The Impact of Social Connections on Merger Performance

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ABSTRACT

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This thesis investigates the impact of social connections on merger performance using a sample of U.S. firms. Specifically, we classify connections into four types based on previous literature: Type 1 connections refer to firms with overlapping directors or senior managers (Cai and Sevilir, 2012); Type 2 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target simultaneously serve on a third firm around the announcement date of the deal (Cai and Sevilir, 2012); Type 3 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target share a common educational tie or a past employment tie (Ishii and Xuan, 2014); Type 4 connections refer to the existence of cross-holding institutional investors, defined such that an institutional shareholder holds both shares of the bidder and the target around the announcement of the transaction. We find that the many of the conclusions reached by prior literature with respect to the influence of each of these types of social connections on the value creation of acquiring firms are not robust. In particular, they are sensitive to changes in sample period, industries, model specification and sample selection criteria. In addition, our results suggest that, on average, cross-holding institutional shareholders have positive total returns around the merger announcement date, while they tend to realize negative returns once we constrain the sample to the deals with negative acquirer announcement returns. Our results also suggest that cross-holding shareholders have significantly higher returns from the acquirer and the target together than from the acquirer alone, and acquirers with larger percentage of cross-holding shareholders are associated with lower announcement returns. By systematically considering all possible types of connections in the merger context, we find that different types of connections are interrelated to a certain extent.

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1. Introduction

The social network describes a social structure made up of a set of nodes and links between them (Allen and Babus, 2008). In the modern financial system, social connections play a crucial role due to the high degree of interdependence among the interested parties. In the context of mergers, social connections across merging firms might enhance information transmission and reduce information asymmetry between the acquirer and the target (Start and Yim, 2010; Hochberg et al., 2007; Cohen et al., 2007; Zaheer et al., 2005; Jessen and Koenig , 2003; Hoang and Antoncic, 2003). On the other hand, social connections might lead to weaker critical analysis and result in flawed decision making (Ishii and Xuan, 2014; Fich and Shivdasani, 2006; Rennebog and Zhao, 2011; Bouwman, 2011; Guiso et al., 2000). More specifically, the empirical literature has defined such social connection as belonging to one of four categories. As described in Figure 1, Type 1 connections refer to firms with overlapping directors or senior managers (Cai and Sevilir, 2012); Type 2 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target simultaneously serve on a third firm around the announcement date of the deal (Cai and Sevilir, 2012); Type 3 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target share a common educational tie or a past employment tie (Ishii and Xuan, 2014); Type 4 connections refer to the existence of cross-holding institutional investors, i.e. institutional shareholders who holds shares of both the bidder and the target around the announcement of the transaction. In this thesis, we examine the manner in which each of these types of connections affects value creation in a merger.

To the best of our knowledge, four papers are closely related to this thesis and shed light on this topic (Cai and Sevilir, 2010; Ishii and Xuan, 2014; Matvos and Ostrovsky, 2008; Harford

et al., 2010). However, they all focus on one specific type of connection and ignore other types of connections that might be present at the same time and also influence the acquirer abnormal return. In this thesis we analyze how these different types of social connections influence the value of acquiring firms around the announcement date of the deal. We systematically consider all possible types of connections in the merger context, and analyze how they affect acquirer return and how they are interrelated.

By using a sample of U.S. firms from 1999 to 2013, we find that the conclusions reached by prior researchers might be sensitive to the changes in sample period, industries, model specification and sample selection criteria. While Cai and Sevilir (2010) find that acquirers with social connections tend to realize higher announcement returns, we find that acquirers with such connections are more likely to have lower announcement returns. One possible reason could be that we use different databases and sample periods. Cai and Sevilir (2010) write a PYTHON program to read proxy statements of the acquirer and the target, and choose the time period from 1996 to 2008. In contrast, we use the BoardEx database (similar to Ishii and Xuan, 2014) to collect the network data and investigate mergers between 1999 and 2013. Another possible reason could be that they do not consider the influence of other types of connections. Specifically, they investigate a certain type of connections using a full sample of 1,664 M&A deals, while only 156 out of them are identified as connected deals. Their results might be biased without controlling the impacts of other types of connections especially when the connected transactions occupy less than one-tenth of their full sample.

Ishii and Xuan (2014) find that acquirer-target social ties play a significantly negative role in acquirer returns around the merger announcement. However, our results suggest that their findings might not be robust to alternative specifications. In particular, their reported relationship

is no longer present once we control for the characteristics of the target, change the sample period or eliminate financial institutions from our sample.

With respect to the total returns to institutional investors, Matvos and Ostrovsky (2008) find that cross-holding institutional shareholders (institutions that hold both shares of the acquirer and the shares of the target) on average do not lose money around the merger announcement. Their findings indicate a plausible reason why we continue to observe such apparently value destroying actions on the part of acquirers. As such, these findings are especially interesting in situations where the losses incurred by a cross holding institution on acquiring firms are more than offset by gains from the target. Our results suggest that such conclusions are no longer reached once we constrain the sample to transactions with negative acquirer returns – for such cross-holding institutions, the losses from the acquirer are not offset by larger gains from the target. By using shareholder-by-shareholder analysis, Harford et al. (2010) argue that cross-holdings have little effect on firm behavior in mergers, since investors' gains in the target are not influential enough to compensate for their losses in the acquirer. Our results reveal that on average cross-holding shareholders realize negative total returns in the mergers with negative acquirer announcement returns, but their total returns from the acquirer and the target are significantly higher than returns from the acquirer alone. We also find that acquirers with larger percentage of cross-holding shareholders are associated with lower announcement returns. Thus, our results indicate that cross-holdings have some effects on acquirer behavior, although the impacts are perhaps not as significant as Matvos and Ostrovsky (2008) suggest.

Our study differs from previous literature in five ways. First, to the best of our knowledge, it is the first study to systematically consider all possible types of connections in the

merger context and analyze their effects on the value of acquiring firms around the announcement date. Second, we extend the scope of prior research by investigating connections among directors, senior managers and institutional shareholders. Third, contrary to previous studies, we use both categorical and continuous data to measure each type of connection, which provides more precise and comprehensive explanations of network effects on value creation. Fourth, we categorize institutional shareholders into three types based on Bushee's (1998) Institutional Investor Classification and take a closer look at the performance of dedicated institutional investors. Fifth, we examine the relationship between different types of connections and illustrate how they are related.

The remainder of the thesis is organized as follows. Section 2 introduces the existing literature that applies the network theory to answer financial questions. Section 3 presents the major hypotheses. Section 4 describes the data used in this thesis and provides summary statistics. Section 5 introduces the methodology. Section 6 presents the results of the study. Section 7 concludes and puts forward possible directions for future research.

2. Literature Review

2.1 Overview of Network Effects in Finance

The argument, "network as resources", has been examined by Campbell et al. (1986), and they find that size and composition of networks have positive effects on an individual's socioeconomic status. Recently, a growing number of papers use the concept of social network to answer financial questions. Hoang and Antoncic (2003) review the relationship between social ties and entrepreneurship. They indicate that networks provide information advantages and lead to positive outcomes for entrepreneurs and firms. The research on nascent entrepreneurial

ventures shows that networks are important social capital and have significantly positive effects on the performance of entrepreneurs (Honig and Davidsson, 2003). Jenssen and Koenig (2002) indicate that social ties play an important role in collecting information. Jack (2005) finds that strong social ties not only provide knowledge and information, but also enhance business and personal reputations. Engelberg et al. (2012) explore how social links between banks and firms at the individual level influence company performance. They find that firms with such ties generally pay lower interest rates, receive higher credit ratings, and have better subsequent stock performance.

Hochberg et al. (2007) investigate the relationship between venture capital networks and the performance of venture capital investments. With respect to fund performance, they indicate that well-networked VCs are associated with better subsequent fund performance. Cohen et al. (2007) assess the impact of educational network on mutual fund returns. They find that fund managers prefer to place larger bets on companies where they are connected and such managers gain significantly more from these connected stakes than non-connected stakes. Zaheer et al. (2005) find similar results using a sample of Canadian mutual fund companies. They state that better network structure helps the firm exploit its internal innovative capabilities and therefore enhances firm performance. However, Kuhnen (2009) does not find such positive relationship when he investigates board-advisor ties. He concludes that although such connection increases the likelihood of hiring among these two parties, it makes no difference in the welfare of fund investors.

Another stream of the literature extends the topic by examining the impact of social connections on CEO compensation. Larcker et al. (2005) analyze the connections between insider and outsider directors and show that the degree of connections between these two parties

is positively related to CEOs' total compensation. Hwang et al. (2009) use a unique sample of Fortune 100 firms and show that either conventionally or socially dependent boards are associated with lower turnover and higher level of CEO compensation. Kramarz et al. (2013) investigate the networks between CEOs and directors using a sample of French public firms. They draw similar conclusions that better-connected firms are more likely to pay more to their CEOs and less likely to replace underperforming CEOs. Moreover, Engelberg et al. (2009) show that such positive relationship between networks and compensation is more significant if connected firms are in the same industry cluster or are geographically close. Renneboog et al. (2011) focus on the social connections between executive and non-executive directors of UK companies. They find that managerial influence, which is derived from social networks, plays an important role in determining compensation.

Other researchers look at the effects of connections between CEOs and directors. Directors can be nominally regarded as independent, even if they have strong social connections with CEOs of the firm. Fracassi et al. (2012) explore the relationship between CEO-director ties and firm value by using a broad panel dataset. They find that social ties between CEOs and directors undermine the effectiveness of corporate governance and therefore reduce firm value. Kedia et al. (2011) show that CEO-director connections are significantly positive related to corporate fraud. Nguyen (2012) extends prior work by empirically analyzing CEO turnover using a sample of French firms. His findings reveal that the closeness of the relationship between a CEO and a director is negatively related to CEO turnover.

2.2 Overlapping Managers and Directors

An alternative approach to analyze this issue is to consider more direct connections (as opposed to those created by social networks) in the form of directors or executives who serve on

more than one firm (often as a director in one firm and in the management of another). There is a small but growing literature in corporate finance on the effects of such overlapping roles across firms. Hallock (1997) investigates the influence of interlocking board of directors on CEO compensation and find that such interlocks are linked to higher CEO salaries. Core et al. (1999) find that firms with directors who have multiple directorships are associated with higher CEO compensation. Also, such higher CEO compensation leads to weaker governance structures and poorer company performance. Fich et al. (2003) find that the number of board mutual interlocking directorships is associated with higher CEO compensation and lower turnover. Barnea et al. (2009) find similar results. They use empirical evidence to support the reputation theory and state that firms with well-connected board of directors are more likely to pay more to their CEOs.

Bouwman (2011) analyzes the influence of overlapping directors on corporate governance practices. She finds a selection-priority phenomenon in terms of selecting directors, and points out that firms are more likely to accept similar corporate governance policies when they share a common director. Xuan and Bouwman (2012) further discuss this issue in a wider context, including equity issuance, dividend policy and earnings management. Chiu, Teoh and Tian (2012) analyze the effect of overlapping directors on earnings management. They find that the behavior of earnings management propagates among interlocking directors and the impact is highly significant even after controlling endogenous factors.

Ferris et al. (2003) find no evidence to support the view that busy directors increase the likelihood of subsequent firm underperformance. Fich and Shivdasani (2006) find different results on the topic of multiple directorships. They argue that the limitations of Ferris et al. (2003)'s paper in methodological choices lead to the insignificant results. Fich and Shivdasani

(2006) use a number of alternative tests to examine the effects and show that firms with busy outside directors are more likely to experience weaker corporate governance. Renneboog and Zhao (2011) find similar results using a sample of UK firms.

