		(-0.790)		(-1.081)
ln(Target size)			-0.022***	-0.023***	-0.022**	-0.022**
			(-2.587)	(-2.622)	(-2.325)	(-2.355)
Diversifying deal			-0.041	-0.041	-0.049*	-0.049*
			(-1.551)	(-1.542)	(-1.814)	(-1.815)
Tender offer			0.039	0.039	0.041	0.039
			(0.685)	(0.675)	(0.692)	(0.668)
Hostile deal			-0.032	-0.035	-0.013	-0.017
			(-0.588)	(-0.651)	(-0.230)	(-0.306)
Competition			-0.047*	-0.048*	-0.054*	-0.054*
			(-1.763)	(-1.777)	(-1.924)	(-1.934)
Any stock payment			-0.057*	-0.058*	-0.053*	-0.054*
			(-1.914)	(-1.949)	(-1.715)	(-1.738)
ln(Relative size)			-0.042***	-0.042***	-0.045***	-0.045***
			(-4.088)	(-4.110)	(-4.199)	(-4.229)
Target Tobin's Q			-0.025*	-0.024*	-0.023	-0.022
			(-1.749)	(-1.732)	(-1.285)	(-1.273)
Target leverage			0.062	0.055	0.067	0.060
			(0.553)	(0.490)	(0.594)	(0.529)
Acquirer Tobin's Q			0.023*	0.024*	0.017	0.017
			(1.715)	(1.739)	(1.144)	(1.182)
Acquirer leverage			-0.048	-0.046	-0.013	-0.014
			(-0.574)	(-0.548)	(-0.148)	(-0.160)
Toehold			-0.091	-0.087	-0.028	-0.023
			(-1.039)	(-0.985)	(-0.392)	(-0.318)
Buyer initiated			0.003	0.003	-0.013	-0.012
			(0.110)	(0.122)	(-0.492)	(-0.474)
Acquirer adjusted return (-316, -64)					0.005	0.003
					(0.177)	(0.097)
Target adjusted return (-316, -64)					-0.097***	-0.096***
					(-3.328)	(-3.298)
Local deal					0.010	0.009
					(0.365)	(0.316)
Constant	0.259***	0.259***	0.357***	0.359***	0.385***	0.386***
	(18.317)	(18.299)	(4.404)	(4.421)	(4.544)	(4.549)
Industry dummies	No	No	Yes	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	Yes	Yes
Adjusted R^2	0.00814	0.00675	0.227	0.227	0.266	0.266
Sample size	522	522	513	513	474	474

Table 7 Multivariate Analysis of Takeover Premiums

This table reports the results of OLS regressions for takeover premiums: the dependent variable is the offer price divided by the price of the target stock 64 trading days prior to deal announcement minus 1. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: Takeover Premium	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Any tie	-0.040		0.034		0.037	
	(-0.915)		(0.834)		(0.875)	
Close tie		-0.059		0.040		0.030
		(-1.296)		(0.857)		(0.677)
Distant tie		-0.023		0.030		0.042
		(-0.340)		(0.500)		(0.686)
ln(Target size)			-0.037***	-0.037***	-0.037***	-0.037***
			(-3.568)	(-3.561)	(-3.287)	(-3.257)
Diversifying deal			-0.043	-0.043	-0.046	-0.046
			(-1.211)	(-1.208)	(-1.266)	(-1.265)
Tender offer			0.091	0.091	0.095	0.095
			(1.265)	(1.263)	(1.315)	(1.318)
Hostile deal			-0.012	-0.013	-0.004	-0.003
			(-0.189)	(-0.199)	(-0.062)	(-0.049)
Competition			0.001	0.001	0.000	0.000
			(0.035)	(0.031)	(0.011)	(0.014)
Any stock payment			-0.032	-0.032	-0.038	-0.038
			(-0.869)	(-0.868)	(-0.968)	(-0.959)
ln(Relative size)			-0.013	-0.013	-0.014	-0.014
			(-1.047)	(-1.054)	(-1.127)	(-1.123)
Target Tobin's Q			-0.011	-0.011	-0.003	-0.003
			(-0.558)	(-0.552)	(-0.144)	(-0.146)
Target leverage			0.204	0.202	0.215	0.216
			(0.937)	(0.926)	(0.960)	(0.962)
Acquirer Tobin's Q			-0.009	-0.009	-0.023	-0.023
			(-0.456)	(-0.451)	(-0.976)	(-0.984)
Acquirer leverage			-0.313**	-0.312**	-0.269*	-0.269*
			(-2.118)	(-2.106)	(-1.713)	(-1.714)
Toehold			-0.093	-0.093	-0.044	-0.045
			(-0.893)	(-0.882)	(-0.422)	(-0.429)
Buyer initiated			0.075**	0.075**	0.057*	0.057*
			(2.312)	(2.312)	(1.667)	(1.665)
Acquirer adjusted return (-316, -64)					0.034	0.035
					(0.688)	(0.695)
Target adjusted return (-316, -64)					-0.064	-0.064
					(-1.571)	(-1.570)
Local deal					0.007	0.007
					(0.204)	(0.213)
Constant	0.341***	0.341***	0.700***	0.701***	0.727***	0.727***
	(21.146)	(21.125)	(6.643)	(6.633)	(6.579)	(6.569)
Industry dummies	No	No	Yes	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes	Yes	Yes
Adjusted R^2	-0.000153	-0.00170	0.147	0.145	0.151	0.149
Sample size	508	508	499	499	460	460

