

Costs and Benefits of “Friendly” Boards during Mergers and Acquisitions¹

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Abstract

Although recent regulations call for greater board independence, finance theory predicts that independence is not always in the shareholders' interest. In situations where it is more important for the board to provide advice than to monitor the CEO, more independent directors can decrease firm value because the CEO is not willing to share inside information with independent directors. I test this prediction by examining the connection between takeover returns and board "friendliness" using social ties between the CEO and board members as a proxy for less independent, more "friendly" boards. I find that social ties are associated with higher bidder announcement returns when advisory needs are high but with lower returns when monitoring needs are high. These effects intensify as the proportion of the board socially connected to the CEO increases and are not driven by correlations between social ties and other board characteristics. The evidence suggests that friendly boards can have both costs and benefits depending on the specific needs of the company.

Introduction

Recent regulations such as the Sarbanes-Oxley Act of 2002 and the NYSE new listing requirements of 2003 call for greater participation of outside directors in corporate governance.¹ The new regulations are motivated at least in part by the view that independent directors are better able to discipline the CEO, an idea with a long pedigree in corporate finance (e.g., Berle and Means (1932), Fama and Jensen (1983), and Jensen (1993)). Yet, despite the widespread belief among regulators and scholars that independent directors are good for corporations, there is surprising little evidence to support the notion that outside board members increase corporate value or efficiency.² In addition, theory suggests that in some circumstances *less* independent boards can benefit shareholders (e.g., Adams and Ferreira (2007), Harris and Raviv (2008)).³

This paper tests the largely unexplored hypothesis that less independent, more “friendly” boards can benefit the shareholders of firms pursuing corporate acquisitions.⁴ Theory predicts that less independent directors can be helpful when the importance of board advice surpasses the need to supervise the CEO. This is because the CEO has no incentive to conceal inside information from friendly directors, which in turn allows for better board counsel (Adams and Ferreira (2007)). To test this prediction, I use observable social connections between the CEO and board members as a proxy for board friendliness. Following prior literature, I classify firms based on their specific advisory and monitoring needs. I then examine how the effects of social ties on the value of the firm vary across these classifications. I find that when board directors are more likely to possess valuable information about the merger, higher announcement returns are observed for bidders with more friendly boards. Conversely, when the need to discipline the manager is a greater concern, social ties have a negative impact on the acquiring firm’s performance. I also find that these social connections are prevalent among merger deals that resulted in extreme changes in shareholders’ wealth, which highlights the potentially large economic impact of social ties.

Adams and Ferreira (2007) provide a theoretical analysis of the advisory role of boards. In their model, the board can affect the firm’s value through both disciplining and advising the CEO. How well it performs each function depends on how much information executives and board members exchange. When directors are independent, the CEO is reluctant to reveal private information. This is because revealing what really underlies some proposed policy might

¹ See Duchin et al. (2008) and references therein for more details on such regulatory changes.

² See e.g., Bhagat and Black (2002) and Hermalin and Weisbach (2003). There is evidence, however, that outside directors can influence certain corporate tasks, such as CEO turnover (Weisbach (1988)).

³ In a related work, Duchin et al. (2008) find that the effectiveness of outside directors varies with the costs of acquiring information, which suggests that the impact of board independence on performance varies across firms.

⁴ The term “friendly boards,” which I use throughout, is borrowed from Adams and Ferreira (2007). It is meant to capture the degree to which the board is reluctant to take actions against the CEO.

prompt the board to intervene in favor of shareholders. The manager thus protects him or herself from monitoring, though at the cost of not receiving proper advice. Conversely, when board members do not take actions against the CEO, there is no incentive for the manager to conceal information from the board. More informed directors in turn improve the overall quality of board counsel. Friendly boards therefore provide better advice but cannot supervise managers efficiently. From the shareholders' perspective, independent boards are desirable when monitoring is more important than advice. When supervising the CEO is less crucial than the need for feedback from board members, however, shareholders prefer a *less* independent, more friendly board.

Harris and Raviv (2008) make a similar argument. In their model, it is costly for outside board members to obtain inside information about the company. Uninformed outside directors cannot properly advise the CEO. Consequently, when the value of inside knowledge is high, shareholders will prefer to delegate control to insiders. Raheja (2005) also studies how the exchange of information between insiders and outsiders influences optimal board structure. In her model, outsiders use CEO succession to motivate insiders to reveal their superior information.

Although the exact channels through which board composition affects firm value differ in these models, they all share this insight: because independent directors are less informed, they can impair the board's ability to serve as valuable advisers to the CEO. The immediate implication is that less dependent directors can increase firm value when the advice they provide is sufficiently important for the success of the merger. Testing this common prediction is the central theme of this paper.

In both Harris and Raviv (2008) and Raheja (2005) independent directors are equivalent to outside board members. In Adams and Ferreira's model, however, the concept of friendly boards is broader than outside representation. In particular, the model does not preclude outside board members from being friendly. For instance, friendship ties between CEOs and outside board members can impair board members' willingness to discipline the CEO, reducing their true independence. This in turn increases the information flow between the parties and improves the quality of board advice. This distinction is important because the proportion of outside members on the board of directors has been traditionally used to measure board independence. Although I do consider outside representation as a potential measure, my primary gauge for friendly boards relies on social connections between chief executives and board members. This measure is motivated in part by recent work in management literature suggesting that social ties foster friendship (e.g., Westphal (1999), Westphal et al. (2006) and Kroll et al. (2008)) and in

part by studies questioning the efficacy of the regulatory definition of an independent director (e.g., Duchin et al. (2008) and Cohen et al. (2008a)).⁵

If social ties do capture part of the actual level of board independence, Adams and Ferreira's hypothesis can be restated in the following terms:

Main hypothesis: Social ties between the CEO and board members affect the value of the firm as follows:

1. Stronger ties decrease the board's willingness to discipline the CEO, destroying the firm's value when the preferences of the CEO and the shareholders are not aligned.
2. Social ties facilitate the exchange of information between CEOs and board members and improve the quality of board advice, increasing the firm's value when board advice is important.

The direct implication of this hypothesis is that social ties will benefit shareholders if, and only if, the gains from improved board advice outweigh the costs from reduced monitoring. As a prediction, we should observe a negative effect of social ties on the performance of firms for which board supervision is likely to be very important. Conversely, when board advice is the main concern, we should observe a positive effect of social ties.

The first step in testing this hypothesis is to identify a corporate decision where both the monitoring and advisory roles of the board are likely to affect the firm's value. One that meets these requirements is the decision to acquire another company. Mergers are major and complex corporate events that require the board's approval and have potentially large effects on shareholders' wealth. For instance, using announcement returns as a measure of wealth change, Moeller et al. (2004) report massive losses in 87 deals between 1998 and 2001: acquiring firm shareholders lost a total of \$397 billion, or an average of \$2.31 per dollar spent on the acquisition. Although these are extreme cases, they illustrate well the devastating effects of certain merger deals.

Focusing on the impact of one corporate event (as opposed to examining the overall value of the firm) has another advantage. Both Adams and Ferreira (2007) and Harris and Raviv (2008) are equilibrium models, in which shareholders maximize the overall value of the firm. In the absence of frictions, these models predict that board composition will always reflect the optimal choice of shareholders. We therefore would not be able to observe any effect of board independence on firm value. But shareholders are likely to take into consideration all corporate

⁵An alternative interpretation is that social ties promote shared values, which enhances corporate culture. These shared values may improve the alignment of actions (Kreps (1990), Cremer (1993)) of CEOs and board members. Shared beliefs about the prospects of the acquisition will benefit shareholders of acquiring companies if, and only if, agency problems is not a main concern.

policies, not only the decision to merge, when choosing the board structure. In addition, boards cannot adjust instantaneously to changes in the economic environment that prompt a merger opportunity. Therefore, it is possible that we will observe value effects of board independence following economic shocks that give rise to merger opportunities.

The main hypothesis predicts different effects of board friendliness depending on specific monitoring and advisory needs. Some classification scheme is therefore necessary in order to categorize firms across these two dimensions. I rely on prior literature to construct proxies for the relative importance of board supervision and counsel.

To identify mergers in which board supervision is likely to be more important, I create an index variable that accounts for many characteristics commonly associated with agency-driven acquisitions. Existing research suggests that some mergers are related to agency problems and thus to the board's supervisory role (e.g., Jensen (1986), Morck et al. (1990), Harford (1999)). Following this literature, the monitoring index includes such characteristics as high levels of free cash flows, low CEO equity-based compensation, few external monitors, and highly entrenched CEOs, among others. I hypothesize that acquisitions by bidders with higher monitoring needs can be identified by higher values of this index.

I follow a similar strategy to capture differences in advisory needs across firms. Specifically, the value created or destroyed by mergers is likely to be affected by the board's ability to counsel the CEO. Prior literature associates a number of firms and business characteristics to the importance of board advice (e.g., Westphal (1999), Adams (2003), Coles et al. (2008)). Board advice is likely to be more important during acquisitions made by more complex firms, by inexperienced CEOs, by companies with "expert" board members, and by bidders with informed directors. I use such characteristics to create the index for the importance of board advice.

The next step is to construct a proxy for friendly boards. I use social ties between chief executives and board members as a measure of friendly boards. Specifically, I look for observable social interactions between the CEO and board directors. These interactions include common membership at the same club, affiliation with the same charitable foundation, fraternity, art institute, museum, or other nonprofit organization, and common seats on university boards of trustees. I also look at cases in which the CEO and a board member received their MBAs from the same business school and within one year of each other. Whenever such an interaction is present, I define the CEO as having a potential social tie to a board member.

The findings are consistent with the hypothesis that social ties increase the value of the bidder when board advice is more important than monitoring the CEO. In a sample of 7,154 mergers from 1994 to 2006 I find that social ties are associated with lower mean bidder Cumulative Abnormal Returns (CAR) surrounding the merger announcement: 0.15% compared to 0.81%

for bidders with no social ties. Although the net effects of social ties are on average small, they vary greatly across different types of acquisitions. More important, this variation is strongly related to the proxies for monitoring and advisory needs. In particular, social ties have a strong negative effect on bidder performance when the monitoring index is above its median level: even after controlling for many characteristics commonly known to affect CARs, social ties decrease announcement returns by 1.38 percentage points.

Social ties are not always detrimental to shareholders, however. Perhaps the most important contribution of this paper is to present evidence that friendly boards can benefit shareholders. Specifically, I find that social ties are associated with higher announcement returns when board advice is likely to be important. For the subset of firms with advice index above the median, social ties increase average CARs by 1.91 percentage points. This difference is more than three times the magnitude of the unconditional mean announcement return of 0.61%. Moreover, this wedge is even larger for companies in which the higher advisory needs are accompanied by lower monitoring concerns: 2.06 or 2.19 percentage points, depending on the specific measure used. All these results are statistically significant and control for many characteristics previously found to be associated with bidder announcement returns.

After presenting the results for the typical acquisition, I examine whether social ties are related to shifts in shareholders' wealth surrounding some extreme merger announcements. Moeller et al. (2004) show that in a few mergers between 1998 and 2001 shareholders lost more than \$1 billion per acquisition. If a contributing factor to this "value destruction on a massive scale" is that social ties prevent proper board intervention, we should observe among these deals a disproportional amount of socially connected firms with high monitoring needs. I find that in 64% of the deals identified by Moeller et al. (2004), the chief executive of the acquiring firm was in fact socially connected to the board (compared to an average of 31% for all deals during the same period). Among these, 83% were deals made by acquiring firms with above-median values of the monitoring index. I use a Probit analysis to disentangle the effects of social ties from other companies characteristics. I find that, among companies with high monitoring needs, social ties increase the probability of extreme negative announcement returns by more than four times. As before, however, social ties are also associated with extreme *positive* changes in the value of the firm when advisory needs are high. I identify deals in which the acquiring firm experiences an increase in value of more than \$1 billion, the same threshold used by Moeller et al. (2004). Close to 58% of these acquisitions were made by a socially connected CEO, 76% of which were by firms with high advisory needs. Using the Probit estimates, I find that, conditional on high advisory needs, social ties increase the probability of extreme positive announcement returns by

over three times. I interpret these findings as evidence that social ties can help to explain the occurrence of such extreme deals.

After presenting the main results, I perform two robustness checks. The first uses the proportion of the board connected to the CEO as the proxy for friendly boards. Note that the findings discussed above concern the *presence* of CEO-board social connections. But if, as I argue, social ties do affect the two main functions of the board, we should also observe stronger effects as the number of connected board members increases. To test this implication, I first replicate the experiments above in a sample consisting only of firms with at least one socially connected board member. I find that in general, social ties with more board members are associated with larger effects on performance.

It could be that social ties are correlated with other variables that affect performance but are not related to board independence. For instance, social ties could proxy for board expertise or for the quality of directors. If high-quality board members are present only in firms with either high advisory or high monitoring needs, this could potentially induce a spurious result. As an additional robustness test, I estimate a two-stage selection model that takes into account many of the characteristics that could affect the existence of social ties. I then use the residuals of this estimation as a measure of social ties that is orthogonal to such characteristics. As it turns out, this increases the strength of the results. Across all specifications, social ties significantly increase performance when advice is important but also decrease announcement returns for high values of the monitoring index.