Bizjak et al. (2009) examine the structure of interlocking board of directors by emphasizing its effects on backdating stock options. They indicate that the presence of interlocking directors is statistically and economically significant in explaining the practice of backdating stock options. Reppenhagen (2010) investigates how overlapping directors influence firms' accounting methods. His findings further support previous research regarding the propagation effects among interlocking boards of directors.

2.3 Applications to M&A

Haunschild (1993) finds that overlapping directors tend to make similar acquisition decisions based on their previous acquisition experience. Beckman and Haunschild (2002) find that acquiring firms are more likely to exhibit better acquisition performance and pay less for the acquisitions if they have network partnerships with targets. Schonlau and Singh (2009) indicate that firms with well-connected boards generally have better post-merger performance than do firms with non-central boards. Stuart and Yim (2010) look at how interlocking networks of directors influence the likelihood that private firms become targets in private equity-backed transactions, and their findings support the view that networks facilitate information transmission and influence firm performance.

This thesis builds on a growing stream of literature that analyzes the influence of social networks various overlaps on mergers and acquisitions. To the best of our knowledge, four papers are currently close to this thesis. Cai and Sevilir (2010) study the connections between

directors from the acquiring firm and directors from target firm, and find that such connections lead to greater acquirer announcement returns. Ishii and Xuan (2014) examine the social ties between the acquirer and the target, and define such social connections as education ties or professional ties. They find that such connections are associated with lower value creation in the acquirer. Matvos and Ostrovsky (2008) analyze this issue from shareholders' perspective and investigate total returns to cross-holding institutional shareholders (i.e. institutions that own shares of the acquirer as well as the target). Their findings indicate that cross-holding shareholders generally do not lose money around the announcement date of the merger, since their gains from the target outweigh their losses from the acquirer. Harford et al. (2010) find different results and argue that Matvos and Ostrovsky (2008)'s findings are not convincing without conducting a shareholder-level analysis. Harford et al. (2010) find that, in most cases, the gains of cross-holding shareholders from the target are not significant enough to offset their losses from the acquirer. Harford et al. (2010)'s findings are against the view that cross-holdings have an impact on firm behaviors.

3. Hypotheses

Generally, there are two opposing views regarding the impact of social connections in the field of finance. Researchers who support the positive effects of networks draw on its role in information transmission (Start and Yim, 2010; Hochberg et al., 2007; Cohen et al., 2007; Zaheer et al., 2005; Jessen and Koenig, 2003; Hoang and Antoncic, 2003). They state that networks enable firms to gain access to more information, which is valuable when firms make corporate decisions. Besides, such connections offer opportunities to gather public information at lower costs and provide access to more private information.

On the other hand, some researchers find that social connections play a negative role (Ishii and Xuan, 2014; Fich and Shivdasani, 2006; Rennebog and Zhao, 2011; Bouwman, 2011; Guiso et al., 2000). They point out that such negative impacts are due to flaws in decision making, which means individuals tend to make subjective judgments or lower due diligence standards when they have personal networks with the interested parties. Based on above views, we put forward two opposite hypotheses with respect to the impacts of social connections on the value creation of acquiring firms.

H1 (a): Social connections between the acquirer and the target at the interpersonal level are associated with higher value creation of the acquiring firm around the announcement date of the deal;

H1 (b): Social connections between the acquirer and the target at the interpersonal level are associated with lower value creation of the acquiring firm around the announcement date of the deal.

In this thesis, we also examine the fourth type of connection, institutional shareholders who hold both shares of the acquirer and the target around the announcement date of the deal. We investigate whether those overlapping institutional shareholders lose money from the merger around the announcement date. One possibility is that their gains from the target can offset the losses from the acquirer, and therefore in total they do not lose money from such transaction. This might explain the facts that institutional shareholders vote for the mergers although acquiring firms generally experience negative abnormal returns around the deal announcement (Matvos and Ostrovsky, 2008). Another possibility is that their gains from acquiring firm are

insufficient to offset their loss from the target (Harford et al., 2011), because they hold substantially lower stakes in the target.

H2 (a): Overlapping institutional shareholders on average do not lose money from the merger around the announcement date of the deal;

H2 (b): Overlapping institutional shareholders on average lose money from the merger around the announcement date of the deal.

Moreover, we explore whether the results about the overlapping institutional shareholders are driven by certain types of institutional investors. To address this concern, we split the sample into three types based on their investment styles: transient, quasi-indexed and dedicated (Bushee, 1998). We further analyze the return to each type of institutional investor around the merger announcement.

H3 (a): Returns to cross-holding institutional shareholders differ significantly according to their investment style;

H3 (b): Returns to cross-holding institutional shareholders are similar no matter which type of investment style they follow.

Considering that director or executives might hold stakes in the acquirer as well as in the target and alumni connections might result in professional ties in certain cases, we expect that different types of connection might be interrelated to some extent.

H4 (a): Different types of connections are interrelated to a certain extent;

H4 (b): Different types of connections are not interrelated.

4. Data

4.1 Sample Formation

The raw merger and acquisition data is sourced from the Securities Data Corporation (SDC) U.S. mergers and Acquisitions database. This database provides us M&A deal information, including the announcement data of the deal, acquirer and target names, payment method, deal attitude, number of bidders, acquirer and target industries, and etc. We investigate the deals that took place from 1999 to 2013 and require that acquirers and targets must be publicly traded in the U.S stock market. Also, the deal must be completed and the percentage of shares owned by acquirer after the transaction is 100%.

Our network information is collected from the BoardEx database of Management Diagnostics Limited, which provides data in the field of relationship capital management. Specifically, it offers profiles of directors and senior managers based on their past or current professional experience, education background and associations joined. Since BoardEx does not provide a unique name for each association and the information is highly incomplete in this category, this thesis focuses on professional ties and educational ties. However, this database does not provide most frequently used identity codes, such as CUSIP or PERMNO, so we manually merge BoardEx information with our sample of mergers by company names and dates. In order to examine the accuracy of the database, we also check some of the data with information provided by U.S. Securities and Exchange Commission (SEC).

We use the Thomson Reuters Institutional Holdings (13F) Database to obtain information on institutional common stock holdings and transactions. Our sample is merged with this database to collect institutional ownership information for each acquirer and target by

requiring that both the acquirer and the target have data on the database in the quarter-end prior to the announcement data of the merger. Moreover, Bushee's Institutional Investor Classification Data is used to identify each institutional shareholder's investment style.

The sample then is matched with the Centre for Research in Security Prices (CRSP) and Compustat databases to get the daily stock returns and financial information of each acquirer and target. For those firms missing values in financial information from the Compustat database, Bloomberg is used as a complementary database to obtain data. Information about stock ownership of directors and executive officers as well as number of directors on the board is extracted from the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database. We collected those information by reading firm's Definitive Proxy Statement (DEF 14A), which each acquirer and target had filed before the merger.

Our sample of merger is extracted from SDC and includes 3666 deals based on aforementioned criteria. After merging with Thomson Reuters Institutional Holdings Database and BoardEx by requiring both bidder and target firms available on the databases, 955 deals remain.[1] Matching with CRSP and Compustat also leads to missing data either in acquirer or target and leaves 882 deals for our analysis.

4.2 Definition of Connections

This thesis investigates the effects of social connections on the value creation of acquiring firms around the merger announcement. We classify social connections into four types based on characteristics of the connection and closeness of the relationship.

[1] A majority of the lost observations are due to insufficient information in the BoardEx data.

Type 1 connections: The first type examines the connection about overlapping directors or senior managers (Cai and Sevilir, 2012). It includes two possible situations: (1) the acquirer and the target share a common member of board around the announcement date; (2) the connected individual serves on the board of acquirer (target) and simultaneously takes the role of senior manager in the target (acquirer). Following this definition, we requires that the overlapping director or executive must *start the role* in the bidder firm and the target firm *no later than* the announcement date of the deal. Also, director or manager must *end the role* in the bidder firm and target firm *no earlier than* the announcement date. Based on this definition, 125 deals satisfy these criteria.

Type 2 connections: The second type examines the connection where a director (senior manager) from the acquirer and another director (senior manager) from the target simultaneously serve on a third firm around the announcement date of the deal (Cai and Sevilir, 2012). As before, we require the director or executive must *start the role* in the bidder (target) firm and the third firm *no later than* the announcement date of the deal, and must *end the role* in the bidder (target) firm and the third firm *no earlier than* the announcement date. According to this definition, 93 deals are considered as having the second type of connections. Among them, 41 deals satisfy the criteria of both the first and the second type, so 52 deals exclusively satisfy the definition of the second type.

Type 3 connections: The third type analyzes the connection where a director (senior manager) from the acquirer and another director (senior manager) from the target share a common educational tie or a past employment tie (Ishii and Xuan, 2014). Educational ties are identified as situations where directors or managers from the acquirer and the target graduate from the same academic institution, such as universities or colleges. Ishii and Xuan (2014)

regard all the alumni of a same academic institution as sharing educational ties, and have proved the results are consistent when time overlaps on the dates of graduations are considered. Analogously, past employment tie is defined as a situation where directors or managers from the acquirer and the target both worked at the same third company in the past. The major difference between the second type and the third type with respect to employment ties is that the second type refers to ties at the time of the merger while the third refers to ties prior to the merger. In all, 697 deals satisfy this definition, of which 530 belong exclusively to the third type.

Type 4 connections: The fourth type regards cross-holdings of institutional investors, defined such that an institutional shareholder holds both shares of the bidder and the target around the announcement of the transaction. After merging the full sample with Thomson Reuters Institutional Holdings (13F) Database, 716 deals satisfy this criterion. Among these deals, 120 deals do not overlap with the above three types. Since the fourth type might be stronger than the third type, we also build a subsample containing 567 deals, which satisfy the criteria of the fourth type without overlapping with the first two types.

In order to take a closer look at the connection among board members, we build another subsample to analyze four types of connections among board members. Specifically, if the acquirer and the target share a common member of board at the time of the merger announcement, then the deal is counted as satisfying the definition of the first type. The other three types are defined likewise. According to this new definition, the first type consists of 36 deals. The second type includes 79 deals and exclusively has 57 deals. 638 deals are identified as the third type, with 550 exclusive deals. The last type consists of 716 deals, with 174 exclusive deals.

4.3 Data Description

Table 1 shows the distribution of the mergers in our sample by year. Column 2 and column 3 of Table 1 present numbers and percentages of deals for our full sample, followed by the four subsamples. The table indicates that the third and the fourth types are more common than the first two types in the context of mergers. It also reveals an increasing trend in the number of mergers during our study period. However, considering the BoardEx database is established in 1999, the lower number of deals in the early years is probably due to the low coverage at company's start-up stage. In the analysis section, we further test this concern by splitting the sample period into two parts.

