ESSAYS IN EMPIRICAL CORPORATE FINANCE

by
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ESSAYS IN EMPIRICAL CORPORATE FINANCE

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This dissertation contains two articles, each of which investigates whether the attitude and behavior of directors and executives during the merger negotiation process affect merger outcomes. Both articles rely on a unique and extensive dataset, manually extracted from SEC filings. In the first article, using this dataset and merger-related news articles, I detect if a social tie between directors or executives of merging firms is effective during the making of the deal. The results show that the existence of a social tie significantly reduces abnormal announcement returns accruing to the combined entity and to the acquirer firm. This adverse effect is driven by deals in which the tie is distant. Social ties also significantly decrease the likelihood of receiving competing bids. Moreover, connected deals, particularly those involving close ties, are associated with lower financial advisory fees, a shorter negotiation period and a higher likelihood of target director retention. The second article focuses on the target board's meeting activity from the date of the first contact with the acquirer to the announcement date. Rapid involvement of the target board in merger talks increases target shareholder returns and premiums, especially when shareholders have weak control over their firms and are more in need of board protection. In contrast, the number of target board meetings does not appear to affect shareholder wealth. Both early board involvement and a high board meeting count reduce the likelihood of an excessive target termination fee. Furthermore, early board involvement hurts target CEOs by decreasing their retention likelihood.

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Bu tez, yönetim kurulu üyeleri ve üst düzey yöneticilerin şirket birleşmesi görüşmeleri sırasındaki tutum ve davranışlarının birleşme sonuçlarına etkisini inceleyen iki makaleden oluşmaktadır. İki makalede de SEC izahnamelerinden manuel olarak toplanmış kapsamlı ve özgün bir veri seti kullanılmıştır. İlk makalede, söz konusu veri setine ve basında yer alan haberlere dayanılarak, birleşen şirketlerin yöneticileri veya yönetim kurulu üyeleri arasında birleşme sürecinde etkili olan bir tanışıklığın bulunup bulunmadığı saptanmıştır. Şirketler arasında böyle bir sosyal bağ bulunduğunda, birleşmiş şirketin ve alıcı şirketin duyuru tarihi çevresindeki anormal hisse senedi getirileri azalmaktadır. Bu olumsuz etki, bağın zayıf olduğu durumlardan kaynaklanmaktadır. Sosyal bağlar, başka alıcılardan teklif alma olasılığını da azaltmaktadır. Ayrıca, yöneticiler arasında sosyal bir bağ olduğunda, özellikle bu bağ güçlüyse, finansal danışmanlara ödenen ücretler azalmakta, pazarlık süresi kısalmakta ve hedef firma yönetim kurulu üyelerinin alıcı şirkette görevlerini sürdürme olasılığı artmaktadır. Tezin ikinci makalesinde ise, hedef şirketin alıcı şirketle ilk görüşmesinden işlemin duyurulmasına kadar geçen sürede hedef şirket yönetim kurulunun düzenlediği toplantıların zamanlamasına ve sayısına odaklanılmıştır. Yapılan analizler, hedef şirket yönetim kurulunun görüşmelere erken dahil olmasının şirketin hissedarlarının getirilerine ve birleşme primlerine pozitif etkisi olduğunu göstermektedir. Bu ilişki, özellikle hissedarların şirket üzerindeki kontrollerinin zayıf olduğu, dolayısıyla yönetim kurulu tarafından korunmaya daha çok ihtiyaç duydukları durumlarda geçerlidir. Öte yandan, hedef şirket yönetim kurulunun süreç boyunca düzenlediği toplantıların sayısının hissedarların getirilerine bir etkisi bulunmamıştır. Ayrıca, yönetim kurulunun sürece erken katılması ve çok toplantı yapması yüksek bir fesih tazminatının onaylanması olasılığını azaltmaktadır. Son olarak, yönetim kurulunun görüşmelere erken dahil olması, hedef şirketin genel müdürünün alıcı şirkette görevlendirilme olasılığını azaltmaktadır.

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CAR	Cumulative abnormal returns
CEO	Chief executive officer
CRSP	Center for Research in Security Prices
EDGAR	Electronic Data Gathering, Analysis, and Retrieval System
IPO	Initial public offering
M&A	Mergers and acquisitions
MOE	Merger of equals
SDC	Securities Data Company
SEC	US Securities and Exchange Commission
UK	United Kingdom
US	United States

CHAPTER 1

INTRODUCTION

Merger and acquisition (M&A) activity facilitates the allocation of corporate assets to their best possible use. Given their critical role for the reallocation of assets among firms and the huge global M&A volume amounting to an annual average of USD 2.6 trillion since 2006[1], it is crucial to understand how M&A markets work and how the incentives of the key players shape the dynamics of these markets. To this end, the M&A literature has long been investigating whether and how behavioral biases, agency conflicts and information asymmetries between players affect merger outcomes. The two articles in this dissertation aim to shed further light on this area, by studying two different aspects of the deal-making process.

The first article, entitled "Social Ties in the Making of an M&A Deal" investigates whether social ties between targets and acquirers affect merger outcomes. I detect the existence of a social tie between directors or executives of merging firms, by manually collecting data from merger-related SEC filings and news articles. My identification method ensures that the tie is still active during the making of the deal and does not impose any particular channel (e.g. past professional or educational affiliation) through which the social tie could have been formed. I hypothesize that while the existence of a tie may improve merger results by enhancing information sharing between the two firms, it may also harm merger performance due to the familiarity bias that it creates. The net effect depends on the relative magnitudes of these two forces. The results indicate that the existence of a tie is associated with significantly lower announcement period cumulative abnormal returns accruing to the combined entity and to the acquirer firm. This adverse effect is mainly driven by deals in which the social tie

[1] This figure is based on Mergers & Acquisition Review reports published by Thomson Reuters.

is distant. Irrespective of the degree 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 target shareholders, such ties help target directors negotiate for positions in the merged firm.

In the second article, entitled "Board Involvement in the M&A Negotiation Process", I examine whether the strong engagement of target firm directors in the sale process affects merger outcomes for target shareholders. I expect that a target board actively involved in the sale process will be more informed about the process and this information advantage will allow it to perform its monitoring function more effectively and to provide higher quality advice. These services, in return, should improve merger outcomes for target shareholders. To test the validity of this conjecture, I first turn to merger-related SEC filings to extract the dates of target board meetings where the directors discuss the current state of the merger negotiations. Using this data, I then create two measures of target board involvement in the negotiation process: the number of days for the target board to meet after the start of the sale process and the number of meetings held by the board over the entire process. I find that target board's early involvement in merger negotiations is associated with significantly higher target cumulative abnormal returns. This effect is driven by the cases in which target shareholders have weak control over the firm and hence are more in need of board protection. This finding also holds when takeover premiums are used to measure the wealth effects of mergers for target shareholders. Furthermore, while I find no effect of the two measures of target board activity on the likelihood of a competitive negotiation process, I find that these measures, both separately and jointly, have a negative relation with the probability of accepting an unreasonably high target termination fee. I also report that the target board's early involvement is associated with a lower probability of target CEO retention, consistent with the argument that close board monitoring makes it harder for the CEOs to discuss their post-takeover career plans with the acquirers and possibly to make concessions to the detriment of their shareholders.

The findings from both studies are instrumental when evaluating whether the executives and directors of merging firms have taken due care and acted in the best interests of their shareholders in structuring the deal. While the deals with close ties usually attract the attention of the shareholders, regulators and the media, the first article

shows that the deals with distant ties should also be approached with caution as they have adverse implications for the acquirer shareholders. Similarly, of the two attributes of target board activity cited in shareholder lawsuits, early board involvement in negotiations turns out to be a critical factor for target shareholder value creation. In contrast, the other attribute, the number of board meetings held, does not seem to affect target shareholder returns. These results may be particularly useful for courts when assessing the adequacy of the merger negotiation process. The findings of this dissertation also provide potentially useful guidance for executives and directors. Acquirer executives and directors should be wary of the potential adverse effects of familiarity bias when they are negotiating with an acquaintance. On the other hand, it is important for target directors to get involved in merger talks early in the process and take the necessary measures to control potential conflicts of interests between the CEOs and the shareholders.

CHAPTER 2

SOCIAL TIES IN THE MAKING OF AN M&A DEAL

2.1 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…*[2]

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

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

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?

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 (2014) 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 (2014) 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 (2014) 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 2.2, I first construct the counteracting hypotheses about the effects of social ties on merger outcomes and review the related literature. In Section 2.3, I introduce my sample and the method I use to identify social ties. In Section 2.4, I analyze the impact of social ties on announcement returns. Section 2.5 and 2.6 present how social ties affect the private takeover process and target board retention, respectively. Section 2.7 concludes the paper.

2.2 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.

2.2.1 Potential Effects of Social Ties on Merger Outcomes

2.2.1.1 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.*
>
> - quoted from Engen (2006)

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.

2.2.1.2 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.

2.2.2 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 (Singh and Schonlau, 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., 2014; and 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, 2012a; 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 (2014) 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 (2014) 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.

2.3 Sample Formation and Data Collection

2.3.1 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 2.3.2.

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.*[3]

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 to 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.*[4]

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) call such ties as second degree connections. The difference, here, is

[3] See the S-4 form filed with the SEC by Webster Financial Corporation, on June 27, 2006.

[4] National Penn Bancshares and KNBT Bancorp Agree to Merge – Final (2007, September 7) Voxant Fair Disclosure Wire.

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).

2.3.3 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 2.1 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 2.1 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 2.2 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.[5] 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.

2.4 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 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

[5] 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.

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.

2.4.1 Univariate Analysis

Table 2.3 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%) are 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 (2014). 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 (2014) 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.

2.4.2 Multivariate Analysis

As reported in Table 2.2 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 2.4 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 2.4, 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 2.4, 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 2.4, 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 2.5. The explanatory variables used in the models are identical to those in Table 2.4. 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 (2014) 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 2.6 and 2.7, respectively. Although the first two columns of Table 2.6 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, 2014; Cai and Sevilir, 2012; Wu, 2011; and Renneboog and Zhao, 2013), even though connection definitions differ considerably.

Table 2.7 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.

2.5 Social Ties and the Private Takeover Process

As I discuss in Section 2.2.1, 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.

2.5.1 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 2.2.1.1.

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 2.8 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.[6] Control variables are taken directly from Boone and Mulherin

[6] 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.

(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.

2.5.2 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 2.2.1.1, 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 2.9 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; and 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 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.

2.5.3 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 2.10 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 2.10 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.

2.6 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 (2014), 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 2.11 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 (2014), 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 (2014) 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 2.12 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 (2014) 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 2.12 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 2.11 and 2.12 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 2.11 and 2.12 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.

2.7 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.

2.8 Tables

Table 2.1 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.

Table 2.1 (Continued)

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%

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Table 2.1 (Continued)

Panel B: By announcement year

	Full sample		Non-connected deals		Connected deals		Close tie		Distant tie	
Deal announcement year	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 2.2 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 Obs.
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

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Table 2.2 (Continued)

	(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 Obs.
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 2.3 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.

		Means			Medians		
	n	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 2.4 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.

	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)

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Table 2.4 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
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 2.5 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.

	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)

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Table 2.5 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
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 2.6 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.

	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)

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Table 2.6 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
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 2.7 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.

	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)

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Table 2.7 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
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 2.8 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.

	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 2.9 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.

	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)

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Table 2.9 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)
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 2.10 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.

	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 2.11 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 variable:	Target directors retained (% of target board)	Target directors retained (% of target board)	Target directors retained (% combined board)	Target directors retained (% combined board)
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)

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Table 2.11 (Continued)

Dependent variable:	Target directors retained (% of target board)	Target directors retained (% of target board)	Target directors retained (% combined board)	Target directors retained (% combined board)
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 2.12 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.

	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)

(Continued on next page)

Table 2.12 (Continued)

	Model (1)	Model (2)	Model (3)
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

CHAPTER 3

BOARD INVOLVEMENT IN THE M&A NEGOTIATION PROCESS

3.1 Introduction

> *"If a company is running along smoothly, then it's advice and counsel that directors are called upon to give, but if there is some sort of crisis, then a director will have to devote far more time to study all of the ramifications of the issue in order to be able to make the right decision. In the case of a takeover, you have to meet constantly in order to fulfill your fiduciary responsibilities, or else you may be liable at some future date."*
>
> Comment by a board director
> - quoted from Lorsch and MacIver (1989)

The potential takeover of a company has always been one of the most controversial corporate events since it leads to a sharp divergence between shareholder and management interests. While the shareholders' main concern during the sale of their company is the offer price, the energies of the CEOs are also directed to plan their careers for the post-takeover period. This conflict of interest sets the basis for CEOs trading off their own benefits with those of shareholders when negotiating the sale of the company (Wulf, 2004; Hartzell, Ofek and Yermack, 2004; Brewer, Jackson and Wall, 2006; Fich, Cai and Tran, 2011; and Qui, Trapkov and Yakoub, 2014). In this setting of heightened agency conflicts, it falls on the target board to protect shareholder interests by closely monitoring the sale process, which is typically led by the CEO. Besides this demanding monitoring role, the board is also expected to serve as an advisor and guide the management through the complex sale process. The above quotation, made by a board member interviewed by Lorsch and MacIver (1989), clearly illustrates how strongly the directors feel the pressure of these heightened expectations, which, if not fulfilled, may lead to shareholder lawsuits.