Last, it is important to note that these ties are not highly correlated with the commonly accepted measure of outside representation. In particular, the proportion of outside directors does not have a systematic impact on the value of acquiring firms. This might be an indication that social ties are related to a dimension of (true) board independence that is not captured by the legal classification of an independent director.⁶ Therefore, this paper is also related to recent work questioning the efficacy of the regulatory definition of an independent director (e.g., Duchin et al. (2008) and Cohen et al. (2008a)).

Overall, my results support the view that social ties (and board independence) affect the quality of corporate decisions. In other words, greater board independence can have both benefits and costs, which, as theory indicates, depend on the specific needs of the company. To the extent that social ties can capture one dimension of the relationship between the CEO and the board, the findings documented here suggest that complete board independence can sometimes hamper the board's ability to serve as valuable advisers to the CEO.

⁶Barnea and Guedj (2006) make a similar argument. They study how networks of directors affect CEO compensation and argue that social networks can be interpreted as a complementary measure of independence.

The paper proceeds as follows: Section I describes the data and the construction of the social ties measures. Section II presents the main findings, separating the effects of social ties when either monitoring or advice is a greater concern. Section III study the effects of social ties on extreme changes in the shareholders' wealth. Section IV shows how increases in the proportion of the board connected to the CEO strengthen the results. Section V concludes.

I Data and Empirical Design

In this section, I describe the sample and the construction of the social ties proxy. Three data sources are used to obtain information on companies, board members, and merger activity.

The director profile data was obtained from the BoardEx web site.⁷ This database contains detailed profiles of more than 30,000 executives and board members, covering virtually all US companies. From these profiles, I collect all information available for each director. This includes current and previous employment, education, affiliation to Not-For-Profit (NFP) associations (including religious institutions and university boards of trustees), club memberships (including fraternities), and other characteristics such as age and nationality.

I then match the BoardEx data to CRSP and Compustat, from which all financial and accounting variables are obtained. Because of potential survivorship bias, the board data is for the period from 1990 to 2007.⁸ During this sample period, more than 80% of all CRSP companies are covered by BoardEx.

The mergers data comes from the Securities Data Company (SDC). After collecting all completed mergers from 1994 to 2007, I impose the following data requirements.⁹

1. The acquirer is a publicly traded company with daily stock returns available in CRSP from 230 days before the announcement to the three days that follow it. The bidder is also required to have Compustat data for the three fiscal years before the merger announcement.
2. The acquisition was completed, the deal value is more than \$1 million and represents at least 1% of the acquirer's market value, measured at the fiscal year end before the announcement.
3. The bidder controls less than 50% of the target before the announcement and owns 100% of the target's shares after the transaction.

⁷Cohen et al. (2008b) is one of the first papers to use this database and contains a more detailed description. See also Ferreira and Matos (2007) and Cohen et al. (2008a).

⁸There seems to be strong of survivorship bias in the BoardEx files. Before the 1990s, the proportion of CRSP firms covered drops drastically.

⁹These requirements are similar to those in Masulis et al. (2007). The sample begins in 1994 instead of 1990 because I require individuals to have served on the board of directors for at least three years before the fiscal year preceding the acquisition.

4. The bidder can be identified in the BoardEx database. In addition, I require that there is information available on the CEO and at least three board members (which might include the CEO) starting three years before the announcement date.

A total of 7,154 mergers announced between 1994 and 2006 meet these criteria. Table I summarizes bidder, board, and deal characteristics for the sample. The bidder characteristics are similar to those in Masulis et al. (2007) and are measured at the end of the fiscal quarter preceding the announcement. The board composition numbers are also similar to recent studies using the more common IRRC database (e.g., Duchin et al. (2008)). The average board size is 7.9, with a median of 7.0 directors. The average proportion of outside directors is about 73%. In terms of deal characteristics, the average deal value is \$418 million. As expected, most acquisitions are for smaller targets. The average deal value as a percentage of the bidder's market value is 21%. Close to 35% of all acquisitions are financed entirely with cash, and more than 38% of acquisitions are for targets in a different four-digit SIC code industry.

A Social Ties

This section briefly describes the construction of the proxies for social connections between the CEO and board members. A detailed description can be found in the appendix. The goal is to construct a proxy for "social ties" using observable membership to institutions outside the working environment, in which social interactions or friendship ties between the CEO and board members could be more easily developed (e.g., Westphal (1999), Westphal et al. (2006), and Kroll et al. (2008)).

I obtain the affiliation of each director to various "nonbusiness" organizations from the director profiles in BoardEx. These institutions fall into one of the following categories: (i) clubs or fraternities, (ii) Not-For-Profit foundations (NFP), (iii) university boards of trustees, and (iv) network clubs.¹⁰ When the CEO and a board member share a common affiliation to one of these institutions, I classify them as "socially connected." Following the recent literature on school ties (e.g., Cohen et al. (2008b) and Nguyen-Dang (2008)), I also classify as socially connected two individuals who earned MBAs from the same school within one year of each other.

To construct the social ties proxy, I first compute the proportion of the board that is socially connected to the CEO. To correct for the large variation in the number of affiliations across institutions, I use simulations to subtract from this observed proportion the part that would be expected given the size of the institutions the CEO is affiliated with. For instance, in the sample, there are more graduates from Harvard than from Stanford. Thus, we can expect a larger percentage of the board to be connected to the CEO if he or she graduated from Harvard. This would

¹⁰The appendix contains a detailed description as well as many examples of each type of institution.

give Harvard a disproportionate weight in the measure. Subtracting out the expected percentage of directors connected to a Harvard-educated CEO makes the impact of each institution on the social tie measure more homogeneous.¹¹ I refer to this corrected number throughout as *% Friendly Board*. It is important to note that none of my conclusions change if the raw proportion is used instead.

Definition (Social Tie Measures): The following two measures are used as proxies for social connections:

% Friendly Board: For each acquirer f announcing an acquisition at t , *% Friendly Board* is defined as the difference between the actual proportion of eligible directors connected to the CEO and its expected value, as explained above. A director is eligible if, at the end of the fiscal year $t - 1$, he or she has served as a board member for company f for at least three years.

Social Ties: For each acquirer f announcing an acquisition at t , *Social Ties* is a dummy variable that is equal to 1 if *% Friendly Board* > 0 and is zero otherwise. It is then an indicator of the presence of social ties with at least one board member.

The three-year tenure requirement minimizes the possibility that the choice of a board member is related to the acquisition decision. This is important because it increases the chances that the composition of the board precedes the decision to acquire. Although I can not claim causality, it is unlikely that the decision to merge caused the hiring of a director three years before.

Throughout, I include all board members in the computation of the proportion of the board with social ties to the CEO. The results are very similar if only outside members are included.¹²

Table II contains the summary statistics for social connections. In Panel A, all board members are included in the construction of the social ties measure, whereas in Panel B only outside board members are considered. The first column (*% CEOs Connected*) contains the proportion of CEOs for whom *% Friendly Board* > 0 . On each row, I separate the numbers by the type of organization responsible for the social tie. For instance, from Panel A, 6.8% of CEOs belong to the same club as at least one director.¹³ The table also presents the mean of both the actual

¹¹Specifically, to estimate the expected proportion of the board connected to CEO i , I simulate 10,000 random boards by sampling from the population of potential directors. For each one of these simulated boards, I then check the proportion of directors who are socially connected to CEO i . The average across all simulations is then used to correct the actual proportion of board members with social ties to CEO i .

¹²This is because (i) for roughly 75% of the sample, outside directors represent more than 67% of the board, and (ii) social connections between the CEO and outside directors are much more common than among insiders (see Table II). These results are available on request.

¹³To be more precise, this number represents the proportion of CEOs for whom the *% Friendly Board* measure (i.e., the difference between the actual and simulated proportion) is above zero, where *% Friendly Board* is constructed using only ties from Clubs.

and the simulated proportions of board members connected to the CEO. The last column (*P-Value*) represents the average number of simulations for which the simulated proportion is larger than the one observed. For example, the first row of Panel A shows that in only 0.62% of all simulations the proportion of directors belonging to the same club as the CEO was greater than the observed proportion for that particular firm-year.

Across all types of ties, the observed proportion of the board connected is significantly larger than the one we would expect if directors were chosen at random. This is consistent with studies finding that the hiring decisions of executives and board members are influenced by social connections (e.g., Nguyen-Dang (2008)). When all ties are considered (*Any Tie*), we see that 33.1% of all CEOs are socially connected. The average proportion of the board connected (including the cases where no social tie exists) is 5.9%, which makes the average *% Friendly Board* equal to $4.7\% = (5.9\% - 1.2\%)$. The numbers for the proportion of outside members connected to the CEO are quite similar, which indicates that CEOs' social connections are more pervasive among outside board members.¹⁴

B Proxies for Monitoring and Advisory Needs

This section describes the construction of the proxies for monitoring and advisory needs. I start with the proxy based on characteristics commonly associated with a greater need to supervise the CEO.

Monitoring I rely on previous research to identify situations in which managers have greater incentives to engage in self-serving acquisitions.¹⁵ Jensen (1986) argues that managers are more likely to empire build when firms have abundant cash flows but few profitable investment opportunities. Lang et al. (1991) and Harford (1999) find supporting evidence in favor of the free cash flow theory. As noted by Masulis et al. (2007) and others, the commonly used accounting measures of “free cash flows” do not necessarily correspond to the availability of “excess cash.” Free cash flows can also be a proxy for better recent firm performance, which could be correlated with high-quality managers, who in turn tend to make better acquisitions (Morck et al. (1990)). I follow Dittmar and Mahrt-Smith (2007) to construct a measure of excess cash that accounts for the many possible reasons firms have to hold cash. Each year, firms with excess cash above the industry median are defined as cash-rich firms, which, according to the Free Cash Flow Theory,

¹⁴The average proportion of outside board members (73%) is not high enough to explain the similarities between the numbers in Panels A and B.

¹⁵Other papers have also tried to identify situations in which empire building motives are more likely to be behind acquisitions, e.g., Morck et al. (1990) and Masulis et al. (2007).

are more likely to merge excessively. I use the indicator variable *High Excess Cash* to identify these cases.

Managers are also more prone to engage in unnecessary mergers when they own a smaller share of the company, either directly or through compensation packages (Jensen and Meckling (1976)). Datta et al. (2001) find a strong positive relation between the acquiring managers' equity-based compensation and stock price performance around the acquisition announcement. I follow these authors to construct a measure of Equity-Based Compensation (EBC). EBC is defined as the sum of the value of new stock options (using the modified Black-Scholes method) granted to the CEO as a percentage of total compensation. *Low EBC* is an indicator variable that equals 1 if the firm's EBC is lower than the industry median in that given year.

Masulis et al. (2007) find that bidder returns are lower for firms with low governance indexes and more anti-takeover provisions. One interpretation of their results is that more entrenched managers are less susceptible to market discipline and therefore more likely to engage in unnecessary acquisitions. To proxy for entrenched CEOs, I use the E-index of Bebchuk et al. (2008). As in Masulis et al. (2007), I define *High E-index* to represent those firms with an E-index greater than 2.

Chen et al. (2007) show that concentrated holdings by independent long-term institutions are associated with better postmerger performance, which they attribute to the active external monitoring role of such institutions. Following Chen et al. (2007), I create a measure of institutional ownership and then define the variable *Low Inst Own* to indicate the cases where ownership is below the industry median.

Shleifer and Vishny (1989) suggest that managers have incentives to enter a new line of business when threatened by poor performance, a view supported by the evidence in Morck et al. (1990). This does not mean, however, that all diversifying acquisitions are agency-driven. In fact, Matsusaka (1993) finds evidence that acquirer shareholders benefited from diversification acquisitions during the conglomerate merger wave of the late 1960s.¹⁶ Therefore, agency-driven diversifying acquisitions are more likely to be the ones that follow bad performance. Like Morck et al. (1990), I use the change in operating income during the prior three years as a measure of performance and then create the variable *Diversifying × Low Δ Inc* to indicate diversifying acquisitions in which the bidder's past performance falls below the industry median.

Last, Duchin and Schmidt (2008) argue that the costs of empire building incurred by the CEO are lower during merger waves and find evidence of both less efficient mergers and lower poor-performance-driven CEO turnover during periods of high merger activity. Using the algorithm

¹⁶Diversification can also be the result of a value-maximizing strategy, unrelated to agency problems, as formalized in Matsusaka (2001).

described in Harford (2005), I create the variable *Wave* to indicate periods of intense merger activity.

Using the six indicator variables defined above, I create the index *Monitor* as

$$\begin{aligned} \textit{Monitor} = & \textit{Wave} + \textit{High Excess Cash} + \textit{High E-index} + \textit{Low Inst Own} + \textit{Low EBC} \\ & + \textit{Diversifying} \times \textit{Low } \Delta \textit{ Inc} \end{aligned} \quad (1)$$

Companies with higher values of *Monitor* are assumed to have a greater need for more board supervision.

It is possible that the individual indicator variables that constitute *Monitor* are correlated. Instead, Panel A of Table V shows that the correlations between these variables are generally low.¹⁷ The largest correlations are between *Low EBC* and *Low Inst Own* (0.17) and between *Wave* and *High E-index* (0.11). All other coefficients are below 10% in magnitude.

Advice Board advice is likely to be valuable when directors possess pertinent information that the CEO does not have. I use several measures to identify acquisitions in which we can expect a higher degree of complementarity between the knowledge possessed by the CEO and that possessed by board members.