Table 2 presents the distribution of mergers in our sample by industry. The industry categories are classified according to 48 Fama-French Standard Industrial Classification (SIC) codes. The table shows that our sample is more oriented towards financial institutions, business services, electronic equipment, chemical products and instruments companies. Considering the high leverage of financial institutions, in the analysis section we further do a number of robustness tests to examine whether including financial institutions disturbs our main results.[2]

Panel A of Table 3 reports the summary of statistics for the acquirer and the target. It shows that on average acquiring firms in our sample are larger than acquired firms as measured by the natural log of total assets. We also use sales as an alternative measurement, and the pattern is consistent. We use ROA to measure profitability, and find that acquiring firms are more profitable than target firms. Alternatively, stock run-up is used to measure firm

[2] Our inclusion of financial institutions at this stage is motivated by the fact that some of the prior studies do include them in their analysis. Since one of the major objectives of this thesis is to examine the robustness of prior results, we retain these firms to ensure that our results can be directly compared to the earlier ones.

performance, and the results are consistent. [3] Firms' operating performance is measured by operating cash flow, and Table 3 indicates that acquiring firms are generally associated with higher level of CFO than acquired firms. Our sample shows a similar pattern found by previous studies, which conclude that targets on average have lower leverage and lower profit margin than bidders do (Stevens, 1973; Wansley et al., 1983; Palepu, 1986; Barnes, 1990).

In terms of leverage, the difference between the acquirer and the target is still significant. In the subsamples with defined connections, the use of debt is relatively higher in acquiring firms. The table also suggests that targets have relatively lower market-to-book ratio than acquirers do. The relatively lower valuation of targets by the market encourages acquiring firms to make merger decisions, which supports the view that firms with higher profitability and highly valued by the market are more likely to be the bidders for the acquisitions (Chappell, Jr et al., 1984). Compared with acquiring firms, acquired firms tend to have higher level of insider ownership, consistent with previous findings that managers in acquiring firms with lower level of stockholdings are more likely to engage in the acquisition activity (Lewellen and Loderer, 1985; Gugler et. al. 2008).

Comparing each type of connections, we find that firms with connections are relatively larger than firms without connections. Furthermore, connected firms exhibit stronger capability of using their assets to generate earnings, measured by ROA ratio. The difference is further magnified with respect to firms' leverage ratio. Table 3 shows that connected firms are more likely to use debt to finance their operations and generally associated with higher level of Tobin's q than non-connected firms. Moreover, insider ownership of connected firms is lower than non-connected firms, indicating that connected firms' shareholdings are more diversified

[3] All variables used in this thesis are as defined in the Table 5.

between insider and outsider investors. We do not observe significant difference in statistics among firms with different types of connections.

Panel B of Table 3 reports deal characteristics for our sample. Deal diversification is an indicator variable, which equals to one if the bidder and the target in the same industry. Panel B indicates that connected firms are less likely to combine two firms in the same industry than non-connected firms. In our sample, 99% of mergers are marked as friendly, which supports the prior finding that hostile tender offers have almost disappeared in recent years (Andrade et al., 2001; Betton et al., 2008). The high cost of initiating a hostile tender offer in today's legal environment and the development of antitakeover strategies play indispensable roles in the decreased number of hostile takeovers.

Besides, connected firms in our sample are more likely to choose tender offer as a method of acquisition. The main benefit of tender offer is the faster speed in execution. When bidders choose tender offer method, they make an offer directly to the target shareholders and generally complete the transaction 36 days faster than using a merger method. The main cost with tender offer is that the mandatory disclosure increases the number of potential bidders and raises takeover premium (Betton et al. 2008; Offenberg et al., 2014). Since the prior relationship between the bidder and the target threatens other potential competitors in the market, the benefits of tender offer are more likely to be greater than its costs for our connected subsamples. The statistics presented in Panel B are consistent with the finding of Offenberg et al. (2014) that firms with previous connections prefer the method of tender offer.

5. Methodology

We apply the event study method and multiple regression approach to investigate how the direct and indirect networks between directors (executives) from acquiring firms and directors (executives) from acquired firms influence the value creation of acquiring firms around the announcement date of the merger. In order to examine such impacts more clearly and precisely, we use two sets of proxies to measure connections. Besides, we also calculate dollar return and adjusted return to cross-holding institutional shareholders and take a closer look at the wealth effects for such investors.

5.1 Impacts of Acquirer-target Connections on Value Creation of Acquiring Firms

5.1.1 Short-term Event Study

In order to test our hypotheses, we first do univariate analyses using event study approach. Market model and Fama-French three-factor model are used to investigate the impacts of the event around the merger announcement.

Market model is the most commonly used model to detect normal returns (Brown and Warner, 1985). We use the CRSP value-weighted return as the market return and follow Cai and Sevilir's (2012) paper, estimating market parameters for each firm over the 200 trading days ending two months before the announcement of the merger and acquisition.

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{M,t} + \mathcal{E}_{i,t})$$

Where $AR_{i,t}$ is the abnormal return for firm i on day t, $R_{i,t}$ is the realized return for firm i on day t, $R_{M,t}$ is the expected return on the CRSP value-weighted market index on day t, β_i measures the sensitivity of firm i to the market and $\varepsilon_{i,t}$ is the market model prediction error term.

Cumulative abnormal return (CAR) is calculated by aggregating the abnormal returns across the event window [t_1, t_2]. We use CARs to measure short-term effects of the merger on the value creation of the acquirer and the target. The merger announcement day is deemed as the event day 0.

$$CAR_{i\,[t1,t2]} = \sum_{t=t_1}^{t_2} AR_{i,t}$$

As a robustness test, we also use multi-factor model developed by Fama and French (1993) to increase the explanatory power of the model and examine the impacts of the event. This model is an extension of the capital asset pricing (CAPM) model and considers the influence of market risk, size and value.

$$(R_{i,t} - r_{f,t}) = \alpha_i + \beta_{i,M}\,(R_{m,t} - r_{f,t}) + \beta_{i,SMB}\,SMB_t + \beta_{i,HML}\,HML_t + \mathcal{E}_{i,t}$$

Where SMB_t stands for small minus big, which captures the excess return of small cap stocks over big cap stocks. HML_t refers to high minus low, which captures the excess return of stocks with high market-to-book ratio over stocks with low market-to-book ratio. The time-series data are sourced from Kenneth R. French's Data Library.[4] $R_{i,t}$ is the expected return for firm i on day t, r_f is the risk-free return rate, and $R_{m,t}$ is the return of market portfolio on day t.

5.1.2 Multiple Regression

To further test the impacts of connections on the value creation of acquiring firms around the merger announcement, more comprehensive multiple regression tests are applied to our data by using the ordinary least squares (OLS) approach (Heteroskedasticity-adjusted standard errors used in calculation of t-statistics). Considering the influence of other factors, which possibly affect returns of the acquirer around the event date, we incorporate the

[4] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

characteristics of the firm and the deal as control variables in our regressions. The model is specified as follows:

$$CAR_i = \beta_0 + \beta_1 Ties_{k,\,it} + X_j\beta_j \quad (k=1,2,3\ 4)$$

Where k equals to 1 to 4 and $Ties_k$ stands for aforementioned four types of connections respectively. $X_j\beta_j$ stands for the control variables included in the regression. i stands for the firm i and t stands for the event year t. Specifically, $X_j\beta_j$ consists of the following factors (detailed definitions are presented in Table 5).

$$X_j\beta_j = \beta_0 + \beta_1 Size_{i,t-1} + \beta_2 Q_{i,t-1} + \beta_3 Leverage_{i.t-1} + \beta_4 Run\text{-}up_{i,t-1} + \beta_5 OCF_{i,t-1} + \beta_6 StockDeal + \beta_7 InsiderOwnership^{5}_{i,t-1} + \beta_8 DiversifyngAcquisition_{i,t} + \beta_9 TenderOffer_{i,t} + \beta_{10} Attitude_{i,t} + \beta_{11} MergerEquals_{i,t} + \beta_{12} NumberBids + \beta_{13} FixedIndustry_{i,t} + \beta_{14} FixedYear_{i,t}$$

We use two methods to measure each type of connection. $TiesDummy_k$ *(k=1 to 4)* measures the existence of the connection by using a categorical variable, which takes on the value of one if there is a connection at the interpersonal level between the participants in the merger, and takes on the value of 0 if there is no such connection. $TiesPercent_k$ *(k=1 to 4)* measures the degree of the connection by using a continuous variable. For the first three types, it is calculated by dividing the number of total ties between board members of the acquirer and the target by the number of total possible ties, which equals to the number of board members in the acquirer times the number of board members in the target at the end of the year immediately preceding the announcement of the deal (Ishii and Xuan, 2014).

$$TiesPercent_{1,2,3} = \frac{Number\ of\ ties\ between\ board\ memebers}{\text{Number of board members in acquirer} * \text{Number of board member in target}}$$

[5] Insider ownership is the number reported in the table reporting beneficial ownership in the proxy statement obtained from Edgar. It is the total ownership of officers and directors as a group.

For the fourth type, the degree of the connection is calculated by dividing the stakes of overlapping institutional shareholders owned in the acquiring firm by total outstanding shares of the acquiring firm at the end of quarter immediately preceding the deal announcement (Harford et al., 2010).

$$TiesPercent_4=\frac{\sum_i^n stakes\ at\ the\ acquiring\ firm}{OUTSHARES\_A}$$

Where i stands for each overlapping institutional shareholders, who own both shares of acquiring firms and target firms.

5.2 Impacts of Acquirer-target Connections on the wealth of Institutional Shareholders

We take a closer look at the fourth type by examining the wealth effects for overlapping institutional shareholders, who holds both shares of acquiring firms and target firms around the announcement date of the merger. As discussed in prior section, we expect those institutional investors will generally lose money from the acquirer and gain money from the target. We are interested in whether their gains and losses can balance out as Matvos and Ostrovsky (2008) found. In order to investigate total return to cross-holding institutional investor, we follow Matvos and Ostrovsky (2008)'s paper and calculate both dollar return and adjusted return to cross-holding institutional shareholder by using the following methods.

$$\text{DollarReturn}_{\text{cross-ownership shareholder}}=\sum_{A,T} CARs\ *\ percentage\ holdings\ *\ Market\_Cap$$

$$\text{ScaledReturn}_{\text{cross-ownership shareholder}}=\frac{\text{dollar return to cross-ownership shareholder}}{\sum_{A,T}\text{percentage holdings}*\text{Market capitalization}}$$

Where *Percentage Holdings* are calculated by dividing shares held by the cross-holding institutional shareholder by total shares outstanding of the firm, and market capitalization is calculated by multiplying stock price by shares outstanding around the announcement date. *CAR* stands for cumulative abnormal returns and is calculated by using the aforementioned market

model approach. We use five event windows [0, 0], [-1, 1], [-2, 2], [-3, 3] and [-5, 5] to present results. *ScaledReturn* is the adjusted return to cross-holding shareholder by taking into account the total holdings in both the acquirer and the target.

When we compare returns to each type of institutional shareholders based on Bushee's Institutional Investor Classification (1998), paired difference test is applied to the data in order to assess whether the difference in returns is significant. T-value test and Wilcoxon signed-rank test are both used to examine the difference in mean return, but only t-test values are presented in the table.

6. Results

6.1 Univariate Analysis

The results of univariate analysis are presented in Table 4. The table reports cumulative abnormal returns of the acquirer and the target over five event windows. In panel A, the results of full sample are presented first, followed by four subsamples with different types of connections. The last category of panel A reports cumulative abnormal returns (CARs) for non-connected deals, which do not have any type of connection as defined in the thesis.