Table 8 Determinants of Competition in the Private Takeover Process

This table reports the results of logistic models designed to estimate the probability of a competitive private takeover process: the dependent variable is equal to 1 if the number of parties that made a formal bid for the target in the private takeover process exceeds one, and zero otherwise. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Competition	Model (1)	Model (2)	Model (3)	Model (4)
Any tie	-0.919***		-1.029***	
	(-3.091)		(-3.411)	
Close tie		-0.826**		-0.902**
		(-2.024)		(-2.043)
Distant tie		-0.992**		-1.126***
		(-2.499)		(-2.930)
ln(Relative size)	-0.028	-0.030	-0.028	-0.030
	(-0.451)	(-0.469)	(-0.415)	(-0.439)
Target size	-0.000	-0.000	-0.000	-0.000
	(-1.524)	(-1.524)	(-1.610)	(-1.612)
All cash payment	0.770***	0.773***	0.759***	0.762***
	(3.334)	(3.341)	(3.156)	(3.169)
Tender offer	0.361	0.360	-0.039	-0.043
	(1.120)	(1.114)	(-0.111)	(-0.122)
Buyer initiated	-0.754***	-0.753***	-0.797***	-0.795***
	(-3.924)	(-3.922)	(-3.949)	(-3.936)
Target in regulated ind.	0.648**	0.648**	1.034	1.034
	(2.574)	(2.573)	(1.570)	(1.568)
Toehold	-0.291	-0.289	-0.396	-0.392
	(-0.435)	(-0.432)	(-0.603)	(-0.596)
Target idiosyncratic vol.	-14.325	-14.227	-19.066*	-18.900*
	(-1.604)	(-1.588)	(-1.897)	(-1.875)
Constant	0.002	-0.004	-0.589	-0.599
	(0.006)	(-0.012)	(-0.821)	(-0.835)
Industry dummies	No	No	Yes	Yes
Year dummies	No	No	Yes	Yes
Pseudo R^2	0.0858	0.0859	0.114	0.114
Sample size	522	522	522	522

Table 9 Determinants of the Length of the Private Takeover Process

This table reports the results of OLS regressions for the length of the private takeover process: the dependent variable is defined as the number of days between the date on which the target and the acquirer first met for merger talks and the date the deal was announced. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Length of the private takeover process	Model (1)	Model (2)	Model (3)	Model (4)
Any tie	-25.479*		-22.791*	
	(-1.959)		(-1.669)	
Close tie		-41.697**		-38.373**
		(-2.305)		(-2.189)
Distant tie		-11.947		-9.890
		(-0.705)		(-0.540)
ln(# of target industries)	5.207	5.751	8.198	8.753
	(0.617)	(0.676)	(0.934)	(0.985)
Seller initiated	-27.219**	-27.482**	-32.140***	-32.325***
	(-2.459)	(-2.488)	(-2.594)	(-2.612)
Acquirer in regulated ind.	4.304	5.774	13.745	15.386
	(0.167)	(0.223)	(0.498)	(0.553)
Acquirer pre-3years no of deals	-2.739	-2.803	-1.029	-1.142
	(-0.971)	(-0.994)	(-0.360)	(-0.400)
Acquirer leverage	-48.452	-46.879	-32.215	-30.877
	(-1.087)	(-1.040)	(-0.705)	(-0.670)
Relative size	21.710***	21.825***	18.083**	17.617**
	(2.928)	(3.043)	(2.293)	(2.263)
ln(Deal value)			-13.096***	-12.941***
			(-3.188)	(-3.143)
Percentage stock			0.153	0.154
			(0.896)	(0.904)
Tender offer			3.110	3.182
			(0.152)	(0.156)
Hostile deal			-74.996***	-73.778***
			(-2.818)	(-2.776)
Number of T&A advisors			14.110**	14.784**
			(1.991)	(2.103)
Diversifying deal			-17.878	-18.501
			(-1.240)	(-1.276)
Competition			-0.909	-0.686
			(-0.074)	(-0.056)
Constant	139.625***	138.218***	160.190***	156.534***
	(5.034)	(4.951)	(4.586)	(4.451)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Adjusted R^2	0.0235	0.0239	0.0501	0.0502
Sample size	514	514	507	507