In general, it should be more costly for insiders to acquire information about a target in a different industry, *ceteris paribus*. Therefore, bidders in diversifying mergers are potential candidates to enjoy greater benefits from board advice. To differentiate between diversifying acquisitions that could be driven by agency, I consider as one of the proxies for advisory needs only diversifying acquisitions that follow good performance. Specifically, I define *Diversifying* \times *High* Δ *Inc* to indicate diversifying acquisitions that follow above industry median increases in operating performance.

I then focus on a subset of diversifying acquisitions where the cost of becoming informed about the target is expected to be especially low for some board members. One such situation is when some of the bidder's outside directors also serve on the board of another company in the target's industry. These "informed" directors are likely to be intimately related to both businesses and thus better prepared to assess the future prospects of the merger. The variable *Informed Director* identifies these situations.

Chief executives are also likely to benefit from board advice when the bidder is a more complex firm. Following prior literature, I look at the number of business segments as a measure

¹⁷Since each variable in the *Monitor* index is binary, tetrachoric correlations rather than the more common Pearson correlation coefficients are estimated.

of firm complexity (e.g., Coles et al. (2008)). The variable *Complex Bidder* identify bidders with more than one business segment.

I also look at boards in which there are directors with financial expertise (Guner. et al. (2008)). The variable *Expert Board* identifies those boards in which at least one director is also either a CFO or a top executive in a bank (CEO, CFO, COO, or Vice President).

Last, I use two variables to proxy for the CEO experience. The variable *Inexp CEO & Exp Board* indicates cases in which (i) the number of years the CEO has worked in the industry is below the median and (ii) the average experience of board members is above the industry median. *Young CEO* indicates cases in which the CEO's age is below the industry median.

These indicator variables are then used to create an index of advisory needs.

$$\begin{aligned} Advice &= Complex Bidder + Expert Board + Inexp CEO \& Exp Board + Young CEO \\ &+ Informed Director + Diversifying \times High \Delta Inc \end{aligned} \quad (2)$$

High values of *Advice* should then proxy for acquisitions in which the CEO is more likely to benefit from the board's advice.

Similar to the variables that constitute the monitoring index, these advisory variables are not highly correlated to each other. From Panel A of Table V, the largest coefficients are from the correlation between *Diversifying* \times *High* Δ *Inc* and *Informed Director* (0.22) and between *Diversifying* \times *High* Δ *Inc* and *Young CEO* (0.12). All other coefficients are below 10% in magnitude.

Again from Panel A, we can see that the advisory variables are not strongly correlated with the monitoring variables either. Apart from *Diversifying* \times *High* Δ *Inc* and *Diversifying* \times *Low* Δ *Inc*, which are naturally negatively correlated, all other variables are not strongly correlated. *Complex Bidder* is correlated with *Wave* (-0.20) and *High E-index* (-0.16). Because of the way *Informed Director* is defined, its correlation with *Diversifying* \times *Low* Δ *Inc* is also among the highest we observe (0.14). Finally, the correlation coefficient between *Diversifying* \times *Low* Δ *Inc* and *Young CEO* is -0.13.

Panel B of Table V shows the distribution of the merger deals across the monitoring and advisory indexes. There are 5,817 deals in which the *Monitor* is greater than zero (81% of the sample) and 6,359 in which the *Advice* is 1 or more (89% of the sample). Across each dimension, an index of 2 or more roughly divides the sample in half. For the advisory index this corresponds to 3,890 deals or 54% of the sample, while for the monitoring index, these numbers are 3,013 and 42%, respectively. As the value of the indexes increases, the number of firms drops drastically. Only 16% of the deals have *Advice* \geq 3 and an even lower proportion, 14%, have *Monitor* \geq 3.

C Performance Measures and Other Controls

This section describes the construction of the performance measures used in the tests that follow, as well as the controls for many firm and deal characteristics that have been shown to affect bidder performance.

Announcement returns As in Moeller et al. (2004), Masulis et al. (2007), and many others, I measure bidder announcement effects by market model adjusted stock returns around merger announcements. Market model estimates are obtained using the daily CRSP value-weighted index as a proxy for returns on the market portfolio. The estimation period is from 230 days to 11 days before the announcement. Announcement dates are obtained from SDC, and three-day cumulative abnormal returns (CAR) are computed around these dates.

Table IV contains the average bidder announcement returns for different samples. The first column (*All*) includes all the deals that fall into the categories described by each row. For instance, the table reports that the average CAR for the entire sample is 0.61%, whereas for acquisitions that took place during merger waves it is 0.37%. In the second and third columns, I separate the deals in which the bidder's CEO is socially connected to at least one director in that same company's board (*Social Ties*) from those in which no such ties are present (*No Ties*). The last column displays the difference between the former and the latter. A negative number in this last column thus indicates that the average announcement return is lower when social ties are present.

For the entire sample, mean announcement returns when social ties are present are smaller than when no such ties exist. This difference of -0.65% is also significant at 1% level. This indicates that, unconditionally, social ties tend to have a negative effect on overall bidder returns. To the extent that social ties proxy for some sort of board dependence, this result is consistent with less independent boards making worse acquisitions. But the average effect of social ties on performance varies greatly across different types of firms and deals. I start by showing how monitoring needs exacerbate the negative effects of these ties.

Across all variables that constitute the monitoring index, average announcement returns are lower when social ties are present, and the differences are generally significant. For example, on average, wave acquisitions with socially connected CEOs yield -0.47% CARs. When no such connections exist, returns are much larger (0.78%). The difference of -1.20%, roughly twice the magnitude of the overall average CAR, is also significant at 1% level. Social connections have the largest effect when we concentrate on firms with high levels of excessive cash (-1.33%). While the average bidder with no social ties earns a positive and significant return of 1.23%, acquiring firms in which the CEO is connected to the board experience a slightly negative CAR

of -0.10%. The smallest negative effect across the monitoring variables is for firms with an E-index above the median (-0.89%). For these firms, the effects of social ties are only marginally significant.

When board advice is likely to be important, the negative effects of social ties disappear. With the exception of the sample of inexperienced CEO and experienced board members (*Inexp CEO & Exp Board*), where this difference is negative and slightly significant, social ties are not associated with lower performance when advisory needs are high. But, at least unconditionally, they are not associated with significantly higher returns either. The largest difference across the advisory variables is for diversifying acquisitions. In this case, social ties are associated with 1.21 percentage points higher abnormal returns, a difference that is significant at the 10% level. As I show in the next section, when we control for firm and deal characteristics, social ties do have a positive and significant effect on performance when advisory needs are high. But before we go into the main regression specification, it is helpful to describe the controls included.

Bidder characteristics Firm size has been shown to affect bidder performance. For instance, Moeller et al. (2004) find that firm size is negatively correlated with the bidder's CAR, which they attribute to managerial hubris (Roll (1986)). In the first column of Table V, bidder announcement returns are regressed on many firm and deal characteristics. I use total assets as a proxy for firm size and find, like others, that size is inversely related to CARs. The coefficient of -0.39 is significant at the 1% level (T-stat of -3.74).

Tobin's Q is also found to affect announcement returns (e.g., Lang et al. (1991) and Moeller et al. (2004)). Including Tobin's Q as a control variable is problematic because Q might be determined endogenously. I follow Gillan et al. (2006) and Masulis et al. (2007) and substitute individual market to book ratios by the industry median (using all companies in Compustat). Tobin's Q is defined as the market value of assets divided by the book value of assets, where the market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity and balance sheet deferred taxes. Similar to Masulis et al. (2007) I find a small negative effect of Tobin's Q on CARs (-0.34). But whereas they find a slightly significant effect, my estimates are not significantly different from zero (Column (1), Table V).

I also include the acquirer's leverage as another control. Leverage is long-term debt plus debt in current liabilities over long-term debt plus debt in current liabilities plus the book value of common equity. Like Tobin's Q, leverage is likely to be endogenous, so I again substitute individual leverage measures by their industry counterparts. Again similar to Tobin's Q, industry leverage does not seem to have a significant effect on CARs. The coefficient on this variable is 0.04 with a T-stat of 0.47.

To account for past performance of the bidder, I include the *Price Run-up*, as defined in Masulis et al. (2007): *Price Run-up* is the bidder's buy and hold abnormal return from 230 to 11 days before the announcement. The CRSP value-weighted index is used as the benchmark. Like those authors, I also find a significant negative effect of *Price Run-up* on CARs. The coefficient of -0.36 (T-stat of -3.42) suggests that investors discount the price of firms announcing acquisitions more when these experienced larger prior performance, consistent with the asymmetry of information theory of Myers and Majluf (1984).

Last, the number of board members (*Board Size*) and the proportion of outside directors (*% Outside Dirs*) are also included. Yermack (1996) documents that larger boards are associated with lower firm value. I find no effect of *Board Size* on CARs in the main regression specification (Column (1) of Table V). Interestingly, *% Outside Dirs* has a negative effect on announcement returns. I discuss this finding in Section II.

Deal characteristics Acquirer announcement returns seem to be related to the method of payment and the type of target (e.g., Chang (1998), Moeller et al. (2004), and Officer et al. (2008)). To account for this variation, I include controls for the type of target (*Public*, *Private*, and *Subsidiary*) and medium of payment (*Cash Only* and *Stock Deal*). Because the choice of medium of exchange is often related to the target characteristics (Officer et al. (2008)), I include interactions between the target type and the type of payment. In the first column of Table V I find that the strongest effect is for acquisitions of public targets that are financed with cash. On average, announcement returns of bidders in these deals are -3.24 percentage points lower (T-stat of -3.24). Conversely, deals in which subsidiaries were acquired with cash only earn higher returns (0.99 percentage points difference with a T-stat of 3.98).

I include the *Relative Deal Size* to control for the size of the deal. *Relative Deal Size* is the value of the deal as reported by SDC over the market value of the acquirer measured at the end of the fiscal year preceding the announcement (in %). Acquisitions in which *Relative Deal Size* is higher are also associated with higher CARs. The coefficient of 0.99 is significant at the 1% level.

II Empirical Results

Having described the sample and the construction of the main variables, I turn to empirical analysis of how friendly boards affect bidder announcement returns. Perhaps the most important goal is to test the prediction of Adams and Ferreira (2007) and Harris and Raviv (2008) that less independence is advantageous when advisory needs are high. I first examine whether part of

the variation in the announcement returns of acquiring firms can be explained by the presence of social ties. I then look at how these effects vary across firms with different advisory or monitoring needs.

A Social Ties and the Dual Role of the Board

In Table V, bidder announcement returns are regressed on the controls discussed above plus two different proxies for board independence: *% Outside Dirs*, representing the proportion of outside directors on the board, and *Social Ties*. All regressions include year dummies (not reported) and robust standard errors clustered at the industry level (four-digit SIC codes).

In the first column of Table V, the main variable of interest is the social ties indicator (*Social Ties*). On average, social ties have only a small and marginally significant effect on CARs. The coefficient of -0.26 (T-stat of -1.83) indicates that the social ties decrease bidder performance by 26 basis points on average. This is smaller than the unconditional effect of social ties on average CARs (-0.65% from Table IV). Perhaps surprisingly, the effect of outside representation is also negative, although not significant at 5% level. This is consistent with other studies that find only a small, insignificant effect of outside representation on merger announcement returns (e.g., Byrd and Hickman (1992), Matsusaka (1993), and Masulis et al. (2007)). In fact, Byrd and Hickman (1992) find a strong *negative* effect of outside representation on CARs when independent directors exceed 60% of the board, a condition that is met by more than 75% of my sample (Table I).

As advisory needs increase, the effect of social ties on bidder performance shifts from slightly negative to significantly positive. In Column (2) of Table V, the social ties indicator is multiplied by the proxy for advisory needs. The coefficient on the interaction is negative and highly significant (1.43 with a T-stat of 4.12). The opposite result is found when *Social Ties* is interacted with *Monitor*; the coefficient on the interaction is negative and also significant (-0.75 with a T-stat of -0.75). Similar effects are found when both indexes for monitoring and advisory are included (the correlation between the two indexes is less than 1%). This result indicates that social ties can be beneficial to acquiring firms in which board advice is important. On the other hand, as predicted by theory, social ties have a negative effect on CARs when CEO supervision is likely to be a more important concern, as can be seen from Columns (3) and (4).

Similar patterns are not observed when friendly boards are proxied by outside representation. The last column of Table V shows no significant effects of *% Outside Dirs* on bidder announcement returns, even after conditioning on advisory or monitoring needs. This might indicate that actual board independence is not entirely captured by the regulatory definition of an outside director.

Overall, the results in Table V are consistent with the assertion that board independence (as measured by social ties) affects the board's two main functions. In particular, I find evidence that less independence can increase the wealth of bidder shareholders in situations where the board's advice is crucial. In the next section, I take a closer look at different sets of firms that tend either to benefit more from board feedback or to have lower concerns about CEO supervision or both.

B The Effects of Social Ties on Different Samples

In this section, I look at how the effects of social ties vary across different samples. An advantage of this approach is that it allows an easy interpretation of the magnitudes of the effects of social ties on each group of firms. If friendly boards are beneficial at times when feedback from the board is important, then in a subsample of firms in which *Advice* takes higher levels, we should observe higher announcement returns for firms with socially connected CEOs. Analogously, for those firms with high values of *Monitor* we should observe a negative effect of social ties on bidder performance.