The pattern of our results is in line with previous studies (Fuller et al., 2002; Masulis et al., 2007), while CARs of acquiring firms are slightly higher than the findings of Ishii and Xuan (2014). When we follow their paper and constrain the sample period to 1999-2007, the CARs of acquirers are generally consistent with their paper (Ishii and Xuan, 2014) with values of -0.81%, -1.14%, -1.03%, -1.24% and -1.55%, respectively (untabulated). By using either the market model approach or Fama-French model approach, results are of the same sign and magnitude. Panel A of Table 4 suggests that deals with connections have negative impacts on the return of

acquiring firms. Compared with the third and the fourth types, the first two types exhibit stronger influence on the value reduction of the acquirer around the merger announcement date.

The CARs of targets are all significantly positive, which is also consistent with previous studies (Capron et al., 2002; Fuller et al., 2002; Masulis et al., 2007). Comparing different types of connections, we do not observe much difference in their CARs, which supports the findings of Cai et al. (2012) and Ishii et al. (2014). In this thesis, we focus on investigating the impacts of networks on the value creation of acquirers rather than targets based on two reasons. First, previous literatures indicate that shareholders of acquirers on average experience value reduction around the merger announcement, while shareholders of targets on average gain money because of such announcement (Jarrell et al. 1989; Moeller, 2005; Masulis et al., 2007). Generally, "losses hurt more than gains feel good" (Kahneman et al., 1984), so examining returns to the acquirer has more research meanings. Second, previous studies (Cai et al., 2012; Ishii et al., 2014) as well as our results in panel A indicate that networks have little impacts on the abnormal return of targets. Therefore, the remainder of this thesis only focuses on the effects of networks on acquiring firms.

We further test the difference in mean CARs between the connected and the unconnected subsamples and present the results in Panel B of Table 4. The first row indicates the difference in mean CARs between the first type subsample and the unconnected subsample, and the difference is highly significant over the five event windows. The results are similar for the other three types.

6.2 Multiple Regression

We further investigate the impacts of connections on the value creation of the acquirer around the announcement date of the transaction in a multivariate setting by controlling for other

variables which possibly influence acquirer returns. Table 5 presents all the variables used in these regressions.

6.2.1 Director Connections

In this section, we only focus on the connections among firm director, which means the connected individual must sit on the board of both firms. The remainder of the section is organized as follows. First, we make the analysis based on the entire sample period by using two sets of proxies to measure connections: discrete variables and continuous variables (equations are provided in section 5.1.2). Second, to expel potential bias in the results, we conduct a number of further analyses by changing sample period, sample industry, control variables or sample selection criteria.

Table 6 presents the regression results for our full sample by using continuous variables to measure the closeness of connections. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections. In this section, we do not include the fourth type on the grounds that such type of connection is unrelated to board of directors. Specifically, regression (1) and regression (2) include all three types of connections: the first type, the second type excluding the first type, and the third type excluding the first two types.[6] Regression (3) and (4) examine the impacts of the first type, and likewise for the remaining regressions in Table 6. We include a number of control variables in regressions, including deal characteristics and acquirer characteristics which possibly influence dependent variables.

[6] We expect that the first type of connection is more direct and therefore potentially important than the second type and likewise the second type is more important than the third type. Thus the rationale for our classification is that we attempt to classify connections based on the strongest existing level of connection.

As indicated in Table 6, when we include all three types of connections in the regression, the coefficients of main explanatory variables all exhibit negative signs. However, only the second type shows significant impacts. We further look at the impact of each type individually. Table 6 suggests that all the types of connections exhibit negative signs, while only the impact of the second type is significant at the 0.1 level. At this stage our results are inconsistent with whose of Cai and Sevilir (2010) who find that the acquirer-target ties have a positive impact on acquirer returns. One possible reason could be that we use different databases and sample periods. Another possible reason could be that they do not consider the influence of other types of connections. With respect to the third type, the sign of our results are consistent with the findings of Ishii and Xuan (2014), while the impact is insignificant. In the following sections, we further examine whether the difference in significance is due to the changes in sample period or model specification.

The estimated coefficients on control variables are consistent with findings in prior literature (Ishii and Xuan, 2014; Cai and Sevilir, 2012). Similar to Ishii and Xuan's (2014) result, the size of the acquiring firm is statistically insignificant. We use two proxies to measure the acquirer size (the natural logarithm of total book assets and the natural logarithm of sales), and the results are consistent. With respect to leverage ratio, Table 6 suggests that higher leverage of the acquirer is associated with higher acquirer abnormal returns around the merger announcement (Ishii and Xuan, 2014; Maloney et al., 1993). The stock run-up of the acquirer is significantly and positively related to the value creation of the acquirer, which is also consistent with prior studies (Ishii and Xuan, 2014). The results are consistent when we use ROA as an alternative proxy to measure firm performance (Harrison and Godfrey, 1997).

When we look at control variables with respect to deal characteristics, the results are also in line with previous literature (Ishii and Xuan, 2014; Cai and Sevilir, 2012). Deal diversification, tender offer and equal merger are all positive but largely insignificant related to the value creation of the acquiring firm around the merger announcement (Cai and Sevilir, 2012). The impact of the number of bidders on the dependent variable is negative but insignificant. All the regressions in the even columns are controlled for year fixed effects and industry fixed effects. The explanatory power of independent variable improves when we include fixed effects into regressions. In contrast, Table 7 reports the regression results for the full sample by using discrete variables to measure the existence of connections. Our results suggest that the estimated coefficients of explanatory variables are all negative but largely insignificant.

Recalling prior results, we do not observe consistently significant influence of the third type of connection on the returns of acquiring firms. When we changed the event window to shorter periods, the pattern is consistent with the results we presented in Table 6 and Table 7. We are curious whether the significantly negative results presented in the Xuan and Ishii (2014)'s paper are sensitive to the changes in sample period. In the following regressions, we split the sample period into two parts: 1999-2007 and 2008-2013. The first period (1999-2007) is exactly same as the study period used in Xuan and Ishii's paper (2014). By doing this, the two subsamples consist of 382 and 500 deals, respectively.

Table 8 presents the regression results for the first subsample. Column (1) – (6) report regressions using continuous variables, while column (7) – (9) report regressions using discrete variables. On the left side of the Table 8, we notice that the impacts of connections on the acquirer returns improve greatly compared with the results in table 6. Using dummy variables as measurements, we do not observe statistical significance on the coefficients of independent

variables. In contrast, the regression results for the second period are presented in Table 9. Our results indicate that almost all the coefficients of explanatory variables exert insignificant influence on the response variables. Following Ishii and Xuan (2014)'s paper, we take a closer look at the third type of connection by reconstituting two subsamples for period 1 and period 2, and require firms in these two subsamples to have the third type of connection. We use continuous variable to measure the degree of connection and redo regressions based on subsamples of 256 deals and 375 deals for period 1 and period 2, respectively. The estimated coefficient of the third type is significantly negative during the first period while insignificant during the second period (untabulated). Above results imply that the impacts of social connections on the value creation of acquiring firms mainly correspond to the early years of our sample.

Considering particularities of financial institutions, we next eliminate those institutions and explore whether the results are largely driven by them. Table 10 presents regression results during the first period. It indicates that the second types of connections still exert significant influence on acquirer abnormal returns, while the first and the third type no longer show significant impacts after eliminating financial institutions. Using discrete variables, the estimated coefficients are consistently insignificant as indicated in previous regressions. Table 11 reports results for non-financial firms during 2008-2013. We do not observe significance on the estimated coefficients of all the three types of connections. The results are consistent with prior findings when we use discrete variables as alternative measurements. Based on above results, we consider that including financial institutions in the sample might cause potential bias in the results, especially for the third type of connection. This is particularly troubling as Cai and Sevilir (2010) and Ishii and Xuan (2014) include financial institutions in their sample.

So far, we only take into account acquirer characteristics in our regressions, and we next include target characteristics in our analysis to check whether the results are sensitive to the changes in control variables. Table 12 presents the regression results for the first period, suggesting that higher connection is associated with greater value reduction of the acquirer around the merger announcement. Similarly, Table 13 reports the results for the second period. Only the coefficient of the second type is significant. Our results suggest that the third type of connections might be highly sensitive to the changes in control variables. To expel the influence of financial institutions, we eliminate deals involving financial firms and redo the regressions by controlling both acquirer and target characteristics, and the results are consistent.

Another potential concern with previous models is the sample selection bias. Specifically, when we do a regression using a specific type of connection as the independent variable, deals with other types of connections in the sample might also affect the dependent variable and therefore diminish the explanatory power of the independent variable. To address this concern, we reconstitute three subsamples and the regression results are presented in Table 14. The subsample used in columns 1 and 4 consists of deals with the first type of connection and deals without any kind of connection introduced in this thesis. The other two subsamples are constituted analogously. Compared with Tables 6 and 7, Table 14 shows that the significant levels of the coefficient estimates of independent variables largely improves by using either continuous variables or discrete variables to measure connections. We also control for target characteristics and redo the regressions, and results are consistent. Due to the limitation in the number of observations, we are unable to test whether the results are still consistent after eliminating financial institutions from the sample.

In summary, our results suggest that prior findings (Ishii et al., 2014; Cai et al., 2012) about the impacts of social connections on the acquirer returns around the merger announcement tend to be more statistically significant during 1999-2007 than 2008-2013. The significance of the impact of the connection is sensitive to the change in variable specification. We observe more significant impacts on acquirer returns by using continuous variables to measure connections rather than using discrete variables. Moreover, although both Ishii et al. (2014) and Cai et al. (2012) include financial institutions in their samples, our results indicate that such approach might cause bias especially for the third type. Furthermore, we find that the impact of social connections is also sensitive to the change in model specification. The significance levels of coefficient estimates generally decrease after for controlling target characteristics in the models. Besides, we also find that analyzing each type of connection individually and ignoring the impacts of other types of connections might lead to biased interpretations.

6.2.2 Director and Senior Manager Connections

In this section, we analyze the connections among directors and executives. Due to insufficient information for senior managers, we only use discrete variables to measure connections. The results are presented in Table 15. Model (1) includes all four types of connections and model (2) incorporates the first three types. All the estimated coefficients exhibit consistent pattern, suggesting the connections are negatively related to acquirer returns around the merger announcement. Column 3 to column 6 reports the result for each type of connection, respectively. Column 7 of Table 15 shows the result for the fourth type by using continuous variable to measure the connection. The results suggest that the third types play a role in explaining the dependent variable, while the other types are incapable of doing so.

Considering potential limitations discussed previously, Table 16 presents the regression results by eliminating the financial institutions from our sample. It reveals that the significant levels of estimated coefficients diminishes, indicating that including financial institutions into the sample causes a degree of bias. Furthermore, we reconstitute four subsamples and in each subsample we include deals with one specific type of connection and deals without any type of connection. The results are presented in Table 17, suggesting that all four types of connections exert strong influence on acquirer returns after reconstituting subsamples. The results for directors and executives reinforce our findings in the section 6.2.1.

6.3 Wealth Effects for Overlapping Institutional Shareholders

In this part, we further investigate the wealth effects for cross-holding institutional shareholders. Matvos and Ostrovsky (2008) find that on average such institutional shareholders do not lose money from the merger, since their gains from the target offset their losses from the acquirer. We use our panel dataset of overlapping institutional shareholders to examine their findings.

First, we investigate the issue at the deal level. Specifically, we add up the stakes of all the overlapping institutional shareholders in each deal and analyze how their holdings in the acquirer and the target influence their total returns. Second, we explore the issue based on the shareholder level. Harford et al. (2010) argue that Matvos and Ostrovsky's (2008) findings are not convincing without conducting a shareholder-by-shareholder analysis. We further look at total return to each overlapping institutional shareholder. Third, we apply Bushee's institutional Investor classification (1998) to our data and categorize shareholders into three types based on their investment styles: transient, quasi-index and dedicated investor. We compare total returns

to cross-holding shareholders in each group and investigate which type of investor plays a prominent role in determining the results.