Table 10 Determinants of Advisory Fees Paid by Targets

This table reports the results of OLS regressions for the financial advisory fees paid by the target: the dependent variable is the natural logarithm of the inflation adjusted financial advisory fees paid by the target. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: ln(Target Financial Advisory Fees Amount)	Model (1)	Model (2)	Model (3)	Model (4)
Any tie	-0.308**		-0.259*	
	(-2.167)		(-1.864)	
Close tie		-0.453*		-0.455*
		(-1.682)		(-1.684)
Distant tie		-0.205		-0.120
		(-1.456)		(-0.917)
ln(Deal value)	0.703***	0.707***	0.700***	0.705***
	(23.967)	(24.156)	(21.662)	(22.000)
ln(Acquirer size)	0.038	0.038	0.031	0.031
	(1.308)	(1.291)	(1.077)	(1.062)
Any stock payment	-0.213**	-0.206**	-0.165	-0.151
	(-2.365)	(-2.328)	(-1.592)	(-1.501)
Diversifying deal	0.093	0.089	0.096	0.089
	(1.036)	(0.994)	(0.928)	(0.878)
Tender offer	0.178*	0.179*	-0.039	-0.033
	(1.721)	(1.739)	(-0.343)	(-0.292)
Hostile deal	0.377**	0.413**	0.325**	0.372*
	(2.315)	(2.324)	(1.981)	(1.957)
Target pre-3years no of deals	-0.055	-0.054	-0.041	-0.041
	(-1.193)	(-1.135)	(-0.885)	(-0.827)
Local deal	-0.045	-0.037	-0.057	-0.046
	(-0.422)	(-0.369)	(-0.502)	(-0.433)
Constant	-3.247***	-3.272***	-3.355***	-3.392***
	(-12.073)	(-12.988)	(-10.399)	(-11.367)
Industry dummies	No	No	Yes	Yes
Year dummies	No	No	Yes	Yes
Adjusted R^2	0.703	0.703	0.718	0.719
Sample size	387	387	387	387

Table 11 Determinants of Target Board Retention
This table reports the results of OLS regressions for the percentage of target directors retained. In the first two columns, the dependent variable is the number of target directors who remain on the board of the combined firm as a percentage of pre-acquisition target board size. In the subsequent columns, the dependent variable is the same number as a percentage of combined firm board size. Any Tie is a dummy variable which is equal to one if the merger-related M&A filings or news articles report the existence of a cross-firm social tie between the directors or top executives of the acquirer and the target, and zero otherwise. Close Tie takes on the value of one if it is stated that the connected individuals know each other very well or that they are friends or are very familiar with each other, and zero otherwise. Distant Tie takes on the value of one if there is a social tie between the two parties but the tie is not close, and zero otherwise. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var:	Target directors retained (% of target board)	Target directors retained (% of target board)	Target directors retained (% combined bod)	Target directors retained (% combined bod)
Any tie	0.044**		0.026*	
	(2.018)		(1.733)	
Close tie		0.108***		0.071***
		(2.987)		(2.904)
Distant tie		-0.010		-0.012
		(-0.410)		(-0.691)
ln(Target size)	-0.002	-0.002	-0.001	-0.001
	(-0.488)	(-0.475)	(-0.221)	(-0.201)
Target Tobin's Q	0.008**	0.009**	0.007**	0.008**
	(1.968)	(2.153)	(2.249)	(2.475)
Target leverage	0.020	0.005	0.030	0.020
	(0.539)	(0.145)	(1.061)	(0.741)
Target adjusted return (-316, -64)	-0.003	-0.003	-0.007	-0.006
	(-0.359)	(-0.305)	(-0.985)	(-0.949)
Relative size	0.057**	0.058**	0.045**	0.045***
	(2.225)	(2.422)	(2.469)	(2.678)
All stock payment	0.054***	0.060***	0.044***	0.048***
	(3.072)	(3.392)	(3.447)	(3.773)
Diversifying deal	-0.026***	-0.025***	-0.019**	-0.019**
	(-2.637)	(-2.642)	(-2.513)	(-2.520)
Tender offer	-0.030***	-0.031***	-0.028***	-0.029***
	(-2.602)	(-2.618)	(-3.261)	(-3.247)
Hostile deal	0.004	-0.002	-0.002	-0.007
	(0.157)	(-0.066)	(-0.143)	(-0.406)
Competition	-0.017	-0.017	-0.012	-0.012
	(-1.420)	(-1.451)	(-1.427)	(-1.453)
Local deal	0.041**	0.036**	0.033***	0.029**
	(2.577)	(2.330)	(2.837)	(2.567)
Target board tenure	0.001	0.001	0.000	0.000
	(0.740)	(0.687)	(0.375)	(0.307)
Target board outside director %	0.178***	0.181***	0.196***	0.198***
	(3.273)	(3.414)	(4.839)	(4.928)
Target board other directorships	0.014	0.009	0.006	0.002
	(1.202)	(0.759)	(0.652)	(0.187)
Merger of equals	0.572***	0.562***	0.382***	0.375***
	(12.228)	(11.746)	(19.345)	(18.524)
Constant	-0.177***	-0.178***	-0.182***	-0.182***
	(-2.985)	(-3.061)	(-3.914)	(-3.957)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Adjusted R^2	0.496	0.512	0.488	0.503
Sample size	479	479	479	479