In Table VI, I estimate the main regression specification for different subsamples. The first two columns correspond to those deals in which the value of *Advice* is equal or greater than its median value of 2. For this subset of firms, corresponding to roughly half of the sample, social ties significantly increase bidder abnormal returns. The coefficient of 1.17 implies that, for those deals, social ties are associated with 1.17 percentage points higher CARs. To put this into perspective, note that this is a stronger average effect than that of a one standard deviation increase in either firm size or relative deal size.¹⁸

According to the main hypothesis, firms with higher advisory needs would benefit more from social ties. In fact, if we restrict the sample further to those deals in which *Advice* is greater than 2 (its median value), the estimated positive effects of social ties also increase. From the second column of Table VI we can see that acquiring firms with socially connected CEOs earn 1.91 percentage points higher returns on average (T-stat of 2.32).

The opposite occurs for deals in which high monitoring needs are expected. When the monitor index is 2 (its median value) or more, social ties reduce the bidder performance by -1.38 percentage points (T-stat of -4.56). This is in line with the argument that social ties reduce the board's ability to discipline the CEO, which is especially valuable at times of greater monitoring needs. When we look at the sample of firms with higher values of monitoring (*Monitor* > 2) we still find that social ties reduce the CARs of those firms.

¹⁸A one standard deviation increase in the log of firm size produces a decrease in CARs of $1.92 \times -0.51 = -0.97$ percentage points, whereas a one standard deviation increase in relative deal size has an impact of $0.57 \times 0.48 = 0.27$.

According to Adams and Ferreira’s (2007) hypothesis, the positive effects of friendly boards should be stronger for firms in which the importance of the board’s advice surpasses the need to supervise the CEO. In the last two columns of Table VI, I look at firms for which this situation is more likely to occur. When $Monitor \leq 1 < Advice$, social ties are associated with an increase in announcement returns of 2.06 percentage points. This larger effect is perhaps not surprising, given the signs and significant of the coefficients in the first four columns. For the stricter requirement that $Monitor \leq 2 < Advice$, the effect is even stronger. In this case, the difference between the returns of firms with socially connected CEOs and firms where no such connection exists is about 2.19 percentage points (T-stat of 2.57).

Last, the effects of outside representation on CARs are again generally insignificant. With the exception of the sample with $Advice > 2$, where the coefficient on *% Outside Dirs* is negative and marginally significant (-2.69 with a T-stat of -1.74), outside representation has no significant effect on announcement returns. This mirrors the results found in Table V and strengthens the assumption that social ties are capturing something different than the usual measure of board independence.

In all results above, the indexes of *Advice* and *Monitor* were used as a gauge for monitoring and advisory needs. Because each component that constitutes these variables can also be a proxy, it is interesting to see whether the patterns documented above can be found when these individuals components are used instead.

C Individual Proxies for Monitoring and Advice

In the previous section, I showed that social ties increase bidder announcement returns for high values of *Advice* and decrease CARs for high values of *Monitor*. In this section, I examine the marginal contribution of each element included in the advice and monitoring indexes.

Table VII presents the effects of social ties on bidder performance controlling of the need of board advice and CEO supervision. The individual characteristics commonly associated with monitoring and advisory needs (described in Section I) are interacted with the dummy variable that represents socially connected CEOs (*Social Ties*). These regressions include all the controls displayed in the first column of Table V, but for ease of exposition I include only the coefficients of interest.

Panel A contains the results for the different components of *Advice*. In general, the interaction between social ties and the proxies for board advice imply *positive* effects on performance. In all but one instance (*Inexp CEO & Exp Board*), these interactions are significant at 5% level.¹⁹ In many cases, the effects are quite strong. In terms of magnitude, the largest effect is found when

¹⁹The reason for the different sample sizes across specifications is data availability.

the social tie is with an informed director, that is, a board member who (during a diversifying acquisition) sits on the board of companies in both the target and the acquiring firm’s industries. When such director exists, social ties increase CARs by $3.15 - 0.35 = 2.8$ percentage points.²⁰ A large effect is also found for diversifying acquisitions following good performance. The marginal effect of social ties on CARs is around 2.32 percentage points (T-stat of 3.63). This corresponds to a total difference of $2.32 - 0.57 = 1.75$ percentage points when compared to diversifying acquisitions without social ties. We also observe a positive and significant effect of social ties on acquisitions made by multi-segment companies, by young CEOs, and by companies with expert boards. That is, for all but one of the measures of advisory needs included in *Advice*, changes in bidder shareholders’ wealth surrounding the announcement of the merger are positively related to socially connected CEOs.

I turn now to the effects of social ties when monitoring needs are likely to be high. In Panel B of Table VII, the individual characteristics commonly associated with monitoring needs described in Section I are interacted with the dummy variable that represents socially connected CEOs (*Social Ties*). Similar to the regressions for advisory measures, I include (but not report) all the controls displayed in the first column of Table V.

Firms with high excess cash experience a substantial drop in announcement returns when social ties are present (Column (1)). The negative and significant coefficient of -1.52 can be interpreted as the additional (negative) effect in CAR (in percentage points) that firms with a socially connected CEO experience when they have high levels of excess cash. The corresponding level coefficients, 0.37 for *Social Ties* and 0.49 for *High Excess Cash*, are much smaller in magnitude and significance. Because these are all indicator variables, the net effect of social ties for firms with high excess cash is also negative ($-1.52 + 0.37 + 0.49 = -0.66$). In other words, during the three days surrounding the announcement, shareholders of firms that (according to the Free Cash Flow Theory) are more likely to empire build lost money in acquisitions where the bidder’s CEO was socially connected to the board.

Negative effects of social ties on performance are also felt more heavily in companies with low equity-based compensation contracts: the interaction between *Social Ties* and *Low EBC* is -0.09 and significant at 5% level. Similar magnitudes are found when monitoring is proxied by *Diversifying* \times *Low Δ Inc.* For all the variables, *High E-index*, *Low Inst Own*, and *Wave*, the interaction coefficients are also negative but not significant.

²⁰To be precise, the “interaction” between social ties and informed directors is computed as follows. This variable is equal to 1 if (i) the acquisition is diversifying, (ii) there is an informed director in the acquiring company’s board, and (iii) the CEO has a social connection with *that* informed director. The coefficient thus measure the impact of social ties *with* informed directors during diversifying acquisitions on CARs.

Bidder returns for acquisitions that are more likely to be driven by managers diversifying personal risk (Morck et al. (1990)) are also penalized by social ties. The interaction between *Diversifying* \times *Low Δ Inc* and *Social Ties* is negative and significant at 5% level. The magnitude of the marginal effect is similar to that found for low equity-based compensation, -0.83 percentage points. For the other components of the monitoring index, I also find negative, although not statistically significant, effects. The pattern that emerges when we consider the group, however, is that the market penalizes more heavily bidders with socially connected CEOs with higher supervisory needs.

Even when we look at the individual components of the advisory and monitoring indexes as proxies for the specific needs of the acquiring firm, social ties seem to have an significant effect on performance. In the next section, I show how social ties also seem to play a role in the extreme changes in the shareholders' wealth that surround some merger announcement.

III Social Ties and Extreme Changes in Wealth

Moeller et al. (2004) report massive losses in 87 deals between 1998 and 2001 in which shareholders lost at least \$1 billion per deal. If a contributing factor to this "value destruction on a massive scale" is that social ties prevent proper board intervention, we should observe among these deals a disproportional amount of socially connected firms with high monitoring needs. In this section, I show that this is indeed the case. In addition, social ties significantly increase the probability of extreme announcement returns, even after controlling for the specific characteristics of the bidder. This is true for both value destruction (conditional on high monitoring needs) as well as value creation (conditional on high advisory needs).

I use the same sample period and threshold as Moeller et al. (2004). Specifically, for all mergers taking place between 1998 and 2001 and satisfying my sample requirements, extreme losses are defined as deals in which shareholders lost more than \$1 billion dollars in the three-day window surrounding the announcement. Extreme gains are defined analogously. Both gains and losses are measured using 2001 dollars.

The first finding is that social ties are much more common among acquirers experiencing extreme deals than among other bidders. Eighty-three deals are classified as extreme losses in my sample.²¹ In 53 (64%) of these, the CEO of the acquirer is socially connected to the board. This is in sharp contrast with the sample average of 31% during the same period. Of these 53 deals, 44 are for companies with *Monitor* \geq 2. Social ties are also prevalent among acquiring firms that

²¹Four deals classified as extreme losses in Moeller et al. (2004) are not included in my sample. This is due to the extra requirement that acquirers be identified in BoardEx with at least three directors.

experience extreme positive announcement returns. I find that in 50 acquisitions between 1998 and 2001 shareholders gained \$1 billion or more. Of these, 29 (or 58%) were made by socially connected CEOs, 22 of them by bidders with $Advice \geq 2$.

These numbers, though suggestive, do not take into consideration potentially important firm/deal characteristics. A more informative approach may be to study how the probability of extreme gains or losses is affected by the presence of social ties. In Table VIII, I use a Probit analysis to examine these effects. The specification is

$$Prob(\text{Extreme Event}) = \Phi(\alpha + \beta_{Ties}\text{Social Ties} + \beta_1\text{Controls})$$

where *Extreme Event* is either $Loss > \$1bi$ (first two columns) or $Gain > \$1bi$ (last two columns) and $\Phi(\cdot)$ represents the cumulative distribution function of the standard normal distribution. For each type of extreme event, I split the sample based on what the main hypothesis predicts will be the strongest effects of social ties.

In the first column of the Table VIII, I estimate the Probit coefficients in a sample that includes only bidders with $Monitor \geq 2$. As predicted by the main hypothesis, social ties significantly affect the probability of extreme losses. The coefficient of 0.41 is significant at the 1% level and indicates a substantial impact of the presence of CEO-board social connections on the probability of extreme losses. Interestingly, the proportion of outside directors also has a significant effect. For bidders with high monitoring needs, more outside directors significantly decrease the probability of mass value destruction (coefficient of -1.26). When we look at the complement set of companies ($Monitor < 2$), the effects of social ties and outside representation disappear. This suggests that social ties increase the likelihood of large value destruction only for companies with high monitoring needs. In particular, extreme losses by bidders with low monitoring needs do not seem to be affected by either social ties or outside representation. These results are again consistent with the main hypothesis. Moreover, they highlight a potentially large impact of social ties on the shareholders' wealth.

The next experiment looks for the cases in which shareholders gained more than \$1 billion. Similarly, social ties seem to affect the probability of extreme gains only when advisory needs are high. From Column $Advice \geq 2$ in Table VIII, the coefficient on the social tie dummy is 0.32 and is significant at the 5% level. As can be seen from the results in the last column of this table, social ties do not have a significant impact when companies do not have high advisory needs.

To get a better sense of the impact of social ties on the probability of extreme events, I estimate conditional probabilities using the values from Table VIII. Focusing first on firms with high monitoring needs, I find that while the probability of a loss of at least \$1 billion is only

2.62% when no social ties exist, this number increases over four times to 11.67% in the presence of social ties. The impact of social ties on the probability of extreme gains is also economically significant. Although there is only a 1.83% chance that shareholders of firms with no social connections but high advisory needs will enjoy a gain of over \$1 billion, this number increases over three times to 6.12% when social ties are present.

The previous tests look at how the presence of social ties affect the value of the bidder during mergers and acquisitions. In the next section, I show that these effects tend to be stronger if a larger proportion of the board is connected to the CEO.

IV Social Connections to More Board Members

So far I have classified the acquiring firm's CEO as socially connected if the (net) proportion of the board tied to the CEO is positive. But the main hypothesis is also consistent with the effects of social ties increasing with the portion of the board that is "friendly" to the CEO. In this section, I test this implication. The main variable of interest is *% Friendly Board*, which increases with the number of board members connected to the CEO.

In Table II, I showed that about 33.1% of the CEOs in my sample have some social connection with at least one board member. In the absence of data limitations, *% Friendly Board* = 0 indicates that there are no social ties between the CEO and any board member.²² But even in this case, inferences based on *% Friendly Board* (which is observed for only a subset of companies) do not necessarily apply to the entire population. This is because the subset of companies in which the CEO is socially connected may not be a random sample. This situation is similar to the classic selectivity problem found in labor economics literature (Heckman (1979)). In fact, if the estimator for the expected proportion of connections used to compute the *% Friendly Board* is unbiased, then the values in Table II indicate that social ties are not random.

I use two approaches to deal with this problem. The first is to account for the selectivity problem directly. I discuss this method in the next section. Alternatively, we can concentrate on firms for which social ties are observable.

Recall that the goal is to examine how more "friendly" boards affect the impact of social ties on bidder announcement returns. If we concentrate on firms for which at least *some* social tie is present (i.e., *Social Ties* = 1), then we can use *% Friendly Board* to say something about how additional ties affect the value of the bidder, conditional on *% Friendly Board* > 0. The idea is then to estimate the following model:

²²*% Friendly Board* = 0 actually means that there is no social connection in excess of what we expect given the CEO's affiliations (as discussed in Section I).

$$E[CAR|Social\ Ties = 1] = \beta_0 \% \text{ Friendly Board} \times Proxy + \beta_1 \% \text{ Friendly Board} + \beta_2 Proxy + \gamma Controls \quad (3)$$

In this case, testing $H_0 : \beta_0 > 0$ is equivalent to testing whether—for firms with observable social ties—more friendly boards increase announcement returns.