Krishnan et al. (2012) report that approximately 10% of all M&A offers are followed by shareholder litigations against target firm executives and directors. Under the business judgment rule, the U.S. courts evaluate the adequacy of the board's decision-making process rather than the final outcome of the deal. Hence they refrain from imposing a single blueprint of the steps to be followed by the target board so as to comply with its fiduciary duties. Nevertheless, an analysis of litigation materials reveals that there is a set of red flags that are raised while investigating whether the target board has breached its duties during the takeover process. These red flags include: (i) not conducting an adequate auction process and/or limiting the firm's ability to receive future bids, (ii) not obtaining a fairness opinion, (iii) holding only a few board meetings before approving the sale or (iv) failing to get involved early in the sale process. While the first point has been studied by Boone and Mulherin (2007), Officer (2003) and Bates and Lemmon (2003) and the second by Kisgen, Qian and Song (2009); the last two points, which are both associated with the board's involvement in merger negotiations, have not been studied before. In this study, I attempt to fill this gap by manually collecting data on the target board meetings held throughout the negotiation process and by analyzing the effect of board meeting count and board response time on merger outcomes.

For a sample of 513 M&A transactions announced between 2004 and 2008, I locate the filing(s) made with the SEC in relation to each deal. From these filings, I first extract the date on which the target and the acquirer make the first tangible contact to start the takeover process. Starting from the date of the first contact up to the date of announcement, I record the date of each target board meeting, where the directors discuss the current state of merger negotiations.

Based on the evidence from lawsuits filed by shareholders who complain about the ineffectiveness of their boards during the sale of the company, I define two binary variables to measure target board involvement in the negotiation process. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the sample median value of 5. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The one-month cut-off point also corresponds to the median number of days it takes for the target board to meet after the start of merger talks.

The arguments in shareholder litigation cases suggest skepticism toward target boards that are late in involvement in the sale process and toward those boards that commit very little time before approving the sale of the company. Hence, shareholders and courts appear to accept a view that the target board's active involvement in negotiation process will improve merger results for target shareholders. Specifically, a target board actively involved in the sale process may be expected to be more informed about strategic alternatives before the firm, the intrinsic value of their firm and that of bidders, the details of each bidder's proposal and about how potential conflicts of interest may affect deal outcomes. This information advantage may allow the board to perform its monitoring role more effectively and to provide higher quality advice, both of which may be expected to lead to better outcomes for target shareholders. Consistent with these expectations, the univariate analyses show that when the target board is late in involvement in negotiations, the median announcement period target cumulative abnormal return (CAR) is 17.4%, whereas it is 22.0% in cases where the target board quickly steps in. In contrast, the high and low board meeting count subsamples are similar to each other in terms of shareholder wealth gains.

Multivariate regression results indicate that early involvement of the target board in the sales process is associated with an increase of 5.7 percentage points in target CARs. With respect to the median target CAR of 19.9% in the entire sample, this is an economically significant improvement. In contrast, the number of meetings held by the board during the merger negotiation phase does not appear to affect target shareholder wealth.

Further analysis reveals that the positive effect of early board involvement on target CARs is confined to the cases where the target shareholders have low control over their firms. This observation also holds when takeover premiums are considered. Specifically, when target shareholder control is low, the early involvement of the board in the sale process increases target CARs and takeover premiums by 7.4 and 5.7 percentage points, respectively. However, these effects disappear when the target shareholder control in the firm is high. I argue that when there is low shareholder control, the target CEOs have a more dominant and powerful position in the firm; this dominance enables them to trade takeover premiums with more lucrative personal benefits (Moeller, 2005). In this context, my findings suggest that close monitoring by the target board serves to protect shareholder interests when shareholders cannot adequately protect their own interests.

I also investigate whether the higher target CARs associated with early involvement of the target board to the negotiation process arise from a wealth transfer from acquirers to target shareholders. Multivariate regression results indicate that neither early board involvement in the sale process nor a high number of target board meetings has a significant impact on acquirer CARs. Similar results are obtained when the CARs for the combined firm (i.e. a value-weighted portfolio for the target and the acquirer firms) are analyzed with respect to the target board's activity during negotiations. So, prompt involvement of target board in the sale process appears to make target shareholders better off while not making acquirer shareholders worse off.

In further analysis, I investigate the potential channels through which target directors may create value for their shareholders. Firstly, I examine the competitiveness of the private negotiation process, since creating a competitive bidding environment may be one method by which active target boards achieve higher bids. Contrary to this expectation, neither of the two measures of target board activity seems to increase the likelihood of competition. Secondly, I examine whether active target boards reduce the likelihood of accepting unreasonably high termination fees, which are frequently cited in shareholder lawsuits as a major deterrent to receiving topping bids after the announcement of the deal. The results indicate that if the target board meets within one month of the start of negotiations or if it meets more than 5 times during the entire negotiation process, the likelihood of an unreasonably high termination fee decreases by 9 percentage points.

To conclude my analysis, I test whether early involvement of the target board in the sale process decreases the likelihood of the target CEO's retention on the acquirer board. Such a negative relation may exist if close monitoring by the target board makes it more difficult for the CEO to discuss the details of his/her own subsequent career with the acquirer and possibly to make concessions to the detriment of the shareholders. Consistent with this argument, I find that target board's prompt involvement in merger talks decreases the likelihood of CEO retention by 8 percentage points. Hence, it pays for the target CEO to keep the board out of the merger talks for an extended period of time.

An alternative explanation for the positive relation between early board involvement and target CARs may be that receiving an attractive bid at the beginning of the process may cause the target managers to take action by immediately calling a board meeting. This attractive initial bid is likely to lead to an attractive final bid. In such a

setting, the relation between early board involvement and target CARs may be spurious. In an effort to evaluate the relevance of this alternative explanation, I show that the positive relation between early board involvement and target CARs continues to hold even in the cases where the target has not received a formal bid before the date of the first board meeting.

This study builds on and contributes to two strands of literature. First, the work relates to the literature that investigates the effect of board's activity on firm performance in normal times. In his seminal work on the subject, Vafeas (1999) finds a negative relation between the annual number of board meetings and firm value, as measured by Tobin's Q. Vafeas (1999) shows that this counter-intuitive finding is due to stock price declines being followed by more frequent board meetings. Other studies have followed Vafeas (1999) in examining the link between annual board meeting frequency and financial outcomes. Some of these studies find that an increased frequency of annual board meetings is associated with a favorable outcome for shareholders, implying a proactive role for boards (Carcello et al., 2002; Xie, Davidson and DaDalt, 2003; Laksmana, 2008; and Bowen, Rajgopal and Venkatachalam, 2008), while others report it as associated with a poorer outcome for shareholders, implying a reactive role for boards (Zhang, Zhou and Zhou, 2007; Ebrahim, 2007; Johnson, Ryan and Tian, 2009; and Chen et al., 2006). My study extends this research in two directions by first focusing on crisis situations rather than on times of normalcy; and, secondly, on investigating whether the exact number of board meetings targeted to resolve an extraordinary event improves the outcome of that event for shareholders.

The other closely related literature examines the link between the level of board monitoring exerted by the target board and target shareholder returns around merger announcement. These studies assume that certain board characteristics such as independence, lead to better board monitoring. Lee et al. (1992), Cotter, Shivdasani and Zenner (1997) and Moeller (2005) show that an independent target board is associated with significantly higher target shareholder gains while Bange and Mazzeo (2004) find no significant relation between the two. Furthermore, Bange and Mazzeo (2004) find that target shareholder gains are higher when target CEO is also the chairman of the board, a setting which would in fact be expected to lead to poor board monitoring. My paper contributes to this literature by using a more direct measure of board diligence during the negotiation process, without having to assume that certain board features lead to higher board diligence.

The remainder of the paper is organized as follows. In Section 3.2, I first provide empirical background on the roles of the target board in an M&A context. I also present a review of the related literature. In Section 3.3, I introduce my sample and my methodology for gathering data and for constructing the board activity measures and other corporate governance variables. In Section 3.4, I analyze the effect of increased target board activity on announcement returns. In sections 3.5 and 3.6, I present how active involvement of the target board affects the private takeover process and target CEO retention, respectively. Section 3.7 provides a robustness check and Section 3.8 concludes the paper.

3.2 Empirical Background and Hypotheses

The board of directors performs two key functions in the governance of a corporation: monitoring and advising top management. In a firm with dispersed ownership, no shareholder has sufficient incentive to adequately monitor management actions in order to ensure that their investment in the firm is put to their best possible use. The monitoring function of the board serves to overcome this collective action problem and also to protect minority shareholders from being hurt by controlling shareholders. On the other hand, with regard to its advisory function, the board is expected to review and guide corporate strategy and budget, to set performance objectives, to select executives and carry out succession planning and, to align executive compensation with long term corporate interests. In this section, I first emphasize on the need for effective board monitoring when a sale of a company is being considered. Next, I briefly discuss the relative importance of the advisory role of a target board with respect to its monitoring role. Then, I provide evidence on what is expected from the target board during the sale process based on a review of shareholder litigations and associated court rulings. Finally, I form my expectations about the relation of board activity with merger outcomes and present a survey of the related literature.

3.2.1 The Role for Board Monitoring

The managers of a firm do not often own all or even a substantial amount of the firm's equity, yet they hold the decision-making power in their hands. This separation of ownership and control in the modern corporation has long been argued to be a source of agency conflicts (Berle and Means, 1932). In this setting, management's utility function is no longer fully aligned with that of the shareholders; hence, managerial decisions do not necessarily maximize shareholder value (Jensen and Meckling, 1976). The sale process of a firm is a time when conflicts of interests between managers and shareholders are particularly exacerbated.

When a sale of a firm is considered, the only concern shareholders have is to receive the highest price available for their shares. However, the CEO of the firm has much more to worry about. Hartzell, Ofek and Yermack (2004) find that only about 50% of target CEOs are retained as an officer at the combined firm. Even if they are retained, their turnover rates are extremely high compared to the normal turnover rate observed in the literature (Hartzell, Ofek and Yermack, 2004; Hadlock, Houston and Ryngaert, 1999). Furthermore, once they lose their jobs, they have a hard time finding another executive post (Agrawal and Walkling, 1994; Hartzell, Ofek and Yermack, 2004). Faced with the risk of losing their future salaries, their bonuses, their ability to extract personal benefits from the firm as well as their power and prestige, CEOs have many more items on their agenda besides the offer price to be paid by the acquirer. They may negotiate over whether they will be retained in the combined firm, the level of compensation in case of retention or whether they will receive a one-time payment for negotiating the deal. An interesting agency problem is whether CEOs will use their privileged position in merger negotiations to agree on a lower offer price in exchange for higher personal benefits.

Plenty of evidence in the literature suggests that the CEOs actually trade off the interests of shareholders for their own interests when a sale of the company is being considered. Brewer, Jackson and Wall (2006) find a negative relation between the post-merger position of the CEO in the merged firm and target shareholders' returns, for a sample of 162 bank mergers between 1990 and 2004. Similarly, based on a comprehensive sample of 2,198 completed deals announced between 1994 and 2010, Qui, Trapkov and Yakoub (2014) find that the retention of target CEO is associated with a 6 percentage point reduction in the takeover premium paid to shareholders.

Wulf (2004), on the other hand, investigates whether target CEOs trade-off their power in the post-merger firm with takeover premiums. Based on a sample of 40 merger-of-equals (MOE) deals and a matched sample of 40 non-MOE mergers over the period from 1991 to 1999, Wulf (2004) shows that deals in which the target CEO obtains higher post-merger control rights (i.e. the target board has an equal or greater share on the combined firm's board) are associated with target CARs which are 9% lower on average.

Studies examining whether target CEOs agree on receiving lower premiums in exchange for increased pecuniary benefits produce results that are consistent with those obtained from the studies cited above. Fich, Cai and Tran (2011) study the effects of granting target CEOs unscheduled options during the confidential negotiation process, which are used to compensate managers for the benefits they give up. Based on a sample of 920 acquisition bids from 1999 to 2007, they estimate that for every dollar target CEOs receive from these options, the deal value drops by \$62 on average[7]. Likewise, for the deals in which the target CEO is not retained, Qui, Trapkov and Yakoub (2014) document a negative relation between the relative importance of the severance pay received by the CEO and the premiums paid to shareholders. Finally, by aggregating 7 dummy variables each of which indicates a certain personal benefit accruing to the CEO, Hartzell, Ofek and Yermack (2004) find that in deals involving extraordinary personal treatment of the CEO, target shareholders receive lower premiums.

In this setting of heightened agency conflicts, the monitoring role of target boards assumes critical importance. By closely monitoring the CEO and the negotiations with bidders, the target board can protect shareholders' interests against potential self-serving behavior of the CEO.

[7] In a related study, Heitzman (2011) investigates the determinants and effects of granting equity to the target CEO during merger negotiations, based on a sample of 471 acquisitions of public U.S. firms announced between 1996 and 2006. The author reports that 33% of target CEOs receive a negotiation grant but finds no adverse effect of these grants on shareholder wealth.