Table 12 Determinants of Individual Target Director Retention

This table reports the results of logistic models designed to estimate the likelihood of individual target director retention: the dependent variable is equal to 1 if the target director remains on the board of the combined firm, and zero otherwise. Director With A Tie takes on the value of one if the director is connected to a director or executive of the acquirer, and zero otherwise. Director With A Close (Distant) Tie takes on the value of one if the director has a close (distant) tie with a director or executive of the acquirer, and zero otherwise. Close (Distant) Tie Due to Another Person takes on the value of one if the target has a close (distant) tie to the acquirer via an individual other than the current director. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent var: Director retained	Model (1)	Model (2)	Model (3)
Director with a tie	0.530		
	(1.448)		
Director with a close tie		0.874*	1.053**
		(1.960)	(2.389)
Close tie due to another person			0.862***
			(4.532)
Director with a distant tie		0.060	0.107
		(0.100)	(0.176)
Distant tie due to another person			-0.166
			(-0.677)
Director tenure	0.018*	0.018*	0.018*
	(1.778)	(1.762)	(1.747)
Director passed retirement age	-0.733***	-0.737***	-0.786***
	(-3.925)	(-3.944)	(-4.188)
Director is CEO	0.751***	0.751***	0.798***
	(4.292)	(4.285)	(4.512)
ln(Target size)	0.097**	0.096**	0.068*
	(2.407)	(2.386)	(1.685)
Target Tobin's Q	0.042	0.043	0.067
	(0.672)	(0.697)	(1.144)
Target leverage	0.322	0.306	0.255
	(0.670)	(0.637)	(0.537)
Target adjusted return (-316, -64)	-0.279	-0.280	-0.249
	(-1.563)	(-1.563)	(-1.402)
Relative size	0.506***	0.513***	0.535***
	(5.731)	(5.845)	(6.056)
All stock payment	0.651***	0.660***	0.690***
	(4.578)	(4.646)	(4.654)
Diversifying deal	-0.714***	-0.711***	-0.745***
	(-2.922)	(-2.904)	(-3.034)
Tender offer	-2.571**	-2.568**	-2.563**
	(-2.495)	(-2.492)	(-2.486)
Hostile deal	-0.026	-0.047	-0.214
	(-0.055)	(-0.101)	(-0.449)
Competition	-0.395***	-0.391**	-0.305**
	(-2.585)	(-2.564)	(-1.987)
Local deal	0.668***	0.663***	0.571***
	(4.924)	(4.886)	(4.096)
Merger of equals	3.255***	3.243***	3.185***
	(9.338)	(9.318)	(9.275)
Constant	-4.934***	-4.948***	-4.889***
	(-7.117)	(-7.129)	(-7.163)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Pseudo R^2	0.227	0.228	0.236
Sample size	3,999	3,999	3,999