The results are shown in Table IX. In the first three columns of Panel A, I estimate (3) using the indicator variables $Advice > 1$ and $Monitor > 1$ as proxies for more advice and monitoring needs, respectively. Because of the low correlation between the two indexes, the coefficients on Columns (1) and (2) are similar to when both measures are included in Column (3). Column (1) indicates that, when advisory needs are high, companies with CEOs connected to more directors earn higher announcement returns. The coefficient for the interaction between $Advice > 1$ and $Social\ Ties$ is 6.56, with a T-stat of 2.17. The opposite occurs when we look at firms with more monitoring needs: from Column (2) the coefficient on the interaction of $Monitor > 1$ and $Social\ Ties$ is negative (-7.70) and significant (T-stat of -2.29). The results suggest that, as the proportion of directors with social ties to the CEO increases, the patterns I document in the previous section get stronger. In particular, stronger ties are associated with higher announcement returns when the advisory index is at or above its median level. Conversely, social ties are detrimental when monitoring needs increase.

In the first three columns of Panel B, I focus on the effects of $\% \text{ Friendly Board}$ on different subsamples, similar to the experiments in Table VI. All controls discussed in that table are also included here, but only the coefficients on $\% \text{ Friendly Board}$ are reported. Across all subsamples, the coefficients go in the direction predicted by the main hypothesis. Possibly because of a much decreased sample size, only half of the coefficients are significant. Taken as a group, however, these results still support the prediction that stronger ties increase the effects of friendly boards.

A Controlling for Correlations and Selectivity

It could be that social ties are correlated with other firm characteristics that affect the bidder's performance but are not related to board independence. If this were the case, the results presented above could be spurious. In this section, I show that even after controlling for many characteristics that could affect the proportion of the board socially connected to the CEO, I find that friendly boards are beneficial when advisory needs are high.

One possibility to deal with correlations across variables is to “orthogonalize” the $\% \text{ Friendly Board}$ measure. As discussed above, $\% \text{ Friendly Board}$ is observed only in firms with at least

one CEO-board member social connection. Because the sample of firms for which social ties are observed can be nonrandom, inferences based on this subset of companies do not apply to the entire population.²³

To deal with this selectivity problem, I use a two-stage correction based on Heckman (1979). To simplify the model, I assume that the same characteristics that determine the probability of observing a social tie also determine the proportion of the board socially connected, conditional on social ties being observed. The canonical specification for this relationship has the form:

$$\begin{aligned} \% \text{ Friendly Board} &= X'\beta + \varepsilon \\ Pr(\text{Social Ties} = 1) &= \Phi(\alpha'X) \end{aligned}$$

where $\Phi(\cdot)$ represents the cumulative distribution function of the standard normal distribution and X is a vector of controls. In my specification, these controls include all regressors reported in Column (1) of Table V. In addition, it includes the individual components of *Advice* and *Monitor* (from Equations (1) and (2)).

The (standardized) residuals of the two-step Heckman estimation are then used as the orthogonalized social ties measure. By construction, these measures are not linearly related to any of the controls in X . In particular, they are uncorrelated with all the proxies for monitoring and advisory needs.

The results are shown in Table IX.²⁴ In the last three columns of Panel A, I show that the effect of friendly boards on CARs is strongly related to the needs of monitoring and advise. From Column (6), the marginal effect of a one standard deviation increase in the (standardized) measure of friendly boards when advisory needs are high corresponds to an increase in the average CAR of 1.10 percentage points. The marginal effect of a similar shock decreases CARs by -0.79 percentage points when $Monitor > 1$.

From Panel B, the effects of a one standard deviation increase in friendly boards increases bidder announcement returns by 0.82 (T-stat of 3.93) when $Monitor \leq 1 < Advice$ and 1.03 (T-stat of 2.78) when $Monitor \leq 2 < Advice$. Both results are consistent with the notion that more friendly boards are beneficial to the bidder when advisory needs are high.

²³Not only social ties per se but the availability of information about club memberships and NFP affiliations may not be random.

²⁴To facilitate the interpretation, the coefficients are expressed in terms of the impact on CARs (in %) of a one standard deviation increase in of the independent variable. That is, the reported coefficients are transformations of the type $\beta_x^* = \beta_x \times \sigma_x$, where σ_x is the standard deviation of the regressor.

V Conclusion

This paper tests the hypothesis that less independent, more “friendly” boards can sometimes benefit the shareholders of firms pursuing corporate acquisitions. Theory predicts that director independence can be harmful when the importance of board advice surpasses the need to supervise the CEO. To test this prediction, I use observable social connections between the CEO and board members as a proxy for friendly boards.

I find that when board directors tend to possess valuable information about the merger, higher announcement returns are observed for bidders with more friendly boards. The magnitudes of the effects can be large, about two to three times the average bidder announcement return of 0.61%. Also as predicted by theory, when the need to discipline the manager is a greater concern, social ties seem to have a negative impact on the acquiring firm’s performance.

The same patterns are not observed when the regulatory definition of an independent director is used instead. This may indicate that social ties are related to a different dimension of true board independence.

In addition to the effects on the average bidder, I look at how social ties affect the probability of extreme changes in the shareholders’ wealth around the time of the announcement. For companies with high monitoring needs, social ties increase the probability of losses in excess of \$1 billion by over four times. In contrast, when advisory needs are high, social ties increase the chances of *gains* of \$1 billion or more by over three times.

The effect of social ties on the dual role of the board (and thus on firm value) generally increase in the proportion of board members connected to the CEO. More friendly boards correspond to larger effects. Also, the results documented here cannot be explained by correlations between the social tie measure and other firm or board characteristics.

My findings are not dependent on the inclusion of any of the individual elements used to classify firms into advisory and monitoring needs. In particular, when used in isolation, most of these proxies seem powerful enough to deliver the results.

Perhaps the most important contribution of this research is to identify situations in which friendly boards have a systematic positive effect on the value of the firm, seemingly through its influence on the dual role of the board. If social ties do capture part of the *actual* level of interdependence between the CEO and board members, then the results described here support the view that greater board independence is not always efficient. Rather, board composition should take into account the trade-off between the need to discipline the CEO and the importance of board advice.

Appendix

Variable Definition

Below is a description of all variables used in this paper.

- Δ *Income* is the three-year income growth used by Morck et al. (1990). It is defined as $\log(I(t-1)) - \log(I(t-4))$, where $I(t-1)$ is the sum of net income, interest, and deferred taxes for the fiscal year preceding the announcement.
- *Advice* is the summation of indicator variables for Multi-segment Firms, Young CEO, Inexperienced CEO/Experienced Board, Expert Board, Diversifying acquisitions following good performance, and Informed Directors.
- *Board Experience* is the average tenure of board members in the bidder's four-digit SIC code industry (in years).
- *Board Expertise* is the proportion of board members who have either held a CEO or CFO position in another company or worked as an executive in a financial company (SIC codes 6000-6999).
- *Board Size* is the number of directors on the board (from BoardEx).
- *CEO Age* represents the age of the CEO (from BoardEx).
- *CEO Experience* is the CEO's tenure in the bidder's industry (in years). Specifically, it is the number of years the manager has been the CEO of the bidder or other companies in the same four-digit SIC code.
- *CEO Prior M&A* is the number of prior M&As (since 1980) in which the current bidder CEO was either the CEO or CFO of the acquiring company.
- *Cash Only* represents acquisitions entirely financed by cash.
- *Ceo Ownership* is the proportion of the firm owned by the CEO at the end of the fiscal year preceding the acquisition announcement (from ExecuComp and excluding options). Missing values are set to zero, and a dummy indicating missing values is included.
- *Deal Value* is the value of the deal as reported by SDC (in Millions).
- *Diversifying \times High Δ Inc* represents diversifying acquisitions following prior three-year above median income growth.
- *Diversifying \times Low Δ Inc* represents diversifying acquisitions following prior three-year below median income growth.
- *Diversifying* represents mergers in which the target and acquirer are in different four-digit SIC code industries.
- *E-index* is the entrenchment index of Bebchuk et al. (2008).
- *Excess Cash* is defined as in Dittmar and Mahrt-Smith (2007). Each year, the following regression is estimated (using all companies in Compustat): $\ln\left(\frac{Cash_i}{NA_i} + 1\right) = \beta_0 + \beta_1 \ln(NA_i) + \beta_2 \frac{FCF_i}{NA_i} + \beta_3 \frac{NWC_i}{NA_i} + \beta_4 (IndSigma_i) + \beta_5 \frac{MV_i}{NA_i} + \varepsilon_i$, where *Cash* is cash and equivalents (item 1), *NA* represents net assets (item 3 - item 1), *FCF* is operating income (item 13) minus current liabilities (item 5) minus cash (item 1), *IndSigma* is the industry average of prior 10 year standard deviation of FCF/NA , MV represents past three-year sales growth and is used as an instrument for market to book, *RD* stands for R&D expenditures (item 46) and is set to zero when missing. The residuals are used to compute excess cash at time $t + 1$.
- *High E-index* represents high entrenchment levels as measured by the E-index of Bebchuk et al. (2008). It is equal to 1 when the E-index is greater than 2.
- *High Excess Cash* is a dummy indicating whether the firm's excess cash is above the industry median for that given year (using all companies in Compustat).
- *Industry Leverage* represents the acquirer's industry median leverage across all Compustat firms (classified using four-digit SIC codes). See Leverage.
- *Industry Tobin's Q* is the acquirer's industry median Tobin's Q across all Compustat firms (using four-digit SIC codes). See Tobin's Q.
- *Informed Director* is a binary variable that equals 1 when at least one of the bidder's independent board members also serves as a board member for another company in the same four-digit SIC industry code as the target. It is set to zero if the target and the bidder are in the same industry.
- *Inst Ownership* is the proportion of shares outstanding in the hands of US independent investors, corresponding to the CDA/Spectrum institutional classification types 3 and 4 (Chen et al. (2007)).
- *Less Experienced CEO* is a dummy variable equal to 1 if the CEO is younger than the median CEO age of 52.
- *Leverage* is long-term debt (Compustat item 9) plus debt in current liabilities (Compustat item 34) over long-term debt plus debt in current liabilities plus the book value of common equity (Compustat item 60).
- *Log Total Assets* is the logarithm of total assets.
- *Low EBC* represents firms with Equity-Based Compensation lower than the industry median (using all firms in ExecuComp).
- *Monitor* is the summation of indicator variables for High Excess Cash, Diversifying acquisitions following bad performance, Low EBC, Low Institutional Ownership, Merger Waves, and High E-index.
- *Multi Segments* is a binary variable indicating whether the company reports more than one segment in the Compustat Business files.
- *N Bus Segments* is the number of business segments in the Compustat Business files.
- *Price Run-up* is the bidder's buy and hold abnormal return from 230 to 11 days before the announcement. The CRSP value-weighted index is used the benchmark.
- *Public Tgt* indicates whether the acquisition was for a publicly traded target.
- *Relative Deal Size* is the value of the deal as reported by SDC over the market value of the acquirer measured at the end of the fiscal year preceding the announcement.
- *Social Tie* is a dummy variable equal to 1 if the CEO is socially connected to at least one independent board member, and 0 otherwise.
- *Tobin's Q* is defined as the market value of assets divided by the book value of assets (Compustat item 6), where the market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity (Compustat item 60) and balance sheet deferred taxes (Compustat item 74).
- *Total Assets* is Compustat item 6 (in \$ Bil).
- *Wave* identifies merger waves using the procedure in Harford (2005).
- *% Equity Based Compensation* is the Equity Based Compensation measure used by Datta et al. (2001). It is defined as the sum of the value of new stock options (using the modified Black-Scholes method) granted to the CEO as a percentage of total compensation.

- *% Friendly Board* represents the net proportion of the bidder’s board socially connected to the CEO. It is the difference between the actual proportion of the directors with ties to the CEO and the average proportion from 10,000 simulated boards.
- *% of Outside Dirs* is the proportion of independent directors in the board (in %).

Social Ties Data

To facilitate the exposition, I begin with a brief description of what is contained in the BoardEx files. Each director profile is divided into sections containing information on past and current employment, education and “other activities.” These other activities include current and past associations to various types of nonprofit organizations, along with the role played by the director in each of them (e.g., “Trustee” or “Director”). Unfortunately, BoardEx does not provide a key to uniquely identify each organization. In addition, there are many cases in which the same organization has different spellings. For instance, *The Bryan Rotary Club of Texas* is also identified as *The Rotary Club of Texas* and *The Bryan Rotary Club, Texas USA*. To facilitate the matching, a string comparison algorithm was applied to all institutions to identify very similar names. Each resulting tuple was then inspected by hand and a unique key was created to uniquely identify each institution.

Some of these organizations (such as clubs and fraternities) clearly foster social interactions. Others, such as membership to professional associations like the American Bar Association, probably do not. To better capture potential social interactions, I focus on the following types of institutions:

- *Clubs*: These include clubs and fraternities. In most cases, these are easily defined (e.g., Augusta National Golf Club (118 members), Sigma Xi (88 members)).
- *Not-For-Profit (NFP)*: Includes organizations such as the Salvation Army (149 members), the Metropolitan Museum of Art (47 members), the Aspen Institute (97 members), and the Chicago Symphony Orchestra (58 members). An effort was made to detect and exclude those NFPs related to businesses or professions (e.g., Ford Foundation).
- *Network*: Includes network-type organizations such as the World Presidents Organization (115 members), Young Presidents Organization (219 members), and the Junior Achievement (270 members).
- *University Boards*: Includes university boards of trustees.