3.2.2 The Role for Board Advice

Since in practice, overseeing the management has always been viewed as the primary responsibility of the board, prior literature has mainly focused on the monitoring function of the board while the advisory role of the board has attracted little attention[8]. Among the recent studies that investigate boards' advisory role, Faleye, Hoitash and Hoitash (2013) and Schmidt (2014) focus on the advisory role of the board in the context of acquisitions. Schmidt (2014) finds that social ties between the CEO and directors are associated with higher acquirer announcement returns when advisory needs are high and with lower returns when monitoring needs are high. He attributes this finding to the willingness of the CEO to share information with friendly directors, which allows the board to give better advice. However, friendly board members cannot effectively monitor the CEO. Similarly, Faleye, Hoitash and Hoitash (2013) find that acquirer cumulative abnormal returns are higher by 80 basis points at firms with advisory directors while the time it takes for deal completion decreases by 17.1%.

In the case of target firms, the incremental value of board's advice may remain limited in comparison to the case of acquirer firms. First of all, it is almost a standard practice for target firms to retain a financial advisor during the sale process whereas acquirer firms are less likely to get financial advice. Likewise, target firms request a fairness opinion more often than do acquirer firms[9]. This difference may partly be due to the higher litigation threat faced by target executives and directors. Investment banks have an edge in providing advice due to their superior experience in structuring deals, so for target firms the marginal value of board advice may be negligible. Consistent with this expectation, Jack Byrne who was a director of Martin Marietta Corporation when the firm was raided by Bendix Corporation in 1982, depicts their excessive reliance on outside experts during this crisis situation as follows:

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[8] See Adams and Ferreira (2007) for a theoretical model on the relation between the level of board independence and the CEO's willingness to share information with the board and the resulting ability of the board to perform its monitoring and advising roles. The authors show that a management-friendly board may turn out to be optimal in some firms and that policies requiring increased board independence may be detrimental for the shareholders of these firms.

[9] In my sample of 513 deals, 506 targets have retained financial advisors and 466 have obtained a fairness opinion. In contrast, 401 acquirers have a financial advisor and only 166 have asked for a fairness opinion.

"Despite good, solid conversations, the way I remember it is that by the time we would get around to voting, the technocrats would have constrained the options so much that you were almost always faced with a single alternative and I don't think I can remember a vote that wasn't unanimous. The technocrats just took 98% of the ball game right out of our hands."

Jack Byrne, Martin Marietta Corporation director
- quoted from Lorsch and MacIver (1989)

Moreover, given the increased conflict of interests between the target management and shareholders discussed in Section 3.2.1, the target board may be inclined to devote much of its time to monitoring.

3.2.3 Legal Background on the Expectations from the Target Board

Following the announcement of an M&A transaction, executives and directors of a target firm may be faced with shareholder class action lawsuits. Krishnan et al. (2012) report that between 1999 and 2000, about 10% of all M&A offers led to litigations by target shareholders. In these litigations, shareholders generally claim that directors of target firm breached their duties of loyalty and care or their Revlon duties by failing to maximize shareholder value in the deal. Duty of loyalty requires that directors act in the shareholders' interests and not in their own interests when making a corporate decision. In order not to breach this duty, directors often excuse themselves of board meetings when there is an agenda item that involves a conflict of interests. Duty of care, on the other hand, requires directors to act in the same way as a prudent man in their position would act. To fulfill their duty of care in the making of an M&A deal, target directors have to gather all necessary information that would allow them to reach a well-founded decision and to take sufficient time to critically review that information.

In addition to the duties of loyalty and care which the board owes to the shareholders at all times, when a sale of the company is considered, target boards of Delaware-incorporated firms should also comply with the so-called Revlon duties. When there is a sale of control or where the break-up of the company is inevitable, "the directors' role change[s] from defenders of the corporate bastion to auctioneers charged with getting the best price for the stockholders at a sale of the company."[10] Put simply,

[10] *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173, 182 (Del. 1986).

once a company is "in play", the directors' fiduciary duties narrow to meeting only one specific goal: maximizing shareholder value by securing the highest price available.

When deciding whether target directors should be held liable in a takeover event, the judge will be evaluating the case after the fact. It is possible that, after the fact, the final decision taken by the board turns out to be suboptimal or even completely false. However, even if this is the case, according to the business judgment rule, decision of the board will not be second-guessed by a court if the plaintiff cannot present a colorable issue that board members breached their duties when making that decision. So the key point is that it is the adequacy of the decision making process and not the final outcome of the deal that the judge evaluates. "So long as the court determines that the process employed was either rational or employed in a good faith effort to advance corporate interests"[11] and the decision-making process is informed by all material information reasonably available, the directors cannot be held liable for their decisions.

Having adopted this process-oriented perspective, U.S. courts do not impose or recommend a single blueprint of the steps a target board should take in order not to breach its fiduciary duties in a takeover event. Nevertheless, a review of litigation material reveals that there is a set of indicators that are referred to when claiming (or defending against) a breach of the duty of care or the duty of 'extra' care under Revlon. In this regard, target boards are mainly sued on the basis of a combination of the following factors: (i) not conducting an adequate auction process and/or limiting the firm's ability to receive future bids[12], (ii) not obtaining a fairness opinion[13], (iii) holding only a few board meetings before approving the sale or (iv) failing to get involved early in the sale process.

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[11] *In re Caremark Int'l Inc. Derivative Litigation*, 698 A.2d 959, 1996 (Del. Ch. 1996)

[12] See, among others, the plaintiffs' complaints in the following cases: *In re Openlane, Inc. Shareholders Litigation, In re Bioclinica, Inc. Shareholder Litigation, Omnicare, Inc. v. NCS Healthcare, Inc., In Re BJ's Wholesale Club, Inc. Shareholders Litigation, In re Dollar Thrifty Shareholder Litigation*.

[13] In the 1985 case of *Smith v. Van Gorkom*, the court held the target directors liable for breaching their duty of care by not sufficiently informing themselves about the adequacy of the offer price. Not obtaining a fairness opinion was one of the factors leading to this ruling. After this decision and subsequent cases, use of a fairness opinion became like a standard to protect managers and directors from subsequent shareholder litigation.

The first two points on this list have been studied in the prior literature with regard to their impact on merger outcomes. Boone and Mulherin (2007) find that wealth effects for target shareholders do not significantly differ in auctions and negotiations. Officer (2003) investigates whether the use of target termination fees actually harms target shareholders by deterring competing bids. Although he finds weak support for lower level of competition in the existence of termination fees, he finds evidence to suggest that such fees are associated with higher premiums and ultimately do not harm target shareholders. Similarly, Bates and Lemmon (2003) demonstrate that target termination fees are associated with higher takeover premiums and an increased probability of deal completion. On the other hand, Kisgen, Qian and Song (2009) show that when the target board obtains a fairness opinion the deal outcomes are not affected. Hence, neither of these two bases for plaintiff complaints appear to harm target shareholders when considered in isolation.

The remaining two points on the list, which are both associated with the level of board's involvement in merger negotiations, have not been studied previously, presumably due to the lack of relevant information in readily available databases. However, these items have been referred to in plaintiffs' complaints, or board rulings of numerous significant lawsuits.[14]

An example of shareholders' frustration when their board remains inactive during merger negotiations is the shareholder class action against Lyondell Chemical Company directors. In the spring of 2007, Lyondell Chemical was the third-largest independent, publicly traded chemical company in the U.S., which was financially strong and was not prepared or looking to sell itself. In early June, Lyondell CEO met with his counterpart at Basell NV to negotiate over a potential acquisition. The board was aware of Basell's potential interest in Lyondell, because on May 11, 2007 a Basell affiliate had disclosed in a 13D filing their intent to possibly engage in discussions with Lyondell regarding various transactions. On July 9, 2007, Lyondell CEO received an offer from Basell that represented a 45% premium, subject to the condition that Lyondell board signs a merger agreement within a week. The board became involved in negotiations only during this

[14] See, among others, the following cases: *In Re BJ's Wholesale Club, Inc. Shareholders Litigation*, *In re Openlane, Inc. Shareholders Litigation*, *In re Plains Exploration & Production Company Stockholder Litigation*, *Smith v. Van Gorkom*, *In re Toys "R" Us, Inc. Shareholder Litigation*, *In re McAfee, Inc. Shareholder Litigation*, *Lyondell Chemical v. Ryan*.

last week and signed the merger documents after considering the issue for a meager sum of 7 hours, spread over 4 board meetings. The plaintiffs claimed that Lyondell board breached its duty of care by not making an effort to get an understanding of the true value of the company or to explore strategic alternatives to maximize shareholder value, over the period from May to July. The trial court depicted this period as follows:

> *"[T]he opinion clearly questions whether the Defendants "engaged" in the sale process... This is where the 13D filing in May 2007 and the subsequent two months of (apparent) Board inactivity became critical... [T]he directors made no apparent effort to arm themselves with specific knowledge about the present value of the Company in the May through July 2007 time period despite admittedly knowing that the 13D filing . . . effectively put the company "in play"...[15]"*

The plaintiffs argued that the board could not have adequately informed itself about the value of the firm over a 7-day period and after deliberating the matter for merely 7 hours over 4 meetings. The court opined in favor of the plaintiffs and found the process chosen by Lyondell directors "troubling" under Revlon[16].

In the Lyondell Chemical Company case, the board was accused both for failing to get involved in negotiations promptly and also for committing too little a time to consider the Basell offer. In some other cases, the board is accused by plaintiffs for only one of these items. For instance, in a litigation by shareholders against the officers and directors of McAfee, Inc., plaintiffs put forth that the McAfee CEO did not inform the board about the discussions he held with Intel between March and May of 2010 regarding the business opportunities the companies could exploit together. They argued that the McAfee board only got involved in the process when it received a bid in June of 2010, which left McAfee at a strategic disadvantage in assessing the Intel offer. On the other hand, in the famous *Smith v. Van Gorkom* case, the court held the target directors liable for breaching their duty of care by failing to adequately evaluate the fairness of the price offered. The target directors approved the merger agreement at the end of a 2-hour meeting based only on a presentation made by the CEO, who was highly likely to

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[15] *Ryan v. Lyondell Chemical Co.*, 2008 WL 4174038 (Del. Ch. 2008)

[16] Although the Delaware Court of Chancery denied defendants' motion for summary judgment with respect to the plaintiffs' Revlon claims, this ruling was later reversed by the Supreme Court of Delaware on the basis of a technical interpretation of when the Revlon duties start to apply.

put his own interests before those of the shareholders. In *In re Toys "R" Us, Inc. Shareholder Litigation* and *In re Openlane, Inc. Shareholders Litigation*, where the shareholders claimed that their board failed to undertake an adequate process to sell the company, the court ruled in favor of the respective boards by highlighting, among other factors, that the boards regularly monitored the process and controlled managerial conflicts by holding 14 and 9 board meetings, respectively.

3.2.4 Hypotheses and Related Literature

In all the shareholder litigations discussed in the previous section, there seems to be skepticism towards boards that do not get involved in merger discussions early in the process and towards those boards that commit very little time to process the deal proposal. In contrast, boards that closely monitor the negotiations by holding regular meetings are viewed as having taken steps to adequately inform themselves about the deal and to control agency conflicts. Therefore shareholders and courts alike appear to assume a hypothesis that target board's active involvement in the negotiation process will improve merger results for target shareholders. In this study, I test this hypothesis using (i) the number of days to the first board meeting after the start of the merger negotiations and (ii) the total number of meetings the target board holds during the negotiation process as proxies for board involvement in the sale process. Target boards that get involved early in the process and that meet frequently throughout the negotiations can be expected to be more informed about the strategic alternatives facing the firm, about the true value of the firm and that of bidders and details of each bidder's proposal. Such boards will have a better idea of how potential conflicts of interest may affect deal outcomes and will have more time to discuss the routes to be taken to protect shareholders' interests. This enhanced information may enable target boards to exercise more effective monitoring and to provide more useful advice, presumably resulting in better outcomes for shareholders.

Even though the relation between board activity and M&A outcomes has not been investigated in the literature, some studies have examined the effect of board activity on firm value in the normal course of the business. Vafeas (1999) is the first to consider board meeting frequency, as a measure of board activity and board diligence. For a panel data of 307 firms over the period from 1990 to 1994, he obtains the information

on the annual number of board meetings of each firm from their proxy statements. Using this sample, he investigates whether an increased number of meetings leads to a higher firm value, as measured by Tobin's Q. Counter-intuitively, he finds that firms with boards that meet more frequently have lower value. However, this result appears to be driven by stock price declines being followed by more frequent board meetings. An analysis of performance changes after years with abnormally high meeting frequency reveals that such years are followed by improvements in operating performance. In an article that focus on the same questions as Vafeas (1999), Brick and Chidambaran (2010) use a simultaneous equations model with three equations to address endogeneity concerns and report that increases in board meeting frequency lead to increases in firm value.

Following Vafeas' (1999) seminal work, further evidence about the effect of board activity on corporate outputs and practices has been provided. Some studies show that as the annual board meeting frequency increases, better monitoring is provided and this results in a favorable outcome for shareholders. These studies suggest that annual meeting frequency is positively associated with the extent of voluntary disclosure on executive compensation (Laksmana, 2008), audit quality (Carcello et al., 2002), and is negatively associated with the degree of accounting discretion exercised by the management (Bowen, Rajgopal and Venkatachalam, 2008; and Xie, Davidson and DaDalt, 2003). In contrast, other articles indicate that annual board meeting frequency is positively related to the likelihood of internal control weaknesses (Zhang, Zhou and Zhou, 2007), to the level of earnings management (Ebrahim, 2007) and to the probability of committing accounting fraud in the US (Johnson, Ryan and Tian, 2009) and financial fraud in China (Chen et al., 2006). These articles suggest that the board meets more often as the problems faced by the firm increases, suggesting that board meetings are reactive measures. Finally, some other studies indicate that board meetings are just one of the ineffective tools used by boards (Adams and Mehran, 2011; Andres, Azofra and Lopez, 2005; Uzun, Szewczyk and Varma, 2004; Hagendorff, Collins and Keasey, 2010).