6.3.1 Wealth Effects at the Deal Level

As introduced in the methodology section, we use two approaches to calculate returns to cross-holding institutional shareholders: *DollarReturn* and *ScaledReturn.* The results are presented in Table 18. All the five event windows suggest a uniform result that total returns to overlapping institutional shareholders are significantly positive when we evaluate this issue at the deal level. As reported in Table 4, shareholders generally lose money from holding the shares of the acquirer. However, since overlapping shareholders partake in both the acquirer and the target, total returns to such shareholders are positive, which suggests that the losses from holding the shares of the acquirer are balanced out by the gains from holding the shares of the target. This result is consistent with Matvos and Ostrovsky's (2008) finding.

The last two columns of Table 18 shows that on average cross-holding institutional shareholders hold 31% stakes in the acquiring firm and 36% stakes in the acquired firm. This result suggests that when we investigate welfare to overlapping institutional investors based on the deal level, it seems that they hold similar stakes in the two participants of the merger around the announcement date. However, the fact is quite different, and we further illustrate this point in the next section.

6.3.2 Wealth Effects at the Shareholder Level

Analyzing total returns to investors based on the deal level might be problematic. It is possible that cross-holding institutional investor holds substantial stakes in the acquirer, while holds only small percentage of shares in the target. If this is the case, the gains from the target

may not be sufficient to counterbalance the losses from the acquirer. On the other hand, if investors have large stakes in the target and meanwhile hold small stakes in the acquirer, technically they will realize significantly positive returns (Harford et al., 2010). When we accumulate all the stakes of overlapping institutional investors together, it creates an illusion that they hold roughly equal stakes in the acquirer and the target. Therefore, it is necessary to further investigate the issue at the shareholder level.

Panel A of Table 19 reports total return and adjusted total return to each overlapping institutional shareholder. The pattern of dollar return and scaled return to such investors is consistent with the results presented in Table 18, indicating that overlapping institutional shareholders are less likely to lose money around the announcement date of the merger. On average, each cross-holding institutional investor holds 0.38% shares of acquiring firm and 0.45% shares of acquired firm. The difference of their stakes in the acquirer and the target is reported in panel B of Table 19, and it is significant at the 0.01 level. The result supports Harford et al. (2010)'s finding that institutional investors display a noteworthy difference in ownership stakes in the acquirer and the target.

We conduct an in-depth analysis on returns to overlapping institutional shareholders by focusing on deals with negative acquirer announcement returns. The reasoning behind examining this panel dataset is that such transactions are the major determinants of whether cross-holdings contribute to the total gains of institutional investors. In other words, if acquiring firms realize positive CARs around the transaction announcement, overlapping investors are more likely to have positive returns. Therefore, Matvos and Ostrovsky (2008)'s views are more convincing if overlapping investors still realize positive total returns in the transactions with negative acquirer announcement returns.

The results are presented in panel C of Table 19. We constitute five subsamples for the five event windows. For example, when we collect observations for the first event window, we require the corresponding acquiring firms to realize negative cumulative abnormal returns over the first event window. Likewise, we constitute remaining four subsamples. The first row of Panel C presents the mean total return to cross-holding institutional investors. The results suggest that holding shares in the target does not completely compensate their losses from the acquirer, which questions the generality of the previous finding that cross-holding institutional shareholders on average do not lose money from the merger around the announcement date (Matvos and Ostrovsky, 2008). The third row of Panel C shows that returns to overlapping institutional investors from acquiring firms are all negative over the five event windows, which is consistent with our prediction that shareholders generally lose money from holding the shares of acquiring firms around the merger announcement. To further examine whether cross-holdings contribute to the wealth of investors, we test the difference between returns from the acquirer alone and returns from the acquirer and the target together. The differences are significant over the five event windows, suggesting that holding shares in the target significantly improves institutional investor value although on average the gains are insufficient to offset their losses from the acquirer. Our results complement those of Matvos and Ostrovsky (2008).

6.3.3 Institutional Classification Analysis

To explore whether the above results are driven by certain types of institutional shareholders, we classify institutional investors into three categories based on Bushee's Institutional Investor Classification (1998): dedicated, transient and quasi-indexer. Dedicated institutional shareholders behave like active investors (Porter, 1992; Bushee, 1998). They usually hold large blocks of shares for a long time and play a monitor role in managers' performance.

Transient institutional investors make frequent transactions and tend to hold small stakes in various firms (Porter, 1992; Bushee, 1998). Quasi-indexing institutional shareholders behave like passive investors, who are less likely to monitor firms or involve in firms' management decisions (Porter, 1992; Bushee, 1998).

To test our hypothesis, we calculate their total dollar returns and adjusted total returns around the merger announcement. The detailed results are reported in panel A of Table 20. In our sample, the majority of the cross-holding institutional investors are classified as transient or quasi-index investors. In terms of total returns, the results are consistent with prior findings. Specifically, when we use the dollar return as a measurement, dedicated investors on average realize larger positive returns around the announcement date compared with transient or quasi-index investors. By using the adjusted total return as a measurement, dedicated institutional investors still outperform quasi-index investors, while they slightly underperform transient investors.

We next examine transactions with negative acquirer announcement returns, and the results are presented in panel B of Table 20. Like the results in panel C of Table 19, on average cross-holding investors realize negative total returns around the announcement date of the merger, but the magnitude of value reduction declines substantially by holding the shares of the target. With respect to returns to each type of cross-holding shareholders, transient investors make the most money compared with the other two types of investors, and dedicated investors perform better than quasi-index investors. Our results suggest that even though dedicated investors do not outperform transient investors around the announcement date, they still greatly benefit from holding the shares of targets.

Recalling the results in section 6.2.2, we find that the existence of cross-holding institutional investors is associated with lower acquirer returns around the merger announcement. Combined with the finding that returns to cross-holding investors are substantially higher from the acquirer and the target than from the acquirer alone, the results imply that acquirers with overlapping institutional shareholders tend to pursue targets more aggressively and such shareholders are more likely to support acquirer value reduction deals.

In summary, we find that on average cross-holding institutional shareholders realize positive total returns around the merger announcement for our full sample, and this result are consistent with Matvos and Ostrovsky (2008)'s finding. However, our results also suggest that overlapping institutional owners have negative returns once we constrain the sample to deals with negative acquirer CARs, but overlapping shareholders' total returns from the acquirer and the target together are significantly higher than returns from the acquirer alone. By analyzing the impacts of cross-holdings, we find that cross-holding shareholders are more likely to support acquirer value reduction deals. Decomposing institutional investors based on their investment styles, we find that the patterns are consistent in all three subsamples.

6.4 The Relationship between different types of Connections

In this section, we further investigate the relationship among different types of connections. In our director subsample, 71 directors satisfy the definition of the first type of connection, and 43 out of 71 directors have detailed ownership information in company proxy statements. Except for one director, all the other directors hold both shares of the acquirer and the target. On average, overlapping director holds 4.12% of acquirer's shares, and 8.37% of target's shares. This result implies that the first type and the fourth type are interrelated to a certain extent. In other words, overlapping directors are usually also regarded as cross-holding

investors. Due to the insufficient data in executive ownership, we are unable to extend such conclusion to senior managers.

Also, we test the correlation between each type of connections, and we find that certain types of connections are correlated. By using continuous variables to measure connections, the first and the second type have strong positive relationship with an R squared value of 0.701. Besides, the second and the third type also exhibit positive relationship with an R squared value of 0.268. When we use discrete variables to measure connections, we find moderate positive relationship between the first type and the second type.

7. Conclusions and Topics for Future Research

This thesis builds on growing literatures that provide empirical evidence on the impact of social connections. Specifically, we focus on the interpersonal relationship in the context of mergers, and define such relationship into four types according to prior literature (Cai and Sevilir, 2010; Ishii and Xuan, 2014; Matvos and Ostrovsky, 2008; Harford et al., 2010). Using a sample of U.S. firms during 1999-2013, we investigate the impacts of different types of connections around the merger announcement date.

Our results suggest that the strong impacts of connections on value creation of acquiring firms, which has been found in previous literature (Cai and Sevilir, 2010; Ishii and Xuan, 2014), might be sensitive to the changes in sample period, industries, model specification and sample selection criteria. Also, we state that taking into account all types of connections might facilitate to make more reasonable and comprehensive interpretations. With respect to cross-holding institutional shareholders, we find that on average they have positive total returns around the merger announcement date, while they tend to realize negative returns once we constrain the

sample to deals with negative acquirer CARs. Cross-holding shareholders have significantly higher returns from the acquirer and the target together than from the acquirer alone. The pattern is consistent when we decompose the sample into three types according to their investment styles. Furthermore, we find that the different types of connections are interrelated to some extent.

This thesis systematically discusses the impact of social connections around the merger announcement and provides some insights into the growing literature of networks. However, due to the limitation of access to the databases and insufficient data, we are unable to comprehensively compare the differences among various databases regarding the network data. An interesting direction for future research would be to further discuss how networks are formed and how different types of networks are interrelated. Moreover, another research area would be to analyze networks at the firm level instead of interpersonal level and investigate how the closeness and strength of such relationship influence firm decisions.

References

Adams, Renee B, and Daniel Ferreira. "A theory of friendly boards." *The Journal of Finance* 62.1 (2007): 217-250.

Allen, Franklin, and Ana Babus. "Networks in finance." *Wharton Financial Institutions Center Working Paper* No. 08-07 (2008).

Andrade, Gregor, Mark L. Mitchell, and Erik Stafford. "New evidence and perspectives on mergers." *Harvard Business School Working Paper* No. 01-070 (2001).

Barnes, Paul. "The prediction of takeover targets in the UK by means of multiple discriminant analysis." *Journal of Business Finance & Accounting* 17, No. 1 (1990): 73-84.

Beckman, Christine M, and Pamela R Haunschild. "Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions." *Administrative Science Quarterly* 47.1 (2002): 92-124.

Bertrand, Marianne et al. "Politicians, firms and the political business cycle: evidence from France." *Unpublished working paper. University of Chicago* (2006).

Bertrand, Marianne, Erzo FP Luttmer, and Sendhil Mullainathan. "Network effects and welfare cultures." *National Bureau of Economic Research*, no. w6832 (1998).

Betton, Sandra, B Espen Eckbo, and Karin S Thorburn. "Corporate takeovers." *Elsevier/North-Holland Handbook of Finance Series* (2008).

Bizjak, John, Michael Lemmon, and Ryan Whitby. "Option backdating and board interlocks." *Review of Financial Studies* 22, no. 11 (2009): 4821-4847.

Bouwman, Christa HS, and Yuhai Xuan. "Director overlap and firm financial policies." *Case Western Reserve University and Harvard University Working Paper* (2012).

Bouwman, Christa HS. "Corporate Governance Propagation through Overlapping Directors." *Review of Financial Studies* 24.7 (2011): 2358-2394.

Brown, J. R, Ivković, Z., Smith, P. A., & Weisbenner, S. "Neighbors matter: Causal community effects and stock market participation." *The Journal of Finance* 63.3 (2008): 1509-1531.

Brown, Jennifer L, and Katharine D Drake. "Network ties among low-tax firms." *The Accounting Review* 89.2 (2013): 483-510.