The profiles contain associations to many other organizations that I do not include in the social ties indexes. For the sake of completeness, these are described below. It is important to emphasize that these are *not* included in my social ties measures because they would probably only introduce noise in the indexes:

- *Professional*: Includes affiliations to professional organizations such as the American Bar Association (978 members), the American Institute of Certified Public Accountants (736 members) and the Financial Executives Institute (149 members). These professional organizations are *not* included in the social ties indexes constructed below, since affiliation is either too common or compulsory.
- *Business*: Includes “roundtables” and “councils” such as “council for economic development.” As with professional organizations, these are *not* included in the social ties measures.
- *Other*: Includes other organizations that do not fit in the above categories.
- *Military*: Includes affiliation to US Navy (including Marines), Army and Air Force.

To create a measure of the random ties that are expected to occur given the size of the organizations the CEO belongs to. The net proportion of the directors tied to the CEO (actual ties minus expected ties) is then used as a better proxy for social connections that are not related to the size of the organizations.

Specifically, for each firm-year in the sample, I simulate 10,000 random boards by sampling from a population of potential directors. To construct this population, I start with the universe of all directors in the BoardEx database, including directors of companies that are not in the merger sample. Since membership to a particular organization is correlated with the state in which the company maintains its headquarters, I include in the simulations only directors from companies located in the same state as the bidder.

For each one of these simulated boards, I then check the proportion of directors that share a common nonprofessional membership with the CEO. This procedure creates a distribution of the proportion of the board tied to the CEO, conditional on CEO membership. For each firm-year, the average of this distribution is then subtracted from the actual proportion of the board connected to the CEO.

For example, if company *f* announced an acquisition in January 2000, I first look for all directors who, during the fiscal year ending in 1999, served on the board of *any* company whose headquarters is in the same state as that of company *f*. If firm *f* reported a board size of 10, I draw 10 directors (without replacement) from this universe. For this simulated board, I then check how many of these directors have social ties with *f*’s CEO. This procedure is repeated 10,000 times and the average proportion of the board socially connected to the CEO is taken to be the “expected” proportion of social ties, conditional on the memberships of the CEO of company *f*. This “residual” is my measure of the proportion of the board connected to the CEO.

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Table I: Summary Statistics

The sample consists of 7,154 acquisitions by public bidders from 1994 to 2006. *Total Assets* is in \$ Bil. *Leverage* is long-term debt plus debt in current liabilities over debt plus the book value of common equity. *Tobin's Q* is defined as the market value of assets divided by the book value of assets. *Excess Cash* represents excess cash and are computed following Dittmar and Mahrt-Smith (2007). *N Bus Segments* is the number of business segments in the Compustat Business files. *Price Run-up (%)* is the bidder's buy and hold abnormal return from 230 to 11 days before the announcement. *Inst Ownership* is the proportion of shares outstanding in the hands of US independent investors (Chen et al. (2007)). Δ *Income* is the three-year income growth used by Morck et al. (1990). *E-index* is the entrenchment index of Bebchuk et al. (2008). *Board Size* is the number of directors on the board (from BoardEx). *% of Outside Dirs* is the proportion of independent directors on the board (in %). *% Equity Based Compensation* is the sum of the value of new stock options granted to the CEO as a percentage of total compensation. (Datta et al. (2001)). *CEO Age* represents the age of the CEO (from BoardEx). *Board Expertise* is the proportion of board members with financial expertise (i.e., past CEOs/CFOs or executives in companies with SIC codes 6000-6999). *CEO Prior M&A* is the number of prior M&As (since 1980) in which the current bidder CEO was either the CEO or CFO of the acquiring company. *CEO Experience* is the CEO's tenure in the bidder's industry (in years). *Board Experience* is the average tenure of board members in the bidder's industry (in years). *Deal Value* is the value of the deal as reported by SDC (in Millions). *Relative Size* is the value of the deal as reported by SDC over the market value of the acquirer measured at the end of the fiscal year preceding the announcement (in %). *Public Tgt* indicates whether the acquisition was for a publicly traded target. *Cash Only* represents acquisitions entirely financed by cash. *Diversifying* represents mergers in which the target and acquirer are in different four-digit SIC code industries. The Appendix contains a detailed description of all the variables.

Panel A - Summary Statistics

	Mean	Std Dev	Median	25th Percentile	75th Percentile
Bidder Characteristics					
<i>Total Assets</i>	7.20	39.75	0.78	0.23	2.86
<i>Leverage</i>	0.33	0.94	0.34	0.09	0.54
<i>Tobin's Q</i>	2.09	2.74	1.45	1.10	2.20
<i>Excess Cash</i>	-0.04	0.41	-0.14	-0.19	0.00
<i>N Bus Segments</i>	1.99	1.64	2.00	1.00	3.00
<i>Price Run-up (%)</i>	19.36	78.31	5.65	-16.00	31.82
<i>Inst Ownership</i>	16.21	17.77	8.26	4.17	23.42
Δ <i>Income</i>	0.55	0.79	0.49	0.17	0.90
<i>E-index</i>	2.37	1.34	2.00	1.00	3.00
CEO and Board Characteristics					
<i>Board Size</i>	8.96	3.63	8.00	6.00	11.00
<i>% of Outside Dirs</i>	73.23	13.46	75.00	66.67	83.33
<i>% Equity Based Compensation</i>	36.95	29.47	34.49	9.57	60.26
<i>CEO Age</i>	52.97	7.94	53.00	47.00	58.00
<i>Board Expertise</i>	0.11	0.12	0.10	0.00	0.18
<i>CEO Prior M&A</i>	2.71	4.15	1.00	0.00	4.00
<i>CEO Experience</i>	6.55	4.97	5.00	3.00	9.00
<i>Board Experience</i>	6.47	3.36	6.00	3.75	8.60

Panel B - Acquisitions by Year

	N of Deals	Deal Value (Avg -\$ Mil)	Relative Size (Avg - in %)	Public Tgt (%)	Cash Only (%)	Diversifying (%)
1994	272	244.30	17.12	34.19	27.21	32.72
1995	306	422.86	20.80	37.25	23.86	31.05
1996	429	403.58	19.93	30.77	26.11	38.69
1997	584	422.18	26.45	30.48	25.51	37.67
1998	645	979.91	23.41	33.02	26.20	35.81
1999	612	787.83	23.79	31.21	26.14	37.42
2000	571	1164.84	28.28	32.57	27.32	42.38
2001	521	487.78	28.97	27.83	32.25	36.85
2002	599	281.16	18.84	20.53	42.90	42.57
2003	606	274.63	19.87	22.44	40.76	37.95
2004	688	279.04	18.79	19.48	46.66	35.61
2005	695	592.97	19.17	18.85	44.46	37.55
2006	626	505.47	19.95	18.37	50.32	39.30
Total	7,154	545.76	22.08	26.43	35.09	37.76

Table II: CEO-Board Social Ties

This table contains CEO-Board social ties information. Panel A contains information on CEO social ties with any board members. The *Actual* column displays the average proportion of board members socially connected to the CEO (if no tie exists, this number is set to zero). The *Simulated* column contains the average proportion connected across 10,000 simulations. *P-Value* is the proportion of simulations in which the proportion of the board connected was greater than the one observed. All values are expressed in percentage points. The first column contains the proportion of CEOs for whom *Actual - Simulated* is greater than zero. Panel B contains similar figures but considers only outside board members. Panel C reports correlations between *Social Ties* and other variables. *% Friendly Board* represents the net proportion of the bidder's board socially connected to the CEO. *Board Size* is the number of directors on the board (from BoardEx). *% of Outside Dirs* is the proportion of independent directors on the board (in %). *Log Total Assets* is the logarithm of total assets. *Same Club* represents membership to the same club. *Same NFP* represents membership (either as a trustee or board member) to the same NFP organization. *Same Network Clubs* represents membership (either as a trustee or board member) to the same Network Club. *MBA* indicates whether the CEO and a board member earned their MBA degrees from the same institution and within 2 years of each other. *Any Tie* correspond to cases where the CEO and board member share at least one of the social ties described above.

Panel A - CEO-Board Social Tie

	% CEOs	% Board Connected to CEO		
	Connected	Actual	Simulated	P-Value
<i>Same Club</i>	6.78	0.99	0.14	0.62
<i>Same NFP</i>	27.44	4.52	0.59	2.04
<i>Same Network Clubs</i>	3.30	0.46	0.22	0.93
<i>MBA</i>	1.03	0.11	0.02	0.15
<i>Any Tie</i>	33.15	5.90	1.22	2.90

Panel B - CEO Ties to Independent Directors

	% CEOs	% Board Connected to CEO		
	Connected	Actual	Simulated	P-Value
<i>Same Club</i>	5.68	1.07	0.12	0.65
<i>Same NFP</i>	23.99	4.98	0.52	2.45
<i>Same Network Clubs</i>	2.99	0.50	0.20	1.09
<i>MBA</i>	0.90	0.12	0.02	0.15
<i>Any Tie</i>	29.64	6.49	1.09	3.65

Panel C - Correlations

	% Friendly Board	Board Size	% Outside Dirs	Log Total Assets
<i>% Friendly Board</i>	1.000			
<i>Board Size</i>	-0.196	1.000		
<i>% of Outside Dirs</i>	-0.182	0.265	1.000	
<i>Log Total Assets</i>	-0.051	0.592	0.172	1.000
<i>Board Expertise</i>	0.083	0.148	-0.155	0.275

Table III: Proxies for Monitoring and Advisory Needs

This table contains information on the distribution of the variables that constitute the monitoring and advisory indexes. Panel A displays the pairwise (tetrachoric) correlations between these variables. In Panel B, the number of deals is tabulated in a contingency table. Each cell $r \times c$ presents the number of deals in which acquiring companies have $Monitor = c$ and $Advice = r$. Panel C reports the frequency of social ties within each group. Each cell $r \times c$ reports the proportion of socially connected CEOs for deals in which acquiring companies have $Monitor = c$ and $Advice = r$. *High Excess Cash* is a dummy indicating whether the firm's excess cash is above the industry median for that given year. Excess cash is computed following Dittmar and Mahrt-Smith (2007). *Low EBC* represents firms with Equity-Based Compensation lower than the industry median (using all firms in ExecuComp). *Wave* identifies merger waves using the procedure in Harford (2005). *Low Inst Ownership* is an indicator variable that identifies cases where institutional ownership, defined as in Chen et al. (2007), is below the industry median. *Diversifying × Low Δ Inc* represents diversifying acquisitions following prior three-year below median income growth. *High E-index* represents high entrenchment levels as measured by the E-index of Bebechuk et al. (2008). It is equal to 1 when the E-index is greater than 2. *Young CEO* is a dummy variable equal to 1 if the CEO is younger than the median CEO age of 52. *Inexp CEO & Exp Board* represents firm-years where both the experience of the CEO in the bidder's industry is below the median and the average experience board members is above the median. *Multi Segments* is a binary variable indicating whether the company reports more than one segment in the Compustat Business files. *Diversifying × High Δ Inc* represents diversifying acquisitions following prior three-year above median income growth. *Expert Board* indicates the existence of at least one board member with financial expertise. *Informed Director* is a binary variable that equals 1 when at least one of the bidder's independent board members also serves as a board member for another company in the same four-digit SIC industry code as the target. It is set to zero if the target and the bidder are in the same industry.