Although the relation of the level of involvement of target firm's board in merger negotiations and target shareholder gains has not been studied previously, there are a number of studies which link the level of monitoring exerted by the target board to target shareholder returns. Lee et al. (1992) investigate whether wealth gains in management buyouts are affected by the independence of the target board, which is

commonly assumed to lead to better monitoring. Based on a sample of 58 going-private transactions between 1983 and 1989, the authors find that target cumulative abnormal returns are significantly higher when independent directors dominate the target board. Similarly, using a sample of 169 tender offers over a period from 1989 to 1992, Cotter, Shivdasani and Zenner (1997) find that an independent target board is associated with significantly higher target shareholder gains. In contrast, based on a larger sample covering 436 bids over the period from 1979 to 1990, Bange and Mazzeo (2004) find no significant relation between target shareholder gains and board independence. In addition, they report that target shareholder gains are higher when the target has a dual leadership structure (i.e. roles of CEO and board chair held by the same person), which would be expected to result in less effective board monitoring. On the other hand, Moeller (2005) examines a sample of 388 takeovers from the more recent period of 1990s and finds that when inside directors hold more than 40 percent of the target board seats, takeover premiums are reduced by almost 7 percentage points.

The evidence from these two strands of literature indicates that more vigilant board monitoring does not necessarily lead to better results for shareholders, in normal times or when considering the sale of the company. Although it is interesting to analyze the effects of board independence, CEO duality or other similar board characteristics on target returns, such studies must assume that these board characteristics are associated with better board monitoring. With more direct measures of board diligence that it employs, this study is a first attempt to investigate the direct link between a higher level of board involvement in the sale process and target shareholder returns.

3.3 Sample Formation and Data Collection

3.3.1 Sample Formation

I obtain 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 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 the 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. To gather data on board involvement in the sale process, I refer to the merger documents filed with the SEC by either the target or the acquirer or both. Therefore, I omit the 6 deals that do not have a merger document in the EDGAR database. I further exclude the 9 deals for which a full set of target corporate governance variables is not available. Finally, I drop 12 deals in which the duration from the start of the negotiation process to the date of announcement is below the 1st percentile or above the 99th percentile of the respective distribution. I make this exclusion because given the way I define the board involvement variables, too short or too long a private negotiation process may artificially suppress or exaggerate board's involvement in the process. The resulting sample consists of 513 deals.

3.3.2 Collecting Data on the Background of the Deal

To collect data on board involvement in the negotiation process, I 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 the target after the deal is announced. The details of the transaction are usually found in DEFM14A, S-4, SC TO-T or 14D-9 documents. 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 extract the date on which the target and acquirer make the first contact to

start seriously considering an M&A transaction [17]. From that date up to the announcement date, I record all the days on which the target board is reported to have met to discuss the current state of negotiations.

From the M&A filings, 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), and (iv) whether the target forms an M&A committee (Boone and Mulherin, 2014).

3.3.3 Collecting Data on Target Corporate Governance

Since the target board's meeting activity during the negotiation process may be correlated with other characteristics of the board, it is necessary to control for these characteristics in the regression analyses. Therefore I extract corporate governance data from the most recent proxy statement (or in some rare cases, the annual report) of the target prior to the date of announcement. For each director on the target board, I record the independence status, tenure as a director and the level of ownership. For independent directors, I also record the names of other firms in which these directors serve.

A director is categorized as independent if he is neither an employee of the firm nor a grey director. A director is considered to be grey if he is (i) a former employee of the firm, (ii) an employee of firm's subsidiaries, (iii) a relative of an executive or (iv) a banker, investment banker, a consultant, a lawyer, a supplier to or a customer of the firm and has a material relation with the firm. In some cases, the independence status of each director is disclosed in the proxy statement. If a director that I classified as independent is disclosed as non-independent, I change the director's status accordingly.

[17] For the cases in which the firm initiates the sale process by itself or in which a firm other than the ultimate acquirer initiates the process, I do not take into account the period up to the date of the first contact with the ultimate acquirer, since the M&A filing usually provides rather less detail on that period. In addition, discussions between the acquirer and the target, which are preliminary in nature and which do not lead to serious talks in a reasonably short period of time, are not considered as the first contact.

The proxy statement reports the year in which a director was appointed to the board of directors for the first time. The tenure of a director is set equal to the difference between the year of appointment and the year of the proxy statement.

The proxy statement also discloses the list of other firms in which the board members serve. For each independent director, I record these firms and check their public status to create a busy director indicator. A director is defined to be busy if s/he holds two or more directorships in other public firms (Ahn, Jiraporn and Kim, 2010)[18].

I finally record the sum of the number of options exercisable within 60 days as of the date of the proxy statement and the number of shares held by each director. The division of this sum by the number of outstanding shares of the target firm gives the ownership percentage of each director in the firm.

3.3.4 Defining the Board Involvement Variables

Based on the legal background reviewed in Section 3.2.3, I define two binary variables to proxy for the level of board involvement in the merger negotiation process. The first variable is set equal to one if the number of board meetings held during the merger talks is greater than or equal to the median value of 5. This choice has practical relevance since in the case of *Lyondell Chemical v. Ryan*, plaintiffs argued that approving the merger after holding a total of 4 meetings was inadequate whereas in *In re Openlane, Inc. Shareholders Litigation*, the court opined that holding 9 board meetings could be considered quite satisfactory.[19]

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[18] Prior to Ahn, Jiraporn and Kim (2010), the effect of director busyness on acquirer returns has been studied by Brown and Maloney (1999) and Harris and Shimizu (2004). I use the definition of Ahn, Jiraporn and Kim (2010) since they argue that the inclusion of all types of directors when measuring directors' busyness as done by Brown and Maloney (1999) and Harris and Shimizu (2004) may prevent the detection of the negative effect of multiple directorship on firm performance. That is the reason why Ahn, Jiraporn and Kim's (2010) measure focuses only on the busynesss of outside directors.

[19] Although I chose the median value of meeting count as the cut-off point, the effect of the board meeting count variable on shareholder wealth gains remains the same under many other possible definitions of this variable: (i) using the number of board meetings directly as a level, (ii) defining the cut-off for the binary variable at 25th or 75th percentile of board meeting count, (iii) calculating a "normal" level of board meetings (the number of meetings that would be held over the same period of time by an average firm or by the firm itself at normal times, which is computed based on the annual

The second variable equals one if the board meets within a month following the date when the target and the acquirer seriously considered the possibility of a merger for the first time. The one-month cut-off point corresponds to the median number of days that target boards take to meet after the start of the merger process. This cut-off point also has practical relevance since two months of board inactivity at the start of the sale process was one of the most important arguments against the target board in *Lyondell Chemical v. Ryan* case[20].

It may be argued that board meetings do not provide a clear measure of board's involvement in the sale process since information flow between directors can continue even in the absence of formal board meetings. Although this argument may be partially valid, as suggested by the shareholder litigation cases in Section 3.2.3, courts and plaintiffs frequently use meetings as an evidence of higher board involvement. In addition, prior studies suggest that formal board meetings are a major means of information exchange between directors. Cukurova (2012b) indicates that the information exchange that takes place during the meetings is more valuable than that which takes place any other time. She reaches to this conclusion by analyzing outside directors' trades around meeting dates and finding that outside directors earn higher returns when their trade is initiated after the meetings as compared to when it is initiated before the meetings. Likewise, Conger, Finegold and Lawler (1998) suggest that to make effective decisions, the board should have sufficient, well-organized periods of time together as a group.

3.3.5 Sample Statistics

Out of the sample of 513 M&A transactions, 259 target boards meet within a month of the start of merger talks and 296 boards meet at least 5 times before approving

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meeting frequency disclosed in the proxy statement published prior to the merger talks) and defining binary variables based on the level of deviation from this normal level, (iv) defining binary variables based on the residuals obtained from a regression modeling the number of board meetings in the merger process.

[20] The effect of early board involvement variable on shareholder wealth gain is robust to defining this variable as set equal to one if the board meets within a week, within 2 weeks, within 3 weeks or within 1.5 months. However, when the cut-off point is defined as 2 months, the statistical significance is lost.

the deal. Panel A of Table 3.1 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 33.3% and 25.0% of the targets operating in these two industries, respectively. In the following columns, I report the breakdown of each industry across the subsamples of late and early board involvement and across the subsamples of low and high board meeting count, respectively. The industry distributions of late and early board involvement subsamples closely follow the pattern in the full sample. On the other hand, there is some evidence that boards of target firms operating in business equipment, manufacturing, chemicals or utilities sectors are more likely to meet frequently and that boards of financial firms are less likely to do so.

Panel B of Table 3.1 presents the distribution of transactions over announcement years. In the entire sample, the number of transactions per year is rather stable until it drops in year 2008, probably due to the decline in overall capital liquidity as the financial crisis sets in. Again, the distributions of late and early board involvement subsamples broadly track the trend in the full sample. With respect to low and high board meeting count subsamples, there is some evidence that target boards have started to be more active in the recent years. Whereas in 2008 almost 75% of target boards met 5 or more times before approving the merger, the same figure was only around 51% in 2004. To account for potential trends over years and for differences across industries, I include year and industry dummies in the multivariate regressions.

Table 3.2 presents summary statistics for various target, acquirer, and deal characteristics as well as those for cumulative abnormal returns accruing to the merging firm shareholders. All variables are defined in Table A.1 of Appendix B. I provide the medians for continuous variables and the means for discrete variables. The first column presents the statistics for the full sample, followed by the late and early board involvement subsamples and low and high meeting count subsamples, respectively. In the subsequent two columns, I report the differences between these statistics across the subsamples.

The late and early board involvement subsamples do not seem to differ with regard to target, acquirer or deal characteristics. However, for deals in which the target board is late in getting involved in the sale process, the average target CAR is 17.4%, whereas this figure is 22.0% when the target board promptly steps in. Furthermore, combined CARs are 1.4 percentage points higher in the case of an early target board

involvement and this estimate is statistically significant at the 1% significance level. Although weak, there is also some evidence that early involvement of the target board is associated with higher acquirer CARs. So the univariate evidence suggests that an active target board leads to better results for both acquirer and target shareholders.

Comparison of subsamples of low and high meeting count reveals a different picture. The two subsamples differ from each other with respect to many target, acquirer and deal characteristics but they are similar to each other in terms of shareholder wealth gains. Target firms with boards that meet at least 5 times during the sale process are about 57% larger than their counterparts with less active boards. In addition, their financial standing appears to be stronger as they have higher Tobin's Q and lower leverage. Acquirers in these deals with active target boards also have higher Tobin's Q and lower leverage as compared to acquirers of firms with less active boards.

With regard to deal characteristics, the incidence of all-equity financing is lower in the high meeting count sample. Since receiving cash relieves target firm's concerns over acquirer's true value to some extent, holding everything else constant, payment in cash is preferable by target shareholders. Hence, active boards may be pushing the acquirers towards paying at least partially in cash. Deals in which the target board meets more frequently are also more likely to be diversifying deals. The target boards may be in need of more time to understand the value of the acquirer and potential synergies when the acquirer is from another industry. The low meeting count subsample is also associated with a higher incidence of a special M&A committee formed by the target. This finding may suggest that the M&A committee meetings partially substitute for meetings held by the full board. Finally, Table 3.2 reveals that there are on average 8 directors in the subsample of target boards that meet frequently whereas this figure is 9 for less active boards. It is possible that when the board size increases, it becomes harder to set a time for board meetings due to heightened scheduling conflicts.

On average target boards in the early board involvement subsample meets within 15 days of the start of merger negotiations whereas this figure is 3 months for the late board involvement subsample. There is no significant difference between these two subsamples with respect to the number of board meetings held during the entire process. On the other hand, an average board in the high meeting count subsample meets almost 8 times during the process, whereas that in the low meeting count subsample meets only

3 times. As Table 3.2 shows, boards that meet more frequently also get involved in the process about 16 days earlier[21].

Given the significant differences with respect to target, acquirer and deal characteristics across the low and high meeting count subsamples, I will control for all of these characteristics in the multivariate regression analysis.

3.4 Target Board Involvement and Cumulative Abnormal Returns

In this part, I analyze whether and how active involvement of the target board in the negotiation process affects announcement period cumulative abnormal returns accruing to the hypothetical combined firm and, to the target and the acquirer firms, separately.

3.4.1 Calculation of CARs

I calculate the 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 daily returns predicted by the market model from actual daily returns. I reach announcement period CARs by summing up daily abnormal returns over the event window, (-5, +5) 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

[21] The correlation between early board involvement and meeting count binary variables is 0.075, causing little concern over multicollinearity.

trading day before the deal announcement. If the acquirer has a toehold in the target, I adjust the target's weight for this toehold.