Brown, Stephen J., and Jerold B. Warner. "Using daily stock returns: The case of event studies." *Journal of Financial Economics* 14.1 (1985): 3-31.

Brown Jr, William O., and Michael T. Maloney. "Exit, Voice, and the Role of Corporate Directors: Evidence from Acquisition Performance." *Claremont Colleges Working Papers in Economics* No. 1999-27 (1999).

Bushee, Brian J. "The influence of institutional investors on myopic R&D investment behavior." *Accounting Review* (1998): 305-333.

Cai, Ye, and Merih Sevilir. "Board connections and M&A transactions." *Journal of Financial Economics* 103.2 (2012): 327-349.

Calvó-Armengol, Antoni, and Matthew O Jackson. "Networks in labor markets: Wage and employment dynamics and inequality." *Journal of Economic Theory* 132.1 (2007): 27-46.

Calvó-Armengol, Antoni, and Yves Zenou. "Job matching, social network and word-of-mouth communication." *Journal of Urban Economics* 57.3 (2005): 500-522.

Campbell, Karen E, Peter V Marsden, and Jeanne S Hurlbert. "Social resources and socioeconomic status." *Social Networks* 8, no. 1 (1986): 97-117.

Capron, Laurence, and Nathalie Pistre. "When do acquirers earn abnormal returns?" *Strategic Management Journal* 23.9 (2002): 781-794.

Chappell, Henry W, and David C Cheng. "Firms' acquisition decisions and Tobin's q ratio." *Journal of Economics and Business* 36, no. 1 (1984): 29-42.

Castells, Manuel. "The rise of the network society: The information age: Economy, society, and culture." Vol. 1. John Wiley & Sons (2011).

Chen, Xia, Jarrad Harford, and Kai Li. "Monitoring: Which institutions matter?" *Journal of Financial Economics* 86, no. 2 (2007): 279-305.

Chidambaran, NK, Simi Kedia, and Nagpurnanand R Prabhala. "CEO director connections and corporate fraud." *Fordham University Schools of Business Research Paper* 1787500 (2011).

Chiu, Peng-Chia, Siew Hong Teoh, and Feng Tian. "Board interlocks and earnings management contagion." *The Accounting Review* 88.3 (2012): 915-944.

Frazzini, Andrea, Christopher J. Malloy, and Lauren Cohen. "The Small World of Investing: Board Connections and Mutual Fund Returns." *NBER Working Paper* w13121 (2007).

Core, John E, Robert W Holthausen, and David F Larcker. "Corporate governance, chief executive officer compensation, and firm performance." *Journal of Financial Economics* 51.3 (1999): 371-406.

Davidsson, Per, and Benson Honig. "The role of social and human capital among nascent entrepreneurs." *Journal of Business Venturing* 18.3 (2003): 301-331.

Engelberg, Joseph, Pengjie Gao, and Christopher A Parsons. "Friends with money." *Journal of Financial Economics* 103.1 (2012): 169-188.

Engelberg, Joseph, Pengjie Gao, and Christopher A. Parsons. "The value of a Rolodex: CEO pay and personal networks." *SSRN Working Paper Series* (2009).

Fama, Eugene F., and Kenneth R. French. "Common risk factors in the returns on stocks and bonds." *Journal of Financial Economics* 33.1 (1993): 3-56.

Ferris, Stephen P, Murali Jagannathan, and Adam C Pritchard. "Too busy to mind the business? Monitoring by directors with multiple board appointments." *The Journal of Finance* 58.3 (2003): 1087-1112.

Fich, Eliezer M, and Anil Shivdasani. "Are busy boards effective monitors?" *The Journal of Finance* 61.2 (2006): 689-724.

Fich, Eliezer, and Lawrence J White. "CEO compensation and turnover: the effects of mutually interlocked boards." *Wake Forest L. Rev.* 38 (2003): 935.

Fontaine, François. "Do Workers Really Benefit From Their Social Networks?" *IZA Discussion Paper Series* No. 1282 (2004).

Fracassi, Cesare, and Geoffrey Tate. "External networking and internal firm governance." *The Journal of Finance* 67.1 (2012): 153-194.

Freeman, Linton C. "Centrality in social networks conceptual clarification." *Social Networks* 1, no. 3 (1979): 215-239.

Fuller, Kathleen, Jeffry Netter, and Mike Stegemoller. "What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions." *The Journal of Finance* 57, no. 4 (2002): 1763-1793.

Gaspar, José-Miguel, Massimo Massa, and Pedro Matos. "Shareholder investment horizons and the market for corporate control." *Journal of Financial Economics* 76, no. 1 (2005): 135-165.

Guedj, Ilan, and Amir Barnea. "Director networks." *EFA 2007 Ljubljana Meetings Paper* (2009).

Gugler, Klaus, Dennis C Mueller, and B Burcin Yurtoglu. "Insider ownership, ownership concentration and investment performance: An international comparison." *Journal of Corporate Finance* 14, no. 5 (2008): 688-705.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales. "The role of social capital in financial development." *American Economic Review* 94.3 (2004): 526-556.

Hallock, Kevin F. "Reciprocally interlocking boards of directors and executive compensation." *Journal of Financial and Quantitative Analysis* 32.03 (1997): 331-344.

Han, Ki C, and David Y Suk. "The effect of ownership structure on firm performance: Additional evidence." *Review of Financial Economics* 7.2 (1998): 143-155.

Harford, Jarrad, Dirk Jenter, and Kai Li. "Institutional cross-holdings and their effect on acquisition decisions." *Journal of Financial Economics* 99.1 (2011): 27-39.

Harrison, Jeffrey, and Paul C Godfrey. "Do event studies predict acquisition success? An empirical test." *Annual Academy of Management Conference, Boston, MA* (1997).

Haunschild, Pamela R. "Interorganizational imitation: The impact of interlocks on corporate acquisition activity." *Administrative Science Quarterly* (1993): 564-592.

Hoang, Ha, and Bostjan Antoncic. "Network-based research in entrepreneurship: A critical review." *Journal of Business Venturing* 18.2 (2003): 165-187.

Hochberg, Yael V, Alexander Ljungqvist, and Yang Lu. "Whom you know matters: Venture capital networks and investment performance." *The Journal of Finance* 62.1 (2007): 251-301.

Hong, Harrison, Jeffrey D Kubik, and Jeremy C Stein. "Social interaction and stock‐market participation." *The Journal of Finance* 59.1 (2004): 137-163.

Hwang, Byoung-Hyoun, and Seoyoung Kim. "It pays to have friends." *Journal of Financial Economics* 93.1 (2009): 138-158.

Ishii, Joy, and Yuhai Xuan. "Acquirer-target social ties and merger outcomes." *Journal of Financial Economics* 112.3 (2014): 344-363.

Jack, Sarah L. "The Role, Use and Activation of Strong and Weak Network Ties: A Qualitative Analysis." *Journal of Management Studies* 42.6 (2005): 1233-1259.

Jarrell, Gregg A, and Annette B Poulsen. "The returns to acquiring firms in tender offers: Evidence from three decades." *Financial Management* (1989): 12-19.

Jenssen, Jan Inge, and Harold F Koenig. "The effect of social networks on resource access and business start-ups." *European Planning Studies* 10.8 (2002): 1039-1046.

Kahneman, Daniel, and Amos Tversky. "Choices, values, and frames." *American Psychologist* 39.4 (1984): 341.

Khanna, Tarun, and Catherine Thomas. "Synchronicity and firm interlocks in an emerging market." *Journal of Financial Economics* 92.2 (2009): 182-204.

Kramarz, Francis, and David Thesmar. "Social networks in the boardroom." *Journal of the European Economic Association* 11.4 (2013): 780-807.

Kranton, Rachel E, and Deborah F Minehart. "Networks versus vertical integration." *The Rand Journal of Economics* (2000): 570-601.

Kuhnen, Camelia M. "Business networks, corporate governance, and contracting in the mutual fund industry." *The Journal of Finance* 64.5 (2009): 2185-2220.

Larcker, David F et al. "Back door links between directors and executive compensation." *Back Door Links Between Directors and Executive Compensation* (2005).

Lewellen, Wilbur, Claudio Loderer, and Ahron Rosenfeld. “Merger decisions and executive stock ownership in acquiring firms.” *Journal of Accounting and Economics* 7, no. 1 (1985): 209-231.

Loderer, Claudio, and Urs Peyer. "Board overlap, seat accumulation and share prices." *European Financial Management* 8.2 (2002): 165-192.

Maloney, Michael T, Robert E McCormick, and Mark L Mitchell. "Managerial decision making and capital structure." *Journal of Business* (1993): 189-217.

Masulis, Ronald W, Cong Wang, and Fei Xie. "Corporate governance and acquirer returns." *The Journal of Finance* 62, no. 4 (2007): 1851-1889.

Matvos, Gregor, and Michael Ostrovsky. "Cross-ownership, returns, and voting in mergers." *Journal of Financial Economics* 89.3 (2008): 391-403.

Moeller, Sara B, Frederik P Schlingemann, and René M Stulz. "Wealth destruction on a massive scale? A study of acquiring‐firm returns in the recent merger wave." *The Journal of Finance* 60, no. 2 (2005): 757-782.

Nguyen, Bang Dang. "Does the Rolodex matter? Corporate elite's small world and the effectiveness of boards of directors." *Management Science* 58.2 (2012): 236-252.

Offenberg, David, and Christo A Pirinsky. "How do Acquirers Choose between Mergers and Tender Offers?" *Journal of Financial Economics (JFE), Forthcoming* (2014).

Palepu, Krishna G. "Predicting takeover targets: A methodological and empirical analysis." *Journal of Accounting and Economics* 8, no. 1 (1986): 3-35.

Renneboog, Luc, and Yang Zhao. "Us knows us in the UK: On director networks and CEO compensation." *Journal of Corporate Finance* 17.4 (2011): 1132-1157.

Porter, Michael E. "Capital choices: Changing the way America invests in industry." *Journal of Applied Corporate Finance* 5.2 (1992): 4-16.

Reppenhagen, David A. "Contagion of accounting methods: Evidence from stock option expensing." *Review of Accounting Studies* 15.3 (2010): 629-657.

Robinson, David T, and Toby E Stuart. "Network effects in the governance of strategic alliances." *Journal of Law, Economics, and Organization* 23, no. 1 (2007): 242-273.

Schmidt, Breno. "Costs and benefits of 'friendly' boards during mergers and acquisitions." *EFA 2009 Bergen Meetings Paper* 1 Feb. 2014.

Schonlau, Robert, and Param Vir Singh. "Board networks and merger performance." *SSRN Working Paper Series* (2009).

Shane, Scott, and Daniel Cable. "Network ties, reputation, and the financing of new ventures." *Management Science* 48, no. 3 (2002): 364-381.

Shue, Kelly. "Executive networks and firm policies: Evidence from the random assignment of MBA peers." *Review of Financial Studies* 26.6 (2013): 1401-1442.

Shy, Oz. "A short survey of network economics." *Review of Industrial Organization* 38.2 (2011): 119-149.

Simon, Curtis J, and John T Warner. "Matchmaker, matchmaker: The effect of old boy networks on job match quality, earnings, and tenure." *Journal of Labor Economics* (1992): 306-330.

Stevens, Donald L. "Financial characteristics of merged firms: A multivariate analysis." *Journal of Financial and Quantitative Analysis* 8, no. 02 (1973): 149-158.