Panel A - Correlations

	High Cash	Low EBC	Merger Wave	Low Inst Owner	Diversify Low Inc	High E-index	Young CEO	Inexp CEO	Multi Segments	Diversify High Inc	Expert Board	Informed Dirs
<i>High Excess Cash</i>	1.00											
<i>Low EBC</i>	0.01	1.00										
<i>Wave</i>	-0.01	-0.00	1.00									
<i>Low Inst Ownership</i>	-0.02	0.17	0.02	1.00								
<i>Diversifying × Low Δ Inc</i>	-0.05	-0.02	-0.04	-0.05	1.00							
<i>High E-index</i>	-0.07	0.00	0.11	0.09	-0.04	1.00						
<i>Young CEO</i>	0.07	0.04	0.02	-0.02	-0.13	-0.02	1.00					
<i>Inexp CEO & Exp Board</i>	0.01	-0.00	-0.02	-0.02	0.06	-0.02	0.04	1.00				
<i>Multi Segments</i>	-0.00	-0.09	-0.20	-0.04	0.14	-0.16	-0.07	0.07	1.00			
<i>Diversifying × High Δ Inc</i>	0.07	-0.01	-0.05	0.01	-0.23	-0.06	0.12	-0.08	0.04	1.00		
<i>Expert Board</i>	-0.02	-0.02	0.05	0.06	0.05	0.09	-0.08	-0.02	-0.01	-0.09	1.00	
<i>Informed Director</i>	0.01	0.02	-0.01	0.01	0.14	0.01	0.01	-0.04	0.01	0.22	-0.00	1.00
<i>Social Tie</i>	0.02	0.08	0.02	0.07	0.04	0.07	-0.16	-0.01	-0.07	-0.07	0.08	0.03

Panel B - Number of Deals

Monitor	Advice				Total	
	0	1	2	3 ≥ 4		
0	164	457	493	186	37	1,337
1	310	955	1,085	385	69	2,804
2	228	680	779	304	65	2,056
3	77	277	286	95	21	756
≥ 4	16	100	70	13	2	201
Total	795	2,469	2,713	983	194	7,154

Panel C - Proportion of Social Ties

Monitor	Advice				Total	
	0	1	2	3 ≥ 4		
0	0.17	0.24	0.26	0.31	0.29	0.25
1	0.27	0.27	0.27	0.23	0.27	0.26
2	0.36	0.39	0.31	0.18	0.16	0.32
3	0.45	0.48	0.33	0.31	0.19	0.39
≥ 4	0.56	0.75	0.45	0.15	1.00	0.59
Total	0.30	0.34	0.29	0.24	0.24	0.30

Table IV: Bidder Announcement Returns for Different Samples

This table contains average Cumulative Abnormal Returns (CAR) for different samples. The first column displays average CARs across all the deals that fall into each of the categories described by each row. In the second and third columns, I separate the deals in which the bidder's CEO is socially connected to at least one of the outside directors in that same company's board (*Social Ties*) from those in which no such ties are present (*No Ties*). The last column contains the difference between the former and the latter. A negative number thus indicates that the average announcement return is lower when social ties are present. *Wave* identifies merger waves using the procedure in Harford (2005). *High Excess Cash* is a dummy indicating whether the firm's excess cash is above the industry median for that given year. Excess cash is computed following Dittmar and Mahrt-Smith (2007). *Low EBC* represents firms with Equity-Based Compensation lower than the industry median (using all firms in ExecuComp). *High E-index* represents high entrenchment levels as measured by the E-index of Bebchuk et al. (2008). It is equal to 1 when the E-index is greater than 2. *Young CEO* is a dummy variable equal to 1 if the CEO is younger than the median CEO age of 52. *Multi Segments* is a binary variable indicating whether the company reports more than one segment in the Compustat Business files. *Diversifying* represents mergers in which the target and acquirer are in different four-digit SIC code industries. *Informed Director* is a binary variable that equals 1 when at least one of the bidder's independent board members also serves as a board member for another company in the same four-digit SIC industry code as the target. It is set to zero if the target and the bidder are in the same industry. *Expert Board* indicates the existence of at least one board member with financial expertise. *Inexp CEO & Exp Board* represents firm-years where both the experience of the CEO in the bidder's industry is below the median and the average experience board members is above the median. *Diversifying × High Δ Inc* represents diversifying acquisitions following prior three-year above median income growth. *Diversifying × Low Δ Inc* represents diversifying acquisitions following prior three-year below median income growth. *Low Inst Ownership* is an indicator variable that identifies cases where institutional ownership, defined as in Chen et al. (2007), is below the industry median.

	All	Social Ties (1)	No Social Ties (2)	(1) - (2)
Full Sample	0.612*** (0.074)	0.158 (0.129)	0.812*** (0.089)	-0.654*** (0.160)
More Monitoring				
<i>Wave</i>	0.370* (0.176)	-0.475 (0.286)	0.776*** (0.221)	-1.252*** (0.375)
<i>High Excess Cash</i>	0.808*** (0.122)	-0.100 (0.206)	1.227*** (0.151)	-1.327*** (0.262)
<i>High E-index</i>	-1.232*** (0.217)	-1.711*** (0.296)	-0.820** (0.311)	-0.891* (0.433)
<i>Low EBC</i>	-0.113 (0.174)	-0.878*** (0.259)	0.533* (0.231)	-1.411*** (0.346)
<i>Low Inst Ownership</i>	0.263* (0.123)	-0.448* (0.183)	0.649*** (0.160)	-1.097*** (0.256)
<i>Diversifying × Low Δ Inc</i>	0.514*** (0.137)	-0.305 (0.226)	0.937*** (0.170)	-1.243*** (0.287)
More Advice				
<i>Young CEO</i>	0.617*** (0.160)	1.069** (0.341)	0.473** (0.180)	0.596 (0.373)
<i>Multi Segments</i>	0.774*** (0.105)	0.730*** (0.202)	0.791*** (0.123)	-0.061 (0.235)
<i>Inexp CEO & Exp Board</i>	0.528** (0.192)	-0.111 (0.328)	0.797*** (0.235)	-0.908* (0.420)
<i>Expert Board</i>	0.479*** (0.092)	0.314* (0.148)	0.564*** (0.117)	-0.250 (0.195)
<i>Diversifying × High Δ Inc</i>	1.014*** (0.227)	1.943*** (0.437)	0.736** (0.264)	1.208* (0.538)
<i>Informed Director</i>	0.187 (0.227)	0.531 (0.371)	0.006 (0.286)	0.525 (0.477)

Table V: Bidder Announcement Returns and Social Ties

This table contains the estimates of regressions of bidder announcement returns on many controls and the proxies for social ties, monitoring needs, and advisory needs. *Social Tie* is a dummy variable equal to 1 if the CEO is socially connected to at least one independent board member, and 0 otherwise. *Monitor* is the summation of indicator variables for High Excess Cash, Diversifying acquisitions following bad performance, Low EBC, Low Institutional Ownership, Merger Waves, and High E-index. *Advice* is the summation of indicator variables for Multi-segment Firms, Young CEO, Inexperienced CEO/Experienced Board, Expert Board, Diversifying acquisitions following good performance, and Informed Directors. These individual components are described in Table IV. *Social Tie* \times *Advice*, *% of Outside Dirs* \times *Advice*, represents interactions between the *Social Tie* and the advisory needs index *Advice*. The interactions with the monitoring index are defined analogously. *Industry Leverage* is the median leverage in the acquirer's industry. *Industry Tobin's Q* is the median Tobin's Q in the acquirer's industry. *Subsidiary* \times *Cash Only*, *Private Tgt* \times *Stock Deal*, *Public Tgt* \times *Cash Only*, *Private Tgt* \times *Cash Only* and *Public Tgt* \times *Stock Deal* are the interactions between the dummies representing the target and deal types (the omitted group is *Subsidiary* \times *Stock Deal*), where *Cash Only* represents acquisitions entirely financed by cash and *Stock Deal* represents acquisitions paid at least partially with stocks. The construction of each variable is described in detail in the Appendix. All variables are measured at the end of the fiscal year preceding the announcement date. All regressions include year dummies (not reported). Robust standard errors clustered at industry level are in parentheses. *, **, *** represents significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
<i>Social Tie</i> \times <i>Advice</i>		1.429*** (0.347)		1.377*** (0.338)	
<i>Social Tie</i> \times <i>Monitor</i>			-0.748*** (0.269)	-0.652** (0.257)	
<i>% of Outside Dirs</i> \times <i>Advice</i>					-0.647 (0.596)
<i>% of Outside Dirs</i> \times <i>Monitor</i>					0.633 (0.758)
<i>Social Tie</i>	-0.260* (0.142)	-2.505*** (0.562)	0.821* (0.416)	-1.476*** (0.425)	
<i>Monitor</i>	-0.060 (0.067)		0.203* (0.106)	0.231** (0.113)	-0.531 (0.563)
<i>Advice</i>	0.066 (0.121)	-0.330** (0.158)		-0.344** (0.162)	0.548 (0.415)
<i>% of Outside Dirs</i>	-1.293* (0.659)	-1.259* (0.667)	-1.321* (0.675)	-1.274* (0.661)	-1.099 (1.651)
<i>Board Size</i>	0.049 (0.030)	0.050 (0.031)	0.051 (0.032)	0.051 (0.032)	0.040 (0.031)
<i>Log Total Assets</i>	-0.393*** (0.105)	-0.417*** (0.106)	-0.370*** (0.104)	-0.398*** (0.106)	-0.404*** (0.104)
<i>Industry Leverage</i>	0.043 (0.091)	0.059 (0.092)	0.033 (0.099)	0.054 (0.094)	0.036 (0.091)
<i>Industry Tobin's Q</i>	-0.341 (0.270)	-0.335 (0.281)	-0.335 (0.264)	-0.334 (0.279)	-0.344 (0.269)
<i>Price Run-up</i>	-0.362*** (0.106)	-0.392*** (0.102)	-0.357*** (0.104)	-0.387*** (0.102)	-0.364*** (0.105)
<i>Ceo Ownership</i>	0.008 (0.035)	0.011 (0.035)	0.008 (0.037)	0.012 (0.037)	0.007 (0.035)
<i>Relative Deal Size</i>	0.870** (0.378)	0.858** (0.372)	0.887** (0.380)	0.873** (0.374)	0.863** (0.376)
<i>CEO Prior M&A</i>	-0.210 (0.144)	-0.194 (0.154)	-0.210 (0.144)	-0.192 (0.155)	-0.209 (0.144)
<i>Public Tgt</i> \times <i>Stock Deal</i>	-3.240*** (0.682)	-3.243*** (0.674)	-3.242*** (0.661)	-3.241*** (0.663)	-3.243*** (0.688)
<i>Public Tgt</i> \times <i>Cash Only</i>	0.363 (0.262)	0.347 (0.287)	0.323 (0.271)	0.309 (0.285)	0.372 (0.262)
<i>Private Tgt</i> \times <i>Stock Deal</i>	0.717 (0.708)	0.691 (0.688)	0.731 (0.716)	0.708 (0.685)	0.706 (0.705)
<i>Private Tgt</i> \times <i>Cash Only</i>	0.012 (0.276)	0.037 (0.278)	0.025 (0.275)	0.044 (0.284)	0.019 (0.274)
<i>Subsidiary</i> \times <i>Cash Only</i>	0.986*** (0.248)	0.949*** (0.239)	0.970*** (0.247)	0.934*** (0.240)	0.988*** (0.248)
<i>R-squared</i>	0.041	0.046	0.042	0.047	0.041
<i>Observations</i>	7,154	7,154	7,154	7,154	7,154

Table VI: Social Ties on Different Subsamples

This table contains the estimates of regressions of bidder announcement returns on all control variables described in Table V. Each regression is run on a different subsample, depending on the value of the monitor/advisor proxies. For brevity, this table does not report the interactions between the type of target and method of payment (see description in Table V), even though they are included. *Social Tie* is a dummy variable equal to 1 if the CEO is socially connected to at least one independent board member, and 0 otherwise. % of *Outside Dirs* is the proportion of independent directors on the board (in %). *Board Size* is the number of directors on the board (from BoardEx). *Log Total Assets* is the logarithm of total assets. *Industry Leverage* is the median leverage in the acquirer's industry. *Industry Tobin's Q* is the median Tobin's Q in the acquirer's industry. *Price Run-up* is the bidder's buy and hold abnormal return from 230 to 11 days before the announcement. The CRSP value-weighted index is used the benchmark. *Ceo Ownership* is the proportion of the firm owned by the CEO at the end of the fiscal year preceding the acquisition announcement (from ExecuComp and excluding options). Missing values are set to zero, and a dummy indicating missing values is included. *Relative Deal Size* is the value of the deal as reported by SDC over the market value of the acquirer measured at the end of the fiscal year preceding the announcement. *CEO Prior M&A* is the (logarithm of the) number of prior M&As (since 1980) in which the current bidder CEO was either the CEO or CFO of the acquiring company. *Subsidiary × Cash Only*, *Private Tgt × Stock Deal*, *Public Tgt × Cash Only*, *Private Tgt × Cash Only* and *Public Tgt × Stock Deal* are the interactions between the dummies representing the target and deal types (the omitted group is *Subsidiary × Stock Deal*), where *Cash Only* represents acquisitions entirely financed by cash and *Stock Deal* represents acquisitions paid at least partially with stocks. The construction of each variable is described in detail in the Appendix. All variables are measured at the end of the fiscal year preceding the announcement date. All regressions include year dummies (not reported). Robust standard errors clustered at industry level are in parentheses. *, **, *** represents significance at the 10%, 5% and 1% level, respectively.