3.4.2 Multivariate Analysis

The univariate analysis in Table 3.2 indicates that target board's early involvement in the merger process is associated with better outcomes for both target and acquirer shareholders. There is also some evidence that combined CARs are slightly higher when the target board is more active as measured by the number of meetings held during the sale process. Table 3.2 also shows that deals with target boards that meet frequently are significantly different than those with less active boards with respect to several target, acquirer and deal attributes. Given that these attributes may also affect CARs, I analyze in this section the robustness of the univariate analysis by running multivariate regressions.

Table 3.3 presents the regressions with target CARs over the period (-5, +5) as the dependent variable. The variables of interest are the binary variables *Early Board Involvement*, which equals 1 when the target board meets within a month of the start of merger negotiations and *High Meeting Count* which equals 1 when the target board meets at least 5 times before approving the merger. In the first column, the only explanatory variables are the two indicators described above. In the second column, I add control variables that have been shown to influence target or acquirer CARs by prior studies: 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), fairness opinion obtained (Kisgen, Qien and Song, 2009), target termination fee (Officer, 2003; Bates and Lemmon, 2003), local deal (Uysal, Kedia and Panchapagesan, 2008). Given the negative relation between annual board meeting frequency and prior stock performance in Vafeas (1999), I also control for buy-and-hold abnormal return over the period (-316, -64).

In the next column, I add controls for target board characteristics that may be associated with the level of board involvement in the sale process and also with target CARs and so may lead to omitted variable bias if not included in the model. Many of these variables were previously studied in the context of mergers and acquisitions: board independence (Lee et al., 1992; Cotter, Shivdasani and Zenner, 1997; and Bange and Mazzeo, 2004), use of special M&A committees (Boone and Mulherin, 2014), board size (Bange and Mazzeo, 2004), dual CEO (Bange and Mazzeo, 2004), percentage of busy directors (Harris and Shimizu, 2004; Ahn, Jiraporn and Kim, 2010), CEO ownership (Moeller, 2005) and independent director ownership (Byrd and Hickman, 1992; Cotter, Shivdasani and Zenner, 1997). I also add board tenure that has been shown by Beasley (1996) and Xie, Davidson and DaDalt (2003) to affect corporate outcomes in contexts unrelated to M&As. To control for potential conflicts of interests between directors and the shareholders, I add board interlock[22] and target board retention variables.

The results from the first model indicate that the prompt involvement of the target board in merger negotiations is associated with a 5.7 percentage point increase in target CARs. This result is robust to the inclusion of the full set of control variables from the M&A literature in the second model and to the further addition of corporate governance variables in the third model. Given that the median target CAR is 19.9% in the full sample, a 5.7 percentage point increase in target CARs is economically large. On the other hand, holding a high number of board meetings does not appear to affect target shareholder wealth.

Among the control variables in Table 3.3, stock payment, relative size, target size and target prior performance have strong explanatory power for target CARs both in models (2) and (3). The coefficients of these variables are consistent with earlier studies. Payment with acquirer stock turns out to reduce target CARs, in accordance with Huang and Walkling (1987), Officer (2003) and Moeller (2005) who report a

[22] Instead of the board interlock variable, it is also possible to use the Close Tie and Distant Tie variables introduced in Chapter 2. Close Tie is equal to 1 if the M&A filings or news articles report the existence of a social tie between the directors or executives of the acquirer and the target and the connected individuals know each other very well. On the other hand, Distant Tie is equal to 1 if there is a social tie between the merging parties but the tie is not close. The findings on the effect of early board involvement and high meeting count variables on shareholder wealth are robust to the inclusion of Close Tie and Distant Tie variables into the multivariate regressions.

positive impact of cash payment on target CARs. Cash payment is preferable by target stockholders since it reduces the need to understand the intrinsic value of the acquirer. Similar to Jarrell and Poulsen (1989), Moeller (2005) and Boone and Mulherin (2007), I find that a higher relative size reduces target shareholder wealth. A larger target size is also found to be associated with lower target returns, consistent with Schwert (2000), Officer (2003) and Bargeron et al. (2008). Finally, similar to Moeller (2005) and Bargeron et al. (2008), I find that pre-merger performance of targets have an opposite impact on target CARs. This result suggests that investors expect the merger to improve the performance of poorly performing targets. Alternatively, poorly performing firms may have their share price depressed due to the costs of financial distress they face. In that case, the price jump upon merger announcement would also reflect the positive reaction given to the elimination of financial distress costs.

Among the corporate governance variables in model (3), only the M&A committee indicator and the CEO ownership variable turn out to have a significant impact on target shareholder wealth. The positive relation between target CEO ownership and target CARs may be a manifestation of better alignment of CEO incentives with shareholder interests. This result is in contrast to Moeller (2005) who finds no significant impact of higher CEO ownership on target premiums. The existence of an M&A committee, on the other hand, is associated with significantly lower target CARs. This finding contrasts that of Boone and Mulherin (2014), who finds an insignificant effect. However, they find that the propensity to form a committee is positively related to the severity of conflict of interests. So the negative coefficient observed in Model (3) may be due to the M&A committee dummy proxying for higher levels of conflict of interests.

Moeller (2005) argues that only dominant and powerful target CEOs can influence target shareholder returns in exchange for more lucrative personal benefits. Hence, board's active monitoring may be more critical when shareholder control over the firm is low. Following Moeller (2005), I define a high shareholder control dummy, which equals 1 when CEO and board chair positions are separated, CEO ownership is less than 20%, CEO tenure is less than 5 years and percentage of independent directors is greater than 60%. With this definition, 24% of the target firms in the sample are classified as having high shareholder control. Model (4) incorporates the high shareholder control variable and its interaction with the early board involvement variable. To avoid multicollinearity, the components of the high shareholder control

variable are excluded from the model. The results indicate that when shareholder control is low, early involvement of the target board has a critical role, as it is associated with a 7.4 percentage increase in target CARs. On the other hand, when shareholder control is high, this positive effect is completely offset by the coefficient of the interaction variable, which is -7.6%. These findings suggest that close board monitoring mainly serves to protect shareholder interests when shareholders are not sufficiently capable of doing so.

An obvious channel through which target directors may increase returns to their shareholders is by pushing potential bidders to increase their offers. To examine whether early board involvement indeed helps target shareholders to receive higher premiums, I regress target premiums on the same explanatory variables used in explaining target CARs. The dependent variable is defined as the offer price divided by price of target stock 64 trading days prior to deal announcement minus 1. The results are shown in Table 3.4. The first three models indicate that early board involvement has no significant effect on the premiums received. However, results change when, in Model (4), the effect of early board involvement is allowed to vary based on the level of target shareholder control. According to this model, early board involvement has a significantly positive impact on takeover premiums when target shareholder control is low and so the target CEO is more capable of trading premiums for personal benefits. Consistent with the results in Table 3.3, early board involvement has no significant impact when there is high target shareholder control.

It is possible that the higher target CARs associated with the early involvement of target board are merely due to a wealth transfer from acquirer shareholders to target shareholders. To investigate this possibility, I present in Table 3.5 the results from a set of regressions of acquirer CARs on the same explanatory variables used in the previous regressions. Neither the early board involvement nor the high board meeting count variable has a significant impact on acquirer CARs. Hence while increasing target CARs or even premiums paid by the acquirer (in the case of low target shareholder control), target board's early involvement does not seem to lower acquirer CARs. Active monitoring by the target board may force the acquirer to make more concessions to the target shareholders but may, at the same time, prevent the target CEOs from negotiating excessive monetary benefits or their retention with the acquirers. This may be the reason why the net effect of an active target board on acquirer returns turns out to be neutral.

In Table 3.6, I investigate whether active involvement of the target board leads to higher returns to shareholders overall, by running a regression using combined CARs as the dependent variable. Although the early board involvement variable has a significantly positive coefficient in the first model, when control variables are included in subsequent models, the coefficient loses its significance. Given the low median relative size of around 17.5%, the higher CARs accruing to the target shareholders are not able to sufficiently influence the returns to the combined firm.

3.5 Target Board Involvement and the Private Negotiation Process

Results from the previous section indicate that when the target board quickly gets involved in the negotiation process, the target experiences higher abnormal returns upon the announcement of the deal. This effect is mainly driven by the sample of targets with a low shareholder control, suggesting that close board monitoring in the making of the deal is particularly useful when the target CEO is dominant and powerful and hence is able to extract personal benefits from the acquirer. An important factor contributing to an increased level of target CARs is found to be the higher level of premiums paid by the acquirers. In this section, I will further investigate the potential channels through which the target directors may be increasing returns to their shareholders.

3.5.1 Competition in the Private Takeover Process

Revlon duties require directors to secure the highest price available for the stockholders at the sale of the company. Obtaining bids from multiple parties can be considered a first step in achieving this goal. While the target management may be inclined to confine the merger talks to a few bidders, which could provide them the highest personal benefits; the directors, once they are involved in the talks, may invite additional bidders to the bidding process to ensure that the final offer received is more likely to be the best price available in the market. Creating a more competitive bidding process may be one method by which active target boards obtain higher premiums.

Following Boone and Mulherin (2007), I extract competition data from SEC M&A filings by counting the number of bidders making a formal bid (i.e. a written

proposal, which contains pricing terms) in the private takeover process. Table 3.7 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.[23] Control variables are taken directly from the Boone and Mulherin (2007) model and are defined in Table A.1 of Appendix B. The first model indicates that neither the early involvement of the target board nor holding frequent board meetings is associated with an increase in the likelihood of competing bids. This result continues to hold when year and industry dummies are added in Model (2) and when corporate governance variables are added in Model (3).

Model (3) provides some interesting insight on the effect of other target corporate governance characteristics on the likelihood of competition. The existence of an M&A special committee is associated with a greater likelihood of competition. This evidence is consistent with Boone and Mulherin (2014), who report that deals with a special committee used an auction 77.3% of the time whereas the same figure is 54.4% for deals without a special committee. Results from Model (3) also show that there is a positive and significant relation between independent director ownership and the likelihood of competition. An increased level of ownership is likely to incentivize independent directors to seek higher bids, hence increasing competition. On the other hand, conflict of interests between the directors and shareholders may lead directors to trade off their own interests with those of shareholders. Consistent with this expectation, when a higher percentage of target directors is retained on the merged company's board, the likelihood of competition decreases. Similarly, the existence of a common director on the boards of the merging companies leads to a lower probability of competition.

3.5.2 Target Termination Fees

A target termination fee clause in the merger agreement requires the target to pay the bidder a significant fee if the target later backs off from the proposed merger. Termination fees are often viewed as a mechanism used by self-interested target managers to discourage competing bids to emerge after the announcement of the deal

[23] 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 to protect the negotiated deal that presents them attractive personal benefits (Bates and Lemmon, 2003; and Officer, 2003). Given that the use of target termination fees has almost become an industry standard[24], the question now is not whether or not there is a target termination fee in the merger agreement but whether the termination fee is within the range of reasonableness. As discussed in Section 3.2.3, unreasonably high termination fees are frequently cited in shareholder litigations as a serious deterrent to receiving topping bids. To define the range of reasonableness for termination fees, plaintiffs in *In re Toys "R" Us, Inc. Shareholder Litigation* put forth, with reference to Coates and Subramanian (2000), that any termination fee of 3% or more "has a reasonable likelihood of foreclosing higher value bidders." Based on this definition of an unreasonably high termination fee, I investigate in this section whether more active target boards help to reduce the likelihood of agreeing to such high termination fees.

Table 3.8 presents the results from a logistic regression, which models the likelihood of an unreasonably high target termination fee. The dependent variable equals 1 when the target termination fee exceeds 3% of the deal value. The first model includes the variables used by Officer (2003) in modeling the existence of a target termination fee. The results indicate that target board activity during the negotiation process is negatively associated with the likelihood of agreeing to an unreasonably high termination fee. Both the early board involvement and the high meeting count dummies have negative and significant coefficients and they are jointly significant. Specifically, if the board promptly meets within 1 month of the start of merger talks or if it meets at least 5 times during the entire process, the likelihood of an unreasonably high termination fee decreases by around 9%[25]. In Model (2), I add year and industry dummies and in Model (3), I further add governance-related variables for the target. The negative relation between target board activity and the dependent variable is robust to the inclusion of these variables to the model.

[24] 93.4% of the 513 deals in my sample have target termination fee clauses.

[25] The marginal effects are evaluated at the medians of the other explanatory variables.

3.6 Effect of an Active Target Board on Target CEO Retention

Close monitoring by the board may make it harder for the target CEO to thoroughly discuss his/her own subsequent career with potential acquirers and secure an attractive post in the combined company, possibly by granting concessions at the expense of shareholders. To test this argument, I investigate whether the early involvement of target board in the negotiation process decreases the likelihood of the target CEO being retained by the acquirer. If this is indeed the case, then it pays for the target CEO to keep the board out of the process for a longer period of time.

Based on the first proxy statement filed by the combined firm after the completion of the deal, I determine whether the target CEO still serves on the combined firm's board after the deal is completed[26]. Table 3.9 presents the results from a logistic regression, which models the likelihood of target CEO retention on the combined board. The control variables are created based on Ishii and Xuan (2014), Renneboog and Zhao (2013) and Harford (2003). I add a local deal dummy since a CEO may be more likely to be retained if the merger does not require relocation. 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. Consistent with the argument above, the results indicate that when the target board is quickly involved in merger talks, the probability of target CEO retention decreases by 8 percentage points[27].