Stuart, Toby E, and Soojin Yim. "Board interlocks and the propensity to be targeted in private equity transactions." *Journal of Financial Economics* 97.1 (2010): 174-189.

Thosar, Satish. "Tender offers and target management responses: managerial entrenchment versus stockholder interest revisited." *Financial Review* 31, no. 1 (1996): 87-104.

Wansley, James W, William R Lane, and Ho C Yang. "Abnormal returns to acquired firms by type of acquisition and method of payment." *Financial Management* (1983): 16-22.

Westlund, Hans, and Roger Bolton. "Local social capital and entrepreneurship." *Small Business Economics* 21, no. 2 (2003): 77-113.

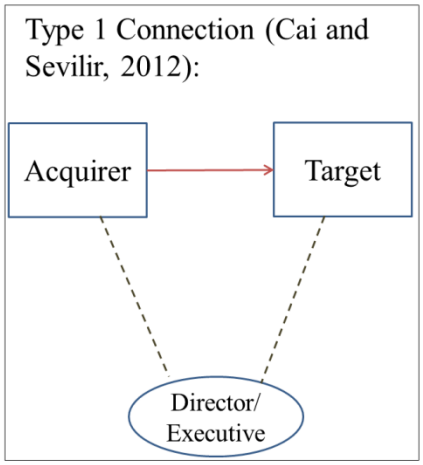
Zaheer, Akbar, and Geoffrey G Bell. "Benefiting from network position: firm capabilities, structural holes, and performance." *Strategic Management Journal* 26.9 (2005): 809-825

Appendix

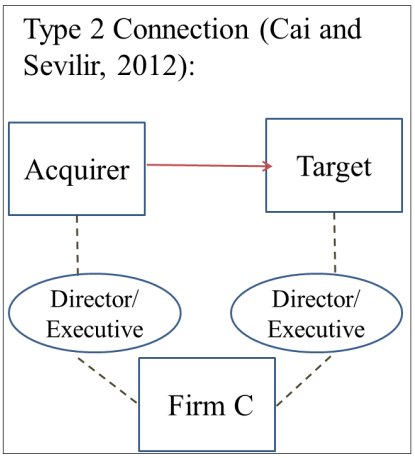
Figure 1 Definition of Connections

Type 1 connections refer to firms with overlapping directors or senior managers (Cai and Sevilir, 2012); Type 2 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target simultaneously serve on a third firm around the announcement date of the deal (Cai and Sevilir, 2012); Type 3 connections refer to situations where a director or senior manager from the acquirer and another director or senior manager from the target share a common educational tie or a past employment tie (Ishii and Xuan, 2014); Type 4 connections refer to the existence of cross-holding institutional investors, i.e. institutional shareholders who holds shares of both the bidder and the target around the announcement of the transaction.

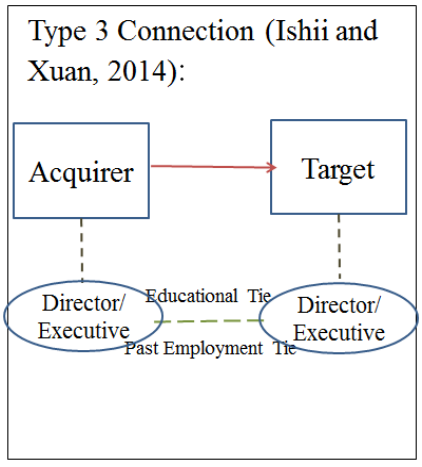
Panel A: Type 1 Connection



Panel B: Type 2 Connection



Panel C: Type 3 Connection



Panel D: Type 4 Connection

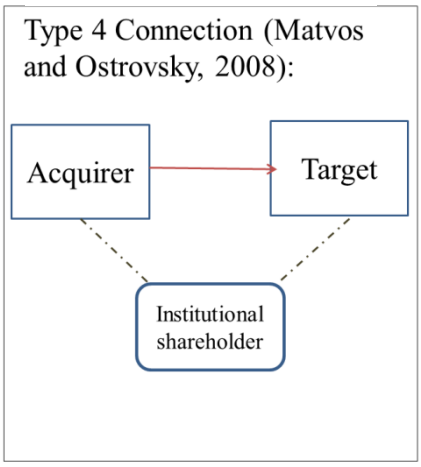


Table 1 Deals classified by Year

This table shows the distribution of the mergers in our sample by year. Numbers and percentages for the full sample are presented first, followed by numbers and percentages for the four subsamples.

Year	Full Sample	Percentage	1st Type	Percentage	2nd Type	Percentage	3rd Type	Percentage	4th Type	Percentage
1999	11	1.25%	0	0.00%	0	0.00%	5	0.72%	4	0.56%
2000	8	0.91%	1	0.80%	0	0.00%	3	0.43%	8	1.12%
2001	7	0.79%	0	0.00%	0	0.00%	0	0.00%	7	0.98%
2002	13	1.47%	1	0.80%	0	0.00%	4	0.57%	7	0.98%
2003	10	1.13%	0	0.00%	0	0.00%	3	0.43%	8	1.12%
2004	31	3.51%	7	5.60%	2	2.15%	20	2.87%	28	3.91%
2005	72	8.16%	9	7.20%	12	12.90%	59	8.46%	57	7.96%
2006	104	11.79%	17	13.60%	15	16.13%	85	12.20%	92	12.85%
2007	126	14.29%	21	16.80%	14	15.05%	110	15.78%	108	15.08%
2008	78	8.84%	18	14.40%	12	12.90%	68	9.76%	67	9.36%
2009	78	8.84%	14	11.20%	10	10.75%	65	9.33%	63	8.80%
2010	108	12.24%	21	16.80%	10	10.75%	91	13.06%	85	11.87%
2011	63	7.14%	4	3.20%	5	5.38%	49	7.03%	49	6.84%
2012	82	9.30%	8	6.40%	6	6.45%	62	8.90%	63	8.80%
2013	91	10.32%	4	3.20%	7	7.53%	73	10.47%	70	9.78%
Total	882	100.00%	125	100.00%	93	100.00%	697	100.00%	716	100.00%

Table 2 Deals classified by Industry

This table presents the distribution of mergers in our sample by industry. The industry categories are classified according to 48 Fama-French Standard Industrial Classification (SIC) codes.

Industry	Full	1st	2nd	3rd	4th	Industry	Full	1st	2nd	3rd	4th
Engineering&Management Services	8	3	1	7	7	Water Transportation	3	0	0	1	3
Health Services	15	1	1	14	12	Railroad Transportation	1	0	0	1	1
Amusement& Recreation Services	5	0	1	5	5	Miscellaneous Manufacturing Industries	1	0	0	1	1
Motion Pictures	3	1	0	0	3	Instruments&Related Products	63	11	5	54	55
AutoRepair, Services,&Parking	2	0	0	2	2	Transportation Equipment	8	1	1	7	7
Business Services	106	23	7	81	91	Electronic& Other Electric Equipment	51	6	7	41	45
Personal Services	2	0	0	2	2	Industrial Machinery& Equipment	55	9	10	49	47
Hotels & Other Lodging Places	3	0	0	1	3	Fabricated Metal Products	4	0	1	3	4
Holding&Other Investment Offices	43	3	4	32	36	Primary Metal Industries	5	0	0	4	3
Real Estate	2	1	0	1	1	Leather& Leather Products	1	0	0	0	1
Insurance Agents, Brokers, & Service	1	0	0	1	1	Rubber & Miscellaneous Plastics Products	1	0	0	1	1
Insurance Carriers	22	5	3	21	19	Petroleum& Coal Products	7	0	1	6	6
Security& Commodity Brokers	15	1	1	10	11	Chemical&Allied Products	69	7	8	60	53
Nondepository Institutions	3	0	0	3	3	Printing & Publishing	10	0	0	9	9
Depository Institutions	209	15	16	145	156	Paper & Allied Products	5	1	0	3	4
Miscellaneous Retail	7	2	1	7	7	Furniture & Fixtures	1	0	0	1	1
Eating& Drinking Places	4	1	1	4	3	Lumber & Wood Products	1	1	1	1	1
Apparel& Accessory Stores	7	2	1	7	7	Apparel & Other Textile Products	2	1	0	2	1
Automative Dealers& Service	1	1	0	1	1	Food & Kindred Products	8	1	2	7	8
Food Stores	4	0	0	3	4	Special Trade Contractors	2	1	0	2	1
General Merchandise Stores	1	1	1	1	1	General Building Contractors	2	0	0	2	2
Building Materials& Gardening	2	0	0	2	2	Nonmetallic Minerals, Except Fuels	1	0	1	1	1
Wholesale Trade -Nondurable Goods	7	1	0	7	5	Oil & Gas Extraction	30	9	5	27	18
Wholesale Trade - Durable Goods	7	0	0	6	6	Coal Mining	1	1	0	1	0
Electric, Gas, & Sanitary Services	23	7	6	19	19	Metal, Mining	3	1	2	2	2
Communications	38	5	3	24	28	Agricultural Services	1	0	0	1	1
Pipelines, Except Natural Gas	3	2	2	2	2	Agricultural Production – Crops	1	0	0	1	1
Transportation by Air	2	0	0	1	2	Total	882	125	93	697	716

Table 3 Statistics Summary of Acquirer and Target

Panel A of this table reports the summary of statistics for the acquirer and the target and Panel B reports the deal specific characteristics of our sample.

	Full Sample (N=882)		1st Type (N=125)		2nd Type (N=93)		3rd Type (N=697)		4th Type (N=716)		Non-Connected (N=55)	
Panel A: Acquirer & Target	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Acquirer Statistics												
size (LN)	8.8349	8.7028	8.8784	8.5937	9.2184	9.1563	8.9992	8.8279	9.0031	8.8642	7.6241	7.5940
leverage Ratio	0.2034	0.1662	0.2026	0.1572	0.2089	0.1523	0.2032	0.1682	0.2057	0.1719	0.1807	0.1081
Tobin's Q	2.0163	1.6180	2.2118	1.7580	2.0687	1.5929	2.0728	1.6720	2.0453	1.6206	1.9095	1.4329
ROA	0.0977	0.0944	0.1106	0.1107	0.1069	0.1044	0.1038	0.1011	0.1035	0.1002	0.0612	0.0254
Insider Ownership	7.9649	3.7650	8.5642	3.4000	6.7159	2.5000	7.1636	3.1000	7.4419	3.3000	12.0895	8.0000
OCF	0.0043	0.0235	0.0192	0.0290	0.0166	0.0291	0.0034	0.0233	0.0044	0.0237	0.0010	0.0244
Target Statistics												
size (LN)	6.2503	6.3537	6.7087	6.7091	7.2361	7.0602	6.3840	6.4588	6.4887	6.5040	4.6511	5.1986
leverage Ratio	0.1957	0.1164	0.1944	0.1268	0.2313	0.1534	0.1908	0.1127	0.1977	0.1266	0.2356	0.1084
Tobin's Q	1.6279	1.2612	1.7608	1.4958	1.9489	1.4179	1.6784	1.3119	1.6863	1.2931	1.3948	1.0541
ROA	0.0294	0.0236	0.0419	0.0352	0.0638	0.0701	0.0360	0.0277	0.0434	0.0307	-0.0769	0.0076
insider ownership	15.1044	9.0050	13.7507	7.0200	12.4057	5.3000	14.6332	8.1700	15.0976	9.2800	17.2641	10.6000
OCF	-0.1110	0.0073	-0.1027	0.0012	-0.1330	0.0238	-0.1264	0.0039	-0.1274	0.0069	0.0174	0.0333
Panel B : Deal Statistics												
Diversifying Acquisition	0.6961	1.0000	0.6720	1.0000	0.6882	1.0000	0.6930	1.0000	0.6885	1.0000	0.8000	1.0000
Attitude	0.0023	0.0000	0.0000	0.0000	0.0108	0.0000	0.0029	0.0000	0.0028	0.0000	0.0000	0.0000
Number of Bidders	1.0420	1.0000	1.0720	1.0000	1.0753	1.0000	1.0373	1.0000	1.0433	1.0000	1.0545	1.0000
Tender Offer	0.1383	0.0000	0.1920	0.0000	0.1398	0.0000	0.1578	0.0000	0.1522	0.0000	0.0364	0.0000
Merger of equals	0.0215	0.0000	0.0160	0.0000	0.0108	0.0000	0.0187	0.0000	0.0209	0.0000	0.0364	0.0000

Table 4 Cumulative Abnormal Returns of Acquirer and Target

This table presents results of univariate analysis and reports cumulative abnormal returns based on the market model (MM) and the Fama French 3-factor model (Fama-French) for the acquirer and the target over five event windows. In panel A, the results of full sample are presented first, followed by four subsamples with different types of connections based on our definition. The last category of panel A reports cumulative abnormal returns (CARs) of non-connected deals, which do not have any type of connection defined in the thesis. Panel B presents the difference in mean CARs between the connected and unconnected subsamples.