	High Advice		High Monitor		High Advice Low Monitor	
	(> 1)	(> 2)	(> 1)	(> 2)	(> 1) (≤ 1)	(> 2) (≤ 2)
<i>Social Tie</i>	1.170*** (0.362)	1.905** (0.820)	-1.385*** (0.304)	-1.243** (0.495)	2.063*** (0.511)	2.188** (0.851)
% of <i>Outside Dirs</i>	-1.114 (0.894)	-2.694* (1.552)	0.107 (1.360)	-0.503 (1.876)	-2.245 (1.364)	-1.630 (1.923)
<i>Board Size</i>	-0.015 (0.047)	-0.002 (0.096)	0.077** (0.036)	0.042 (0.051)	-0.001 (0.058)	-0.005 (0.104)
<i>Log Total Assets</i>	-0.508*** (0.126)	-0.444** (0.187)	-0.379*** (0.109)	-0.282** (0.113)	-0.443*** (0.136)	-0.391* (0.201)
<i>Industry Leverage</i>	0.217 (0.217)	0.856* (0.470)	0.046 (0.104)	-0.881 (0.542)	0.314* (0.185)	0.849 (0.555)
<i>Industry Tobin's Q</i>	-0.289 (0.305)	-0.151 (0.397)	-0.303 (0.427)	-1.302** (0.517)	-0.334 (0.229)	0.066 (0.532)
<i>Price Run-up</i>	-0.262 (0.177)	0.342 (0.280)	-0.416** (0.177)	0.523 (0.482)	-0.229 (0.328)	0.302 (0.303)
<i>Ceo Ownership</i>	0.061* (0.035)	-0.071 (0.103)	0.067** (0.032)	0.143*** (0.035)	0.066 (0.066)	-0.118 (0.092)
<i>Relative Deal Size</i>	0.483 (0.293)	0.213 (1.230)	1.007** (0.456)	-0.684 (0.979)	0.260 (0.238)	0.633 (1.294)
<i>CEO Prior M&A</i>	-0.393** (0.155)	-1.057*** (0.309)	-0.160 (0.178)	-0.104 (0.235)	-0.472** (0.195)	-1.023*** (0.294)
<i>Public Tgt × Stock Deal</i>	-3.794*** (0.801)	-3.097*** (0.826)	-2.442*** (0.669)	-1.375** (0.535)	-4.597*** (1.160)	-4.512*** (0.842)
<i>Public Tgt × Cash Only</i>	0.190 (0.352)	1.717*** (0.544)	0.657* (0.359)	0.766 (0.642)	0.312 (0.542)	1.578** (0.646)
<i>Private Tgt × Stock Deal</i>	0.803 (1.069)	1.582 (1.515)	1.515* (0.894)	-0.101 (1.522)	0.217 (1.383)	1.313 (1.358)
<i>Private Tgt × Cash Only</i>	-0.199 (0.378)	0.836 (0.693)	0.411 (0.295)	0.269 (0.598)	-0.324 (0.507)	0.634 (0.738)
<i>Subsidiary × Cash Only</i>	0.579* (0.340)	2.313*** (0.575)	1.309*** (0.336)	1.385* (0.755)	0.547 (0.466)	2.204*** (0.626)
<i>R-squared</i>	0.040	0.053	0.053	0.056	0.040	0.058
<i>Observations</i>	3,890	1,177	3,013	957	2,255	1,046

Table VII: Individual Proxies for Monitoring/Advisory

This table contains the estimates of regressions of bidder announcement returns on all variables described in Table V along with the proxies for monitoring needs, and advisory needs. The main coefficients of interest are the interactions between the social ties variable and these proxies. For brevity, the table reports only these coefficients, although all controls present in Table V are included in the regressions. *Social Tie* \times *Proxy* is the interaction between the Social Tie dummy and the proxy. *Social Tie* is a dummy variable equal to 1 if the CEO is socially connected to at least one independent board member, and 0 otherwise. *Proxy* represents the monitoring and advisory needs proxies. *Social Tie* \times *Proxy* is the interaction between the Social Tie dummy and the proxy. *Social Tie* is a dummy variable equal to 1 if the CEO is socially connected to at least one independent board member, and 0 otherwise. *Proxy* represents the monitoring and advisory needs proxies. The construction of each variable is described in detail in the Appendix. All variables are measured at the end of the fiscal year preceding the announcement date. All regressions include year dummies (not reported). Robust standard errors clustered at industry level are in parentheses. *, **, *** represents significance at the 10%, 5% and 1% level, respectively.

Panel A - Social Ties and Advice

	Multi Segments	Less Exp CEO	Diversifying High Δ Inc	Inexp CEO Exp Board	Expert Board	Informed Director
<i>Social Tie</i> \times <i>Proxy</i>	1.141** (0.539)	1.654*** (0.522)	2.320*** (0.638)	-0.183 (0.710)	1.718*** (0.515)	3.149** (1.176)
<i>Social Tie</i>	-0.851*** (0.245)	-0.645*** (0.220)	-0.567*** (0.151)	-0.259 (0.159)	-1.287*** (0.338)	-0.354** (0.136)
<i>Proxy</i>	-0.345 (0.343)	-0.747** (0.354)	0.157 (0.334)	-0.171 (0.387)	-0.235 (0.263)	-0.285 (0.281)
<i>R-squared</i>	0.041	0.044	0.043	0.040	0.043	0.041
<i>Observations</i>	7,154	5,630	7,154	7,154	7,154	7,154

Panel B - Social Ties and Monitoring

	High Excess Cash	High E-index	Low EBC	Low Inst Ownership	Merger Wave	Diversifying Low Δ Inc
<i>Social Tie</i> \times <i>Proxy</i>	-1.523*** (0.509)	-0.461 (0.587)	-0.863** (0.424)	-0.478 (0.350)	-0.290 (0.522)	-0.833** (0.335)
<i>Social Tie</i>	0.373 (0.272)	-0.079 (0.291)	-0.091 (0.231)	-0.109 (0.204)	-0.217 (0.196)	-0.074 (0.171)
<i>Proxy</i>	0.492*** (0.175)	-0.754 (0.520)	0.209 (0.310)	0.480** (0.229)	-0.115 (0.335)	-0.028 (0.209)
<i>R-squared</i>	0.042	0.046	0.052	0.041	0.041	0.041
<i>Observations</i>	7,154	3,372	3,174	7,154	7,154	7,154

Note: All regressions include the same controls as in Table V.

Table VIII: Social Ties and Extreme Changes in Wealth

This table contains the estimates of probit regressions. The dependent variable is 1 if an extreme event occurred and zero otherwise. Extreme events are merger deals in which shareholders lose or gain more than \$1 billion during the announcement period. The column *Monitor* ≥ 2 contains only deals in which the monitoring index is at least 2. The other columns are defined analogously. *% of Outside Dirs* is the proportion of independent directors on the board (in %). *Board Size* is the number of directors on the board (from BoardEx). *Log Total Assets* is the logarithm of total assets. *Industry Leverage* is the median leverage in the acquirer's industry. *Industry Tobin's Q* is the median Tobin's Q in the acquirer's industry. *Price Run-up* is the bidder's buy and hold abnormal return from 230 to 11 days before the announcement. The CRSP value-weighted index is used the benchmark. *Ceo Ownership* is the proportion of the firm owned by the CEO at the end of the fiscal year preceding the acquisition announcement (from ExecuComp and excluding options). Missing values are set to zero, and a dummy indicating missing values is included. *Relative Deal Size* is the value of the deal as reported by SDC over the market value of the acquirer measured at the end of the fiscal year preceding the announcement. *CEO Prior M&A* is the (logarithm of the) number of prior M&As (since 1980) in which the current bidder CEO was either the CEO or CFO of the acquiring company. *Subsidiary \times Cash Only*, *Private Tgt \times Stock Deal*, *Public Tgt \times Cash Only*, *Private Tgt \times Cash Only* and *Public Tgt \times Stock Deal* are the interactions between the dummies representing the target and deal types (the omitted group is *Subsidiary \times Stock Deal*), where *Cash Only* represents acquisitions entirely financed by cash and *Stock Deal* represents acquisitions paid at least partially with stocks. The construction of each variable is described in detail in the Appendix. All variables are measured at the end of the fiscal year preceding the announcement date. All regressions include year dummies (not reported). Robust standard errors clustered at industry level are in parentheses. *, **, *** represents significance at the 10%, 5% and 1% level, respectively.

	Loss > \$1 bi		Gain > \$1 bi	
	Monitor ≥ 2	Monitor < 2	Advice ≥ 2	Advice < 2
<i>Social Tie</i>	0.409*** (0.154)	0.300* (0.168)	0.318** (0.160)	0.571 (0.536)
<i>% of Outside Dirs</i>	-1.261*** (0.423)	1.719 (1.444)	-1.179* (0.617)	0.168 (0.731)
<i>Board Size</i>	-0.047*** (0.016)	-0.093** (0.044)	-0.001 (0.027)	-0.128*** (0.040)
<i>Log Total Assets</i>	0.615*** (0.074)	0.833*** (0.093)	0.423*** (0.057)	1.195*** (0.192)
<i>Industry Leverage</i>	-0.208 (0.154)	-1.061** (0.432)	-0.595*** (0.219)	-1.555*** (0.542)
<i>Industry Tobin's Q</i>	0.533*** (0.078)	0.461*** (0.130)	0.322*** (0.104)	0.719*** (0.225)
<i>Price Run-up</i>	0.169*** (0.062)	0.198*** (0.075)	0.122* (0.070)	0.509*** (0.126)
<i>Ceo Ownership</i>	-0.059 (0.118)	0.050 (0.102)	0.118** (0.054)	0.185*** (0.047)
<i>Relative Deal Size</i>	0.583*** (0.187)	0.098*** (0.032)	0.048 (0.099)	0.870* (0.462)
<i>CEO Prior M&A</i>	-0.027 (0.126)	0.069 (0.168)	-0.018 (0.089)	0.486*** (0.160)
<i>Public Tgt \times Stock Deal</i>	-0.104 (0.181)	1.073** (0.424)	0.389** (0.153)	-0.551 (0.521)
<i>Public Tgt \times Cash Only</i>	0.068 (0.228)	0.788* (0.403)	0.070 (0.387)	-0.840 (0.764)
<i>Private Tgt \times Stock Deal</i>	-0.650*** (0.191)	0.538 (0.640)	0.603*** (0.231)	1.037* (0.617)
<i>Private Tgt \times Cash Only</i>		0.836** (0.350)		
<i>Subsidiary \times Cash Only</i>	-0.617 (0.391)	0.403 (0.431)	0.388 (0.283)	-0.188 (0.696)
<i>R-squared</i>	0.388	0.486	0.329	0.530
<i>Observations</i>	1,085	1,156	1,159	959

Table IX: Different Measures of Social Ties

This table contains the estimates of regressions of bidder announcement returns on many controls and the proxies for social ties, monitoring and advisory needs. The main coefficients of interest are the interactions between the social ties variable and the monitoring/advisory proxies. $\% \text{ Friendly Board} \times \text{Mon} > 1$ is the interaction between the Social Tie dummy and the $\text{Monitor} > 1$ indicator. $\% \text{ Friendly Board} \times \text{Adv} > 1$ is defined analogously. $\text{Monitor} > 1$ indicates deals in which the Monitor index is above 1. $\text{Advice} > 1$ is defined analogously. $\% \text{ Friendly Board}$ represents the net proportion of the bidder's board socially connected to the CEO. $\% \text{ of Outside Dirs}$ is the proportion of independent directors on the board (in %). The construction of each variable is described in detail in the Appendix. All variables are measured at the end of the fiscal year preceding the announcement date. All regressions include year dummies (not reported). Robust standard errors clustered at industry level are in parentheses. *, **, *** represents significance at the 10%, 5% and 1% level, respectively.

Panel A - Interactions

	Social Tie Measure is % Friendly Boards (Only Firms with Social Ties)			Social Tie Measure is Residual % Friendly Board (Two-Step Heckman)		
	(1)	(2)	(3)	(4)	(5)	(6)
$\% \text{ Friendly Board} \times \text{Adv} > 1$	6.564** (3.029)		5.382* (2.747)	1.202*** (0.268)		1.100*** (0.250)
$\% \text{ Friendly Board} \times \text{Mon} > 1$		-7.705** (3.359)	-6.254** (3.100)		-0.932*** (0.258)	-0.794*** (0.248)
$\text{Monitor} > 1$		-0.419 (0.524)	-0.413 (0.495)		-0.171 (0.141)	-0.079 (0.150)
$\text{Advice} > 1$	0.752 (0.506)		0.719 (0.498)	0.127 (0.184)		0.068 (0.188)
$\% \text{ Friendly Board}$	-3.194 (2.187)	3.539 (2.152)	0.712 (2.420)	-0.755*** (0.151)	0.271* (0.138)	-0.336** (0.145)
<i>R-squared</i>	0.057	0.055	0.066	0.046	0.044	0.049
<i>Observations</i>	2,186	2,186	2,186	7,154	7,154	7,154

Panel B - Subsamples

	Social Tie Measure is % Friendly Boards (Only Firms with Social Ties)			Social Tie Measure is Residual % Friendly Board (Two-Step Heckman)		
	<i>Adv</i> > 1	<i>Mon</i> > 1	<i>Adv</i> > 1 <i>Mon</i> ≤ 1	<i>Adv</i> > 1	<i>Mon</i> > 1	<i>Adv</i> > 1 <i>Mon</i> ≤ 1
$\% \text{ Friendly Board}$	2.091 (1.603)	-3.762** (1.658)	4.112 (2.512)	0.454*** (0.142)	-0.670*** (0.143)	0.822*** (0.209)
$\% \text{ of Outside Dirs}$	1.587 (2.089)	-1.655 (1.637)	2.260 (2.799)	-1.070 (0.878)	0.128 (1.374)	-1.993 (1.367)
<i>R-squared</i>	0.099	0.046	0.119	0.039	0.055	0.038
<i>Observations</i>	1,086	1,085	609	3,890	3,013	2,255
	<i>Adv</i> > 2	<i>Mon</i> > 2	<i>Adv</i> > 2 <i>Mon</i> ≤ 2	<i>Adv</i> > 2	<i>Mon</i> > 2	<i>Adv</i> > 2 <i>Mon</i> ≤ 2
$\% \text{ Friendly Board}$	6.307** (2.979)	-2.785 (2.007)	8.633** (3.820)	0.913** (0.349)	-0.578*** (0.122)	1.028*** (0.369)
$\% \text{ of Outside Dirs}$	2.974 (4.602)	0.264 (2.075)	5.889 (5.775)	-2.446 (1.593)	-0.435 (1.880)	-1.102 (1.996)
<i>R-squared</i>	0.183	0.100	0.199	0.054	0.058	0.059
<i>Observations</i>	284	420	246	1,177	957	1,046