The other results from Table 3.9 show that a CEO is significantly more likely to be retained if s/he has been a CEO for a longer period of time, if the relative size of the target compared to the acquirer is larger, if the payment is done completely by acquirer stock or the deal is structured as a merger of equals. All of these factors is likely to strengthen the bargaining position of the CEO and hence to lead to a higher retention probability. On the other hand, the evidence on the effect of prior target performance on the likelihood of CEO retention is mixed. While target Tobin's Q has a positive and significant coefficient, the coefficient of prior target adjusted return is negative and significant.

[26] It is possible for the target CEO to be retained as an executive but not be invited as a board member.

[27] The marginal effects are evaluated at the medians of the other explanatory variables in Model (1).

3.7 Robustness

Another possible explanation for the positive relation between the early board involvement variable and target CARs is that receiving an attractive bid at the beginning of the process, which causes the target management to react and call a board meeting straightaway, eventually leads to an attractive final bid. Therefore the positive relation observed between early board involvement and target CARs may be spurious.

To investigate the relevance of this alternative explanation, I split the early board involvement subsample into two groups based on whether the target receives a formal bid from the acquirer before the date of the first board meeting. If the target receives a bid in this period, the board might have convened in response to an attractive initial bid. So this subsample could indeed be subject to the alternative explanation given above. However, the deals in which the target does not receive a bid up to the first board meeting but the board meets within a month of the start of merger talks are not expected to be subject to this alternative explanation.

In Table 3.10, I rerun the target CAR regressions by modifying the early board involvement variable. *Early board involvement (no bid)* is set equal to 1 if the target board meets within 1 month without receiving a bid and 0 otherwise. For 182 deals, this variable takes the value of 1. On the other hand, *Early board involvement (with bid)* is set equal to 1 for the 77 deals in which the target board receives a bid before the meeting.

According to Table 3.10, the positive relation between early board involvement and target CARs continues to hold even if the target has not received a bid from the acquirer prior to the first board meeting. In all three models, the coefficient of *Early board involvement (with bid)* is greater than that of *Early board involvement (no bid)* and it has higher statistical significance. These results indicate that although the alternative explanation might indeed have some influence on the positive relation observed between early board involvement and target CARs, it does not fully explain the relationships between variables.

3.8 Conclusion

Evidence from lawsuits initiated by target shareholders suggests that shareholders and courts are skeptical towards target boards that are late in getting involved in the sale process and those that approve the sale after only a few board meetings. Target boards that are actively involved in the process may be expected to exercise better monitoring, to provide higher quality advice and to make more informed decisions, leading to better results for target shareholders. This study examines the validity of this expectation using two measures of target board activity: the number of days it takes for the target board to meet after the start of the sale process and the number of meetings held by the board over the entire process. Data on board meetings are extracted manually from the M&A forms that the merging parties file with the SEC.

The results suggest that the early involvement of the target board in merger negotiations is associated with an increase of 5.7 percentage points in target CARs. This finding holds even when the target board has not received a bid from the acquirer before holding its first meeting, dismissing an alternative explanation whereby attractive initial bids lead to both early involvement of target board and attractive final bids. In contrast, number of meetings held by the target board does not affect target CARs.

The positive effect of early involvement of target board on target CARs is driven by cases in which the CEO has a powerful position in the target firm, suggesting that close monitoring by the board serves to protect shareholder interests especially when shareholders are less able to protect their own interests. In such cases, target board's early involvement also leads to significantly higher takeover premiums. Although early involvement of the board benefits target shareholders, it may hurt target CEOs since it leads to a significant decrease in the likelihood of retention of the CEO. It appears that not having the board around for a sufficient time allows CEOs to freely negotiate their subsequent career with the acquirer.

Investigating the effects of an active target board on various aspects of the private negotiation process reveals that neither early board involvement nor a high meeting count leads to a higher probability of having a competitive bidding environment. On the other hand, both of the board activity measures are associated with a decreased likelihood of agreeing to an unreasonably high target termination fee.

Overall, my results suggest that out of the two aspects of target board activity cited in shareholder lawsuits; early involvement and not the number of meetings held, is critical for shareholder value creation, specifically when the CEO has a powerful position in the target firm. Early involvement in the process may allow target directors to set a strategy right at the beginning of negotiations, leaving the CEO with limited room to maneuver. Furthermore, directors' early involvement may also be sending the message to the target CEO that they are powerful and that no matter how the CEO shapes the merger agreement, they are the ultimate authority to reject the agreement if they are not satisfied with its terms.

3.9 Tables

Table 3.1 Sample distribution

This table presents the frequency distribution of 513 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 and for each target, a full set of corporate governance variables is available. Panel A and B provide the distribution of deals by target industry and announcement year, respectively. The first column reports the numbers for the entire sample, followed by the four subsamples of late and early target board involvement and low and high meeting count, respectively. The column percentages are provided for the full sample whereas for the four subsamples, row percentages are provided. If the target board meets within a month of the start of merger negotiations, the deal is classified under the "early board involvement" subsample; otherwise it is classified under the "late board involvement" subsample. If the target board meets at least 5 times during the negotiation process, the transaction is grouped under the "high meeting count" subsample; otherwise it is assigned to the "low meeting count" subsample. The target's industry is defined by the Fama-French 12-industry categories. All variables are defined in Appendix B.

Panel A: By target industry

FF12 industry of the target	Full sample		Late Board Involvement		Early Board Involvement		Low Meeting Count		High Meeting Count	
	Number	Column Percentage	Number	Row Percentage	Number	Row Percentage	Number	Row Percentage	Number	Row Percentage
Consumer NonDurables	14	2.7%	6	42.9%	8	57.1%	8	57.1%	6	42.9%
Consumer Durables	3	0.6%	2	66.7%	1	33.3%	2	66.7%	1	33.3%
Manufacturing	28	5.5%	14	50.0%	14	50.0%	8	28.6%	20	71.4%
Energy	18	3.5%	9	50.0%	9	50.0%	11	61.1%	7	38.9%
Chemicals and Allied Products	7	1.4%	1	14.3%	6	85.7%	0	0.0%	7	100.0%
Business Equipment	128	25.0%	66	51.6%	62	48.4%	31	24.2%	97	75.8%
Telephone and Television Transmission	14	2.7%	6	42.9%	8	57.1%	6	42.9%	8	57.1%
Utilities	4	0.8%	2	50.0%	2	50.0%	0	0.0%	4	100.0%
Wholesale, Retail, and Some Services	27	5.3%	15	55.6%	12	44.4%	9	33.3%	18	66.7%
Healthcare, Medical Equipment, and Drug	63	12.3%	30	47.6%	33	52.4%	19	30.2%	44	69.8%
Finance	171	33.3%	83	48.5%	88	51.5%	105	61.4%	66	38.6%
Other	36	7.0%	20	55.6%	16	44.4%	18	50.0%	18	50.0%
Total	513	100.0%	254	49.5%	259	50.5%	217	42.3%	296	57.7%

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Table 3.1 (Continued)

Panel B: By announcement year

	Full sample		Late Board Involvement		Early Board Involvement		Low Meeting Count		High Meeting Count	
Deal announcement year	Number	Column Percentage	Number	Row Percentage	Number	Row Percentage	Number	Row Percentage	Number	Row Percentage
2004	121	23.6%	67	55.4%	54	44.6%	59	48.8%	62	51.2%
2005	103	20.1%	53	51.5%	50	48.5%	43	41.7%	60	58.3%
2006	110	21.4%	51	46.4%	59	53.6%	53	48.2%	57	51.8%
2007	103	20.1%	45	43.7%	58	56.3%	41	39.8%	62	60.2%
2008	76	14.8%	38	50.0%	38	50.0%	21	27.6%	55	72.4%
Total	513	100.0%	254	49.5%	259	50.5%	217	42.3%	296	57.7%

Table 3.2 Summary statistics

This table presents the summary statistics of 513 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 and for each target, a full set of corporate governance variables is available. The first column reports the numbers for the entire sample, followed by the four subsamples of late and early target board involvement and low and high meeting count, respectively. The subsequent two columns report the difference between the statistics across the different subsamples. If the target board meets within a month of the start of merger negotiations, the deal is classified under the "early board involvement" subsample; otherwise it is classified under the "late board involvement" subsample. If the target board meets at least 5 times during the negotiation process, the transaction is grouped under the "high meeting count" subsample; otherwise it is assigned to the "low meeting count" subsample. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. All variables are defined in Appendix B.

	(I) Full sample	(II) Late Board Involvement	(III) Early Board Involvement	(IV) Low Meeting Count	(V) High Meeting Count	(III)-(II) Early - Late Board Involvement	(V)-(IV) High - Low Meeting Count		No of Observations
Target related									
Firm size ($ mil)	306.463	286.075	309.984	234.027	366.758	23.909	132.730	**	513
Tobin's q	1.438	1.428	1.450	1.169	1.693	0.022	0.524	***	511
Leverage	0.085	0.085	0.088	0.127	0.049	0.003	-0.077	***	510
Adjusted return (-316, -64)	-0.075	-0.084	-0.071	-0.061	-0.087	0.013	-0.026		492
Acquirer related									
Firm size ($ mil)	3,036.161	3,116.528	2,860.488	3,040.964	3,000.696	-256.040	-40.268		513
Tobin's q	1.489	1.489	1.486	1.223	1.686	-0.003	0.463	***	512
Leverage	0.112	0.117	0.111	0.150	0.086	-0.006	-0.064	***	507
Adjusted return (-316, -64)	-0.006	-0.017	-0.001	-0.018	0.001	0.016	0.018		497

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Table 3.2 (Continued)

	(I) Full sample	(II) Late Board Involvement	(III) Early Board Involvement	(IV) Low Meeting Count	(V) High Meeting Count	(III)-(II) Early - Late Board Involvement		(V)-(IV) High - Low Meeting Count		No of Observations
Deal characteristics										
All stock	0.228	0.252	0.205	0.309	0.169	-0.047		-0.140	***	513
Relative size	0.175	0.175	0.176	0.160	0.192	0.000		0.031		513
Tender offer	0.101	0.083	0.120	0.060	0.132	0.037		0.072	***	513
Hostile	0.025	0.020	0.031	0.037	0.017	0.011		-0.020		513
Competition (No. of contacted parties > 1)	0.708	0.701	0.714	0.687	0.723	0.013		0.036		513
Diversifying	0.232	0.217	0.247	0.175	0.274	0.031		0.099	***	513
Target M&A committee	0.298	0.323	0.274	0.350	0.260	-0.049		-0.090	**	513
Board meeting count	5.676	5.449	5.900	2.802	7.784	0.451		4.982	***	513
Days to first board meeting	52.014	90.118	14.645	61.548	45.024	-75.473	***	-16.525	***	513
Governance Characteristics of Target										
Independent director percentage	0.918	0.909	0.927	0.926	0.912	0.017		-0.014		513
Board size	8.386	8.213	8.556	8.908	8.003	0.343		-0.904	***	513
Dual CEO	0.427	0.453	0.402	0.438	0.419	-0.051		-0.019		513
Shareholder wealth gains										
Target CAR	0.199	0.174	0.220	0.193	0.199	0.045	***	0.007		513
Takeover premium	0.304	0.301	0.313	0.307	0.302	0.012		-0.005		500
Acquirer CAR	-0.012	-0.019	-0.006	-0.016	-0.011	0.013	*	0.005		513
Combined CAR	0.009	0.001	0.014	0.004	0.011	0.014	***	0.007	*	513

Table 3.3 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). The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. High shareholder control dummy equals 1 when CEO and board chair positions are separated, CEO ownership is less than 20%, CEO tenure is less than 5 years and percentage of independent directors is greater than 60%. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)	Model (4)
Early board involvement	0.057***	0.054***	0.057***	0.074***
	(2.694)	(2.767)	(2.992)	(3.316)
High meeting count	0.012	0.007	0.002	0.005
	(0.544)	(0.319)	(0.104)	(0.202)
High shareholder control				0.006
				(0.189)
Early board involvement * High sh. control				-0.076*
				(-1.728)
Diversifying deal		-0.031	-0.034	-0.029
		(-1.292)	(-1.406)	(-1.178)
Tender offer		0.043	0.041	0.039
		(1.070)	(1.012)	(0.957)
Hostile deal		-0.014	-0.001	0.005
		(-0.237)	(-0.011)	(0.076)
Any stock payment		-0.048*	-0.050*	-0.057**
		(-1.877)	(-1.840)	(-2.102)
Competition		-0.034	-0.033	-0.035
		(-1.596)	(-1.477)	(-1.589)
Toehold		-0.006	0.018	-0.008
		(-0.093)	(0.266)	(-0.118)
Seller initiated		-0.012	-0.009	-0.011
		(-0.542)	(-0.413)	(-0.477)
Local deal		0.008	0.004	0.002
		(0.356)	(0.187)	(0.082)
Fairness opinion obtained		-0.013	-0.008	-0.020
		(-0.441)	(-0.271)	(-0.661)
Private negotiation process duration (months)		-0.006**	-0.004	-0.004
		(-1.983)	(-1.345)	(-1.157)
Target termination fee dummy		0.041	0.034	0.040
		(0.845)	(0.691)	(0.835)
ln(Relative size)		-0.040***	-0.038***	-0.038***
		(-4.638)	(-4.197)	(-4.208)
ln(Target size)		-0.023***	-0.026***	-0.029***
		(-2.755)	(-2.741)	(-3.130)

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Table 3.3 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)
Target Tobin's Q		-0.014	-0.015	-0.014
		(-1.025)	(-1.054)	(-1.006)
Target leverage		0.065	0.067	0.063
		(0.605)	(0.625)	(0.604)
Target adjusted return (-316, -64) > 0		-0.072***	-0.073***	-0.066***
		(-3.920)	(-3.800)	(-3.443)
Acquirer Tobin's Q		0.015	0.016	0.016
		(1.205)	(1.330)	(1.282)
Acquirer leverage		-0.037	-0.025	-0.027
		(-0.484)	(-0.313)	(-0.353)
M&A Committee			-0.053**	-0.049**
			(-2.343)	(-2.152)
Target board size			0.009*	0.009*
			(1.857)	(1.707)
Independent board			0.031	
			(0.832)	
Dual CEO			-0.022	
			(-1.192)	
% of busy directors			0.091	0.071
			(1.526)	(1.174)
Target board tenure			0.002	0.002
			(0.728)	(0.856)
CEO ownership			0.368**	
			(2.087)	
Independent director ownership			0.147	0.162
			(0.864)	(0.978)
Target directors retained as % of target board			-0.015	-0.011
			(-0.257)	(-0.199)
Board interlock			-0.061	-0.063
			(-1.160)	(-1.319)
Constant	0.204***	0.327***	0.188*	0.262***
	(12.146)	(4.017)	(1.798)	(2.609)
Industry dummies	No	Yes	Yes	Yes
Year dummies	No	Yes	Yes	Yes
Adjusted R^2	0.015	0.339	0.373	0.370
Sample size	513	482	473	473

Table 3.4 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. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. High shareholder control dummy equals 1 when CEO and board chair positions are separated, CEO ownership is less than 20%, CEO tenure is less than 5 years and percentage of independent directors is greater than 60%. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)	Model (4)
Early board involvement	0.039	0.039	0.043	0.057*
	(1.386)	(1.457)	(1.542)	(1.866)
High meeting count	-0.002	-0.003	-0.017	-0.005
	(-0.054)	(-0.093)	(-0.515)	(-0.161)
High shareholder control				-0.044
				(-0.867)
Early board involvement * High sh. control				-0.070
				(-1.027)
Diversifying deal		-0.038	-0.046	-0.035
		(-1.117)	(-1.331)	(-1.014)
Tender offer		0.078	0.091	0.074
		(1.317)	(1.536)	(1.278)
Hostile deal		-0.085	-0.066	-0.054
		(-0.868)	(-0.755)	(-0.691)
Any stock payment		-0.037	-0.040	-0.045
		(-0.994)	(-1.041)	(-1.182)
Competition		0.026	0.019	0.020
		(0.911)	(0.636)	(0.669)
Toehold		0.015	0.038	0.018
		(0.144)	(0.371)	(0.185)
Seller initiated		-0.080***	-0.087***	-0.082***
		(-2.692)	(-2.864)	(-2.683)
Local deal		0.010	0.017	0.009
		(0.326)	(0.502)	(0.267)
Fairness opinion obtained		-0.041	-0.027	-0.035
		(-1.004)	(-0.654)	(-0.862)
Private negotiation process duration (months)		-0.009*	-0.007	-0.007
		(-1.911)	(-1.557)	(-1.550)
Target termination fee dummy		0.169***	0.138**	0.144***
		(2.984)	(2.577)	(2.765)
ln(Relative size)		-0.010	-0.006	-0.006
		(-0.989)	(-0.503)	(-0.551)
ln(Target size)		-0.031***	-0.028**	-0.033***
		(-3.014)	(-2.202)	(-2.662)

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Table 3.4 (Continued)

	Model (1)	Model (2)	Model (3)	Model (4)
Target leverage		0.081	0.116	0.097
		(0.630)	(0.889)	(0.750)
Target adjusted return (-316, -64) > 0		-0.038	-0.050*	-0.036
		(-1.418)	(-1.778)	(-1.288)
Acquirer Tobin's Q		-0.002	-0.002	-0.001
		(-0.084)	(-0.085)	(-0.040)
Acquirer leverage		-0.189	-0.197	-0.202*
		(-1.572)	(-1.569)	(-1.670)
M&A Committee			-0.054*	-0.053*
			(-1.653)	(-1.676)
Target board size			-0.001	-0.001
			(-0.214)	(-0.104)
Independent board			-0.103**	
			(-2.094)	
Dual CEO			-0.023	
			(-0.856)	
% of busy directors			0.090	0.051
			(1.048)	(0.606)
Target board tenure			0.003	0.003
			(0.787)	(0.908)
CEO ownership			0.310	
			(1.514)	
Independent director ownership			0.319	0.264
			(1.413)	(1.202)
Target directors retained as % of target board			-0.015	0.000
			(-0.169)	(0.003)
Board interlock			-0.197**	-0.191**
			(-2.140)	(-2.131)
Constant	0.307***	0.615***	0.645***	0.630***
	(12.107)	(5.040)	(4.314)	(4.647)
Industry dummies	No	Yes	Yes	Yes
Year dummies	No	Yes	Yes	Yes
Adjusted R^2	-0.000	0.174	0.192	0.193
Sample size	500	469	461	461

Table 3.5 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). The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)
Early board involvement	0.008	0.004	0.006
	(1.251)	(0.501)	(0.898)
High meeting count	0.007	0.004	0.006
	(1.050)	(0.458)	(0.709)
Diversifying deal		0.000	-0.001
		(0.012)	(-0.121)
Tender offer		-0.006	-0.007
		(-0.509)	(-0.537)
Hostile deal		0.016	0.011
		(0.865)	(0.599)
Any stock payment		-0.044***	-0.040***
		(-4.571)	(-4.043)
Competition		-0.003	-0.001
		(-0.395)	(-0.201)
Toehold		-0.035	-0.030
		(-1.645)	(-1.427)
Seller initiated		-0.008	-0.007
		(-0.949)	(-0.917)
Local deal		-0.001	-0.004
		(-0.162)	(-0.527)
Fairness opinion obtained		0.004	0.000
		(0.254)	(0.014)
Private negotiation process duration (months)		0.001	0.001
		(0.508)	(0.912)
Target termination fee dummy		-0.013	-0.021
		(-0.859)	(-1.411)
ln(Relative size)		-0.003	-0.002
		(-1.403)	(-0.913)
ln(Target size)		-0.002	-0.002
		(-0.746)	(-0.684)
Target Tobin's Q		-0.001	-0.001
		(-0.235)	(-0.288)
Target leverage		-0.027	-0.034
		(-0.982)	(-1.199)
Target adjusted return (-316, -64) > 0		0.001	0.002
		(0.174)	(0.224)

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Table 3.5 (Continued)

	Model (1)	Model (2)	Model (3)
Acquirer Tobin's Q		0.003	0.002
		(0.539)	(0.454)
Acquirer leverage		0.082**	0.084**
		(1.980)	(2.026)
M&A Committee			-0.002
			(-0.181)
Target board size			0.000
			(0.062)
Independent board			0.010
			(0.588)
Dual CEO			0.000
			(0.029)
% of busy directors			0.032
			(1.192)
Target board tenure			0.000
			(0.171)
CEO ownership			0.043
			(0.632)
Independent director ownership			0.067
			(1.170)
Target directors retained as % of target board			-0.017
			(-0.606)
Board interlock			-0.008
			(-0.309)
Constant	-0.025***	0.046	0.032
	(-4.379)	(1.475)	(0.810)
Industry dummies	No	Yes	Yes
Year dummies	No	Yes	Yes
Adjusted R^2	0.002	0.086	0.087
Sample size	513	482	473

Table 3.6 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. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)
Early board involvement	0.017**	0.007	0.009
	(2.575)	(1.008)	(1.274)
High meeting count	0.010	0.008	0.010
	(1.445)	(1.083)	(1.291)
Diversifying deal		-0.005	-0.007
		(-0.579)	(-0.764)
Tender offer		-0.001	-0.001
		(-0.049)	(-0.111)
Hostile deal		0.083***	0.080***
		(3.136)	(3.166)
Any stock payment		-0.041***	-0.037***
		(-4.923)	(-4.206)
Competition		-0.010	-0.009
		(-1.451)	(-1.295)
Toehold		-0.007	-0.001
		(-0.180)	(-0.036)
Seller initiated		-0.004	-0.004
		(-0.480)	(-0.469)
Local deal		-0.001	-0.004
		(-0.156)	(-0.598)
Fairness opinion obtained		-0.009	-0.009
		(-0.633)	(-0.654)
Private negotiation process duration (months)		-0.001	-0.000
		(-0.670)	(-0.114)
Target termination fee dummy		-0.008	-0.017
		(-0.486)	(-1.033)
ln(Relative size)		0.012***	0.014***
		(5.453)	(6.064)
ln(Target size)		-0.004*	-0.004
		(-1.680)	(-1.300)
Target Tobin's Q		0.000	-0.000
		(0.066)	(-0.078)
Target leverage		-0.044	-0.048*
		(-1.644)	(-1.792)

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Table 3.6 (Continued)

	Model (1)	Model (2)	Model (3)
Target adjusted return (-316, -64) > 0		-0.016**	-0.016**
		(-2.375)	(-2.454)
Acquirer Tobin's Q		0.002	0.001
		(0.365)	(0.304)
Acquirer leverage		0.084**	0.083**
		(2.352)	(2.317)
M&A Committee			-0.007
			(-0.901)
Target board size			0.001
			(0.389)
Independent board			0.015
			(0.966)
Dual CEO			-0.005
			(-0.759)
% of busy directors			0.017
			(0.720)
Target board tenure			0.001
			(0.870)
CEO ownership			0.067
			(1.054)
Independent director ownership			0.054
			(1.008)
Target directors retained as % of target board			-0.040*
			(-1.681)
Board interlock			0.008
			(0.255)
Constant	0.002	0.110***	0.084**
	(0.367)	(3.776)	(2.179)
Industry dummies	No	Yes	Yes
Year dummies	No	Yes	Yes
Adjusted R^2	0.014	0.164	0.182
Sample size	513	482	473

Table 3.7 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. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)
Early board involvement	0.103	0.146	0.061
	(0.540)	(0.741)	(0.286)
High meeting count	0.121	0.098	0.235
	(0.604)	(0.460)	(1.009)
ln(Relative size)	-0.042	-0.051	0.074
	(-0.649)	(-0.745)	(0.919)
Target size	-0.000*	-0.000*	-0.000
	(-1.775)	(-1.927)	(-1.157)
All cash payment	0.908***	0.875***	0.859***
	(3.767)	(3.511)	(3.191)
Tender offer	0.243	-0.084	-0.069
	(0.750)	(-0.237)	(-0.184)
Buyer initiated	-0.772***	-0.800***	-0.887***
	(-3.944)	(-3.895)	(-3.983)
Target in regulated ind.	0.679**	0.771	0.899
	(2.545)	(1.120)	(1.160)
Toehold	-0.408	-0.332	-0.205
	(-0.597)	(-0.481)	(-0.335)
Target idiosyncratic vol.	-15.674	-20.127*	-15.596
	(-1.626)	(-1.869)	(-1.384)
M&A Committee			0.960***
			(4.002)
Target board size			-0.021
			(-0.397)
Independent board			-0.277
			(-0.713)
Dual CEO			-0.150
			(-0.675)
% of busy directors			-0.374
			(-0.535)
Target board tenure			0.042
			(1.424)
CEO ownership			-0.472
			(-0.306)

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Table 3.7 (Continued)

	Model (1)	Model (2)	Model (3)
Independent director ownership			2.897**
			(2.218)
Target directors retained as % of target board			-1.966**
			(-2.215)
Board interlock			-2.437*
			(-1.933)
Constant	-0.266	-0.611	-0.613
	(-0.630)	(-0.785)	(-0.543)
Industry dummies	No	Yes	Yes
Year dummies	No	Yes	Yes
Pseudo R^2	0.084	0.109	0.169
Sample size	513	513	503

Table 3.8 Determinants of excessive target termination fee

This table reports the results of logistic models designed to estimate the probability of an excessive target termination fee. The dependent variable is equal to 1 if the target termination fee exceeds 3% of the deal value, and zero otherwise. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)
Early board involvement	-0.367*	-0.370*	-0.382*
	(-1.922)	(-1.869)	(-1.878)
High meeting count	-0.353*	-0.435**	-0.421*
	(-1.736)	(-2.021)	(-1.852)
Acquirer termination fee dummy	-0.082	-0.174	-0.173
	(-0.319)	(-0.672)	(-0.622)
Premium	-0.594*	-0.607	-0.679*
	(-1.713)	(-1.637)	(-1.759)
Competition	0.241	0.283	0.330
	(1.191)	(1.358)	(1.485)
Any cash payment	-0.013	0.035	0.039
	(-0.057)	(0.148)	(0.150)
Diversifying deal	0.005	-0.059	-0.078
	(0.020)	(-0.236)	(-0.311)
Hostile deal	-0.468	-0.519	-0.469
	(-0.727)	(-0.791)	(-0.712)
Tender offer	0.308	0.354	0.447
	(0.913)	(0.960)	(1.218)
Toehold (Officer_2003)	-0.245	-0.209	-0.181
	(-0.342)	(-0.297)	(-0.269)
Financial services	0.501**	0.248	0.059
	(2.037)	(0.240)	(0.055)
ln(Target size)	-0.264***	-0.233**	-0.186*
	(-3.201)	(-2.519)	(-1.662)
ln(Acquirer size)	0.139**	0.142**	0.129*
	(2.131)	(2.040)	(1.705)
M&A Committee			-0.451*
			(-1.919)
% of busy directors			-0.958
			(-1.499)
Target board size			0.019
			(0.345)
Target board tenure			0.022
			(0.752)
Independent board			-0.030
			(-0.086)

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Table 3.8 (Continued)

	Model (1)	Model (2)	Model (3)
CEO ownership			0.277
			(0.177)
Dual CEO			0.016
			(0.072)
Independent director ownership			1.197
			(0.842)
Board interlock			-0.154
			(-0.209)
Target directors retained as % of target board			-0.029
			(-0.038)
Constant	1.099**	1.926**	1.732
	(2.039)	(2.107)	(1.569)
Industry dummies	No	Yes	Yes
Year dummies	No	Yes	Yes
Pseudo R^2	0.0577	0.0800	0.0882
Sample size	500	500	491

Table 3.9 Determinants of target CEO retention

This table reports the results of logistic models designed to estimate the probability of the target CEO being retained on the combined firm's board. The dependent variable is equal to 1 if the target CEO serves on the combined firm's board after the deal is completed, and zero otherwise. The early board involvement variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)
Early board involvement	-0.672**	-0.655**
	(-2.108)	(-1.965)
CEO tenure	0.049*	0.045*
	(1.950)	(1.645)
CEO passed retirement age	-0.177	-0.144
	(-0.231)	(-0.174)
ln(Target size)	0.125	0.085
	(1.184)	(0.796)
Target Tobin's Q	0.149	0.313**
	(1.328)	(2.076)
Target leverage	0.149	0.152
	(0.132)	(0.119)
Target adjusted return (-316, -64)	-0.698*	-0.782**
	(-1.934)	(-1.964)
Relative size	1.057***	1.369***
	(3.635)	(4.093)
All stock payment	0.888**	1.005***
	(2.534)	(2.583)
Diversifying deal	-0.672	-0.582
	(-1.522)	(-1.328)
Hostile deal	-1.021	-1.264
	(-0.696)	(-0.892)
Competition	0.172	0.275
	(0.533)	(0.784)
Local deal	-0.003	-0.237
	(-0.008)	(-0.635)
Merger of equals	2.452***	17.779***
	(2.646)	(17.646)
Constant	-3.628***	-5.407***
	(-4.704)	(-3.842)
Industry dummies	No	Yes
Year dummies	No	Yes
Pseudo R^2	0.182	0.250
Sample size	438	428

Table 3.10 Multivariate analysis of target CARs (Robustness)

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). The "early board involvement (no bid)" variable equals one if the target board meets within a month of the date of first contact between the target and the acquirer, without receiving a bid. The "early board involvement (with bid)" variable equals 1 if the target board meets within a month of the date of first contact and receives a formal bid from the acquirer before the meeting. The high meeting count variable is equal to one if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5. All other variables are defined in Appendix B. The coefficients of year and industry dummies are suppressed. All continuous variables are winsorized at the 1st and 99th percentiles. In parentheses are t-statistics based on heteroskedasticity-adjusted standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Model (1)	Model (2)	Model (3)
Early board involvement (no bid)	0.044*	0.042**	0.053**
	(1.837)	(1.971)	(2.436)
Early board involvement (with bid)	0.086***	0.081***	0.069**
	(2.709)	(2.787)	(2.317)
High meeting count	0.017	0.010	0.004
	(0.786)	(0.436)	(0.159)
Diversifying deal		-0.030	-0.034
		(-1.251)	(-1.388)
Tender offer		0.043	0.041
		(1.046)	(1.005)
Hostile deal		-0.017	-0.002
		(-0.289)	(-0.034)
Any stock payment		-0.048*	-0.051*
		(-1.863)	(-1.839)
Competition		-0.036*	-0.034
		(-1.685)	(-1.501)
Toehold		-0.004	0.018
		(-0.061)	(0.279)
Seller initiated		-0.014	-0.010
		(-0.606)	(-0.443)
Local deal		0.007	0.004
		(0.324)	(0.176)
Fairness opinion obtained		-0.016	-0.010
		(-0.556)	(-0.331)
Private negotiation process duration (months)		-0.006*	-0.004
		(-1.829)	(-1.295)
Target termination fee dummy		0.037	0.033
		(0.755)	(0.667)
ln(Relative size)		-0.040***	-0.038***
		(-4.734)	(-4.247)
ln(Target size)		-0.022***	-0.026***
		(-2.607)	(-2.681)
Target Tobin's Q		-0.014	-0.015
		(-0.996)	(-1.038)

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Table 3.10 (Continued)

	Model (1)	Model (2)	Model (3)
Target leverage		0.064	0.066
		(0.595)	(0.614)
Target adjusted return (-316, -64) > 0		-0.074***	-0.074***
		(-3.989)	(-3.819)
Acquirer Tobin's Q		0.015	0.017
		(1.202)	(1.334)
Acquirer leverage		-0.044	-0.027
		(-0.567)	(-0.342)
M&A Committee			-0.052**
			(-2.216)
Target board size			0.009*
			(1.847)
Independent board			0.030
			(0.803)
Dual CEO			-0.022
			(-1.136)
% of busy directors			0.090
			(1.491)
Target board tenure			0.002
			(0.700)
CEO ownership			0.365**
			(2.077)
Independent director ownership			0.150
			(0.879)
Target directors retained as % of target board			-0.010
			(-0.174)
Board interlock			-0.061
			(-1.163)
Constant	0.202***	0.326***	0.189*
	(11.993)	(4.074)	(1.816)
Industry dummies	No	Yes	Yes
Year dummies	No	Yes	Yes
Adjusted R^2	0.013	0.288	0.305
Sample size	513	482	473

APPENDIX

APPENDIX A List of Keywords Used to Identify Ties

For the analysis in Chapter 2, 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

APPENDIX B Variable Definitions

Table A.1 Variable definitions

Variables	Definitions	Data sources
	Panel A: Social tie variables	
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.	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.	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.	M&A filings/Factiva
	Panel B: Target board activity variables	
Board meeting count	The number of target board meetings from the date of first serious contact between the target and acquirer to the date of announcement.	M&A filings
Days to first board meeting	The number of days it takes for the target board to hold its first meeting after the date of first serious contact between the target and acquirer.	M&A filings
Early board involvement	Dummy variable: 1 if the target board meets within a month of the date of first contact between the target and the acquirer.	M&A filings
Early board involvement (with bid)	Dummy variable: 1 if the target board meets within a month of the date of first contact and receives a formal bid from the acquirer before the meeting.	M&A filings
Early board involvement (no bid)	Dummy variable: 1 if the target board meets within a month of the date of first contact between the target and the acquirer, without receiving a bid.	M&A filings
High meeting count	Dummy variable: 1 if the number of target board meetings held during the merger talks is greater than or equal to the median value of 5.	M&A filings

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Table A.1 (Continued)

Variables	Definitions	Data sources
	Panel C: Measures of merger performance	
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
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
Takeover premium	The offer price divided by the price of the target stock 64 trading days prior to deal announcement minus 1.	SDC/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
	Panel D: Firm characteristics	
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
Firm in regulated industry	Dummy variable: 1 if the firm operates in a regulated (finance or utilities) industry, 0 otherwise.	Compustat
Firm size ($ mil)	Inflation adjusted market value of equity in millions as of the 64th trading day before deal announcement.	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
Leverage	Book value of debt over market value of total assets as of the fiscal year-end prior to the deal announcement.	Compustat
ln(# of industries)	Natural logarithm of the total number of different 4-digit SIC codes the firm 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
Tobin's q	Market value of assets over book value of assets as of the fiscal year-end prior to the deal announcement.	Compustat

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Table A.1 (Continued)

Variables	Definitions	Data sources
	Panel E: Deal characteristics	
All cash payment	Dummy variable: 1 if deal is financed 100% with cash, 0 otherwise.	SDC
All stock payment	Dummy variable: 1 if deal is financed 100% with acquirer stock, 0 otherwise.	SDC
Any cash payment	Dummy variable: 1 if the deal is financed partially or fully with cash, 0 otherwise.	SDC
Any stock payment	Dummy variable: 1 if the deal is financed partially or fully with acquirer stock, 0 otherwise.	SDC
Board interlock	Dummy variable: 1 if at least one of the target directors is also a director of the acquirer, 0 otherwise.	M&A filings
Buyer initiated	Dummy variable: 1 if the deal is buyer-initiated, 0 otherwise.	M&A filings
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.	M&A filings
Diversifying deal	Dummy variable: 1 if bidder and target do not share the same Fama French - 48 industry, 0 otherwise .	Compustat
Fairness opinion obtained	Dummy variable: 1 if the target has obtained a fairness opinion, 0 otherwise.	SDC
Financial services	Dummy variable: 1 if both the acquirer and target are in the financial services industry, 0 otherwise.	Compustat
Hostile deal	Dummy variable: 1 if the bid is recorded by SDC as hostile or unsolicited, 0 otherwise.	SDC
ln(Financial advisory fees)	Natural logarithm of the inflation adjusted financial advisory fees paid by the firm.	SDC
Local deal	Dummy variable: 1 if the headquarters of the merging firms are within 100 kilometers of each other, 0 otherwise.	SDC
M&A committee	Dummy variable: 1 if the target has an M&A special committee, 0 otherwise.	M&A filings
Merger of equals	Dummy variable: 1 if the deal is a merger of equals, 0 otherwise.	SDC
Number of T&A advisors	Total number of target and acquirer financial advisors.	SDC
Private negotiation process duration/length	The length of the period from the date of first serious contact between the target and acquirer to the date of announcement.	M&A filings
Relative size	Deal value divided by acquirer's market value of equity as of the 64th trading day before deal announcement.	SDC/CRSP
Seller initiated	Dummy variable: 1 if the deal is seller-initiated, 0 otherwise.	M&A 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.	DEF-14A filings
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.	DEF-14A filings

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Table A.1 (Continued)

Variables	Definitions	Data sources
	Panel E: Deal characteristics (Continued)	
Tender offer	Dummy variable: 1 if the bid is recorded by SDC as a tender offer, 0 otherwise.	SDC
Termination fee dummy	Dummy variable: 1 if the termination fee to be paid is nonzero, 0 otherwise.	SDC
Toehold	Dummy variable: 1 if the acquirer owns a non-zero percentage of target's stock prior to deal announcement, 0 otherwise.	SDC
Toehold (Officer, 2003)	Dummy variable: 1 if the acquirer owns more than 5% of target's stock price, 0 otherwise.	SDC
	Panel F: Target governance characteristics	
Board size	Number of directors serving on the board.	DEF-14A filings
Board tenure	Average tenure of directors on the board.	DEF-14A filings
High shareholder control	Dummy variable: 1 if CEO and board chair positions are separated, CEO ownership is less than 20%, CEO tenure is less than 5 years and percentage of independent directors is greater than 60%, 0 otherwise.	DEF-14A filings
Independent board	Dummy variable: 1 if the percentage of independent directors is greater than 0.5 in the board, 0 otherwise.	DEF-14A filings
Independent director ownership	The sum of the number of options exercisable within 60 days as of the date of the proxy statement and the number of shares held by independent directors divided by the number of outstanding shares of the firm.	DEF-14A filings
Independent director percentage	The percentage of independent directors on the board.	DEF-14A filings
Other directorships	Average number of other directorships held by independent directors of the firm.	DEF-14A filings
Outside director percentage	The percentage of outside directors (independent & grey directors) on the board.	DEF-14A filings
Percentage of busy directors	The number of independent directors who hold two or more directorships in other public firms as a percentage of the board size.	DEF-14A filings
	Panel G: CEO characteristics	
CEO ownership	The sum of the number of options exercisable within 60 days as of the date of the proxy statement and the number of shares held by the CEO divided by the number of outstanding shares of the firm.	DEF-14A filings
CEO passed retirement age	Dummy variable: 1 if the CEO is older than 65 years old as of the proxy statement prior to deal announcement, 0 otherwise.	DEF-14A filings
CEO tenure	The number of years the CEO has been on board as of the proxy statement prior to deal announcement.	DEF-14A filings
Dual CEO	Dummy variable: 1 if the CEO also chairs the board, 0 otherwise.	DEF-14A filings

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Table A.1 (Continued)

Variables	Definitions	Data sources
	Panel H: Director characteristics	
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.	M&A filings/Factiva
Director is CEO	Dummy variable: 1 if the director is also the CEO, 0 otherwise.	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.	DEF-14A filings
Director retained	Dummy variable: 1 if the target director is retained on the board of the combined firm, 0 otherwise.	DEF-14A filings
Director tenure	The number of years the director has been on board as of the proxy statement prior to deal announcement.	DEF-14A filings
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.	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.	M&A filings/Factiva
Director with a tie	Dummy variable: 1 if the director is connected to a director or executive of the acquirer, 0 otherwise.	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.	M&A filings/Factiva

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