Panel A Univariate Analysis of Cumulative Abnormal Returns

Category			[0, 0]	[-1,1]	[-2,2]	[-3,3]	[-5,5]
Full Sample[1]	Acquirer CARs	MM	-0.23% (-2.848**)	-0.40% (-2.899**)	-0.44% (-2.465**)	-0.58% (-2.760**)	-0.67% (-2.507**)
		Fama-French	-0.38% (-4.979***)	-0.55% (-4.197***)	-0.60% (-3.553***)	-0.72% (-3.605***)	-0.78% (-3.110***)
	Target CARs	MM	18.41% (147.641***)	26.99% (124.995***)	27.03% (96.968***)	27.50% (83.358***)	28.14% (68.053***)
		Fama-French	18.38% (149.785***)	26.96% (126.822***)	27.01% (98.437***)	27.50% (84.689***)	28.06% (68.952***)
1st Degree [2]	Acquirer CARs	MM	-1.10% (-4.945***)	-1.14% (-2.938**)	-1.10% (-2.212*)	-1.26% (-2.126*)	-1.80% (-2.428**)
		Fama-French	-1.18% (-5.540***)	-1.08 (-2.195**)	-1.06% (-2.211*)	-1.13% (-2.004*)	-1.70% (-2.396**)
	Target CARs	MM	11.90% (42.254***)	20.62% (42.263***)	20.25% (32.140***)	20.94% (28.086***)	21.78% (23.303***)
		Fama-French	12.02% (42.557***)	20.79% (42.482***)	20.57% (32.561***)	21.30% (28.492***)	21.98% (23.462***)
2nd Degree [3]	Acquirer CARs	MM	-1.32% (-5.4458**)	-1.66% (-3.952***)	-1.97% (-3.627***)	-1.85% (-2.879**)	-2.21% (-2.739**)
		Fama-French	-1.01% (-4.609***)	-1.15% (-3.016**)	-1.44% (-2.934**)	-1.28% (-2.207*)	-1.44% (-1.974*)
	Target CARs	MM	14.03% (45.890***)	22.41% (42.327***)	22.11% (32.342***)	23.47% (29.026***)	23.55% (23.227***)
		Fama-French	13.99% (46.945***)	22.36% (43.325***)	22.05% (33.086***)	23.30% (29.551***)	23.31% (23.588***)
3rd Degree [4]	Acquirer CARs	MM	-0.52% (-5.993***)	-0.55% (-3.661***)	-0.61% (-3.155***)	-0.76% (-3.288***)	-0.91% (-3.163***)
		Fama-French	-0.68% (-8.262***)	-0.74% (-5.183***)	-0.81% (-4.379***)	-0.93% (-4.259***)	-1.07 (-3.911***)
	Target	MM	18.68%	26.99%	26.92%	27.41%	28.09%

	CARs		(129.671***)	(108.168***)	(83.593***)	(71.932***)	(58.812***)
		Fama-French	18.65% (131.738***)	26.95% (109.906***)	26.94% (85.100***)	27.45% (73.280***)	28.03% (59.703***)
4th Degree [5]	Acquirer CARs	MM	-0.34% (-4.110***)	-0.55% (-3.886***)	-0.56% (-3.022**)	-0.83% (-3.820***)	-0.95% (-3.493***)
		Fama-French	-0.52% (-6.656***)	-0.72% (-5.366***)	-0.74% (-4.242***)	-0.95% (-4.603***)	-1.00% (-3.868***)
	Target CARs	MM	19.00% (152.268***)	27.67% (128.034***)	27.74% (99.424***)	28.16% (85.319***)	28.96% (69.994***)
		Fama-French	18.97% (154.589***)	27.62% (129.979***)	27.70% (100.967***)	28.15% (86.718***)	28.87% (70.947***)
Non-Connection [6]	Acquirer CARs	MM	1.84% (4.247***)	2.22% (2.958**)	1.89% (1.953*)	2.69% (2.345**)	1.65% (2.599**)
		Fama-French	1.89% (4.444***)	2.25% (3.058**)	1.78% (1.874*)	2.45% (2.179*)	3.52% (2.498**)
	Target CARs	MM	14.67% (20.312***)	21.32% (17.043***)	22.11% (13.691***)	23.65% (12.380***)	23.86% (9.962***)
		Fama-French	14.64% (20.845***)	21.32% (17.528***)	21.80% (13.887***)	23.22% (12.499***)	23.79% (10.214***)

Panel B Difference Test in Means

	[0, 0]	[-1, 1]	[-2, 2]	[-3, 3]	[-5, 5]
Diff (2-6)	-0.0313	-0.0351	-0.0319	-0.0414	-0.0352
	(0.0329**)	(0.0309**)	(0.0395**)	(0.0114**)	(0.0054***)
Diff (3-6)	-0.0286	-0.0344	-0.034	-0.04	-0.0336
	(0.0771*)	(0.0457*)	(0.0279**)	(0.0146**)	(0.0078***)
Diff (4-6)	-0.0249	-0.029	-0.0263	-0.0355	-0.0278
	(0.0078***)	(0.0097***)	(0.0206**)	(0.0046***)	(0.0102**)
Diff (5-6)	-0.0232	-0.0288	-0.0254	-0.0356	-0.0265
	(0.014**)	(0.0099***)	(0.0279**)	(0.0058***)	(0.0141**)

Table 5 Variables Summary

Variable	Label	Database
Deal_id_1st	One for deals with 1st degree of connections and zero otherwise	SDC, BoardEx
Percent_1st	The average ties for the deals with 1st degree of connections	Edgar, BoardEx
Deal_id_2nd	One for deals with 2nd degree of connections and zero otherwise	SDC, BoardEx
Deal_id_2nd_ex	One for deals with and only with 2nd degree of connections and zero otherwise	SDC, BoardEx
Percent_2nd	The average ties for the deals with 2nd degree of connections	Edgar, BoardEx
Deal_id_3rd	One for deals with 3rd degree of connections and zero otherwise	SDC, BoardEx
Deal_id_3rd_ex	One for deals with and only with 3rd degree of connections and zero otherwise	SDC, BoardEx
Percent_3rd	The average ties for the deals with 3rd degree of connections	Edgar, BoardEx
Deal_id_4th	One for deals with 4th degree of connections and zero otherwise	ThomsonReuters
Deal_id_4th_ex	One for deals with and only with 4th degree of connections and zero otherwise	ThomsonReuters
Percent_4th	The average ties for the deals with 4th degree of connections	ThomsonReuters, CRSP
Size	Natural log of total assets of the firm	Compustat, Bloomberg
Q	Tobin's q of the firm, market value of assets over book value of assets	Compustat, Bloomberg
Leverage	Leverage of the firm, book value of debt over book value of assets	Compustat, Bloomberg
Run-up	buy-and-hold abnormal return over the event window [-219, -60] adjusted by CRSP value-weighted market return	CRSP
ROA	Return on asset of the firm, operating income before depreciation, called by book value of assets	Compustat, Bloomberg
OCF	Sales minus the cost of goods sold, sales and general administration expenses, and working capital change, scaled by book value of assets	Compustat, Bloomberg

InsiderOwnership	The number reported in the table reporting beneficial ownership in the proxy statements obtained from Edgar. The total ownership of officers and directors as a group	Edgar
StockDeal	One for deals financed partially or fully with stock and zero otherwise	SDC
DiversifyingAcquisition	One if the acquirer and the target do not share the same 2-digit SIC code and zero otherwise	Compustat
RelativeDealSize	Deal value divided by acquirer's market value of equity	SDC, Compustat
TenderOffer	One for tender offers and zero otherwise	SDC
Attitude	One if the acquirer is hostile and zero otherwise	SDC
MergerEquals	One if the deal is a merger of equals and zero otherwise	SDC
NumberBids	Number of bids received by the target firm	SDC

Table 6 Regression Analyses for Director Connections by Using Continuous Variable

This table presents the regression results for our full sample by using continuous variables to measure the closeness of connections. The dependent variable is the cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

VARIABLES	(1) All	(2) All	(3) 1st Type	(4) 1st Type	(5) 2nd Type	(6) 2nd Type	(7) 3rd Type	(8) 3rd Type
Percent_1st	-0.0033	-0.0033	-0.0033	-0.0033				
	(0.0022)	(0.0021)	(0.0022)	(0.0021)				
Percent_2nd_ex	-0.0019	-0.0021						
	(0.0027)	(0.0026)						
Percent_3rd_ex	-0.0006	-0.0007						
	(0.0008)	(0.0008)						
Percent_2nd					-0.0006	-0.0007*		
					(0.0004)	(0.0004)		
Percent_3rd							-0.0007	-0.0009
							(0.0007)	(0.0007)
Size	-0.0008	-0.0007	-0.0008	-0.0007	-0.0007	-0.0006	-0.0007	-0.0005
	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)
Q	-0.0036	-0.0025	-0.0038	-0.0027	-0.0037	-0.0026	-0.0036	-0.0025
	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)
Leverage	0.0429***	0.0446***	0.0442***	0.0460***	0.0428***	0.0449***	0.0431***	0.0449***
	(0.0141)	(0.0141)	(0.0141)	(0.0141)	(0.0141)	(0.0141)	(0.0140)	(0.0140)
Stock Run-up	0.0946**	0.0813**	0.0919**	0.0792**	0.0950**	0.0818**	0.0955**	0.0823**
	(0.0400)	(0.0404)	(0.0397)	(0.0402)	(0.0398)	(0.0404)	(0.0397)	(0.0401)
Stock_Deal	-0.0305***	-0.0289***	-0.0311***	-0.0297***	-0.0307***	-0.0292***	-0.0313***	-0.0297***
	(0.0052)	(0.0053)	(0.0052)	(0.0053)	(0.0052)	(0.0053)	(0.0052)	(0.0053)
OCF	-0.0245	-0.0269	-0.0236	-0.0261	-0.0240	-0.0265	-0.0247	-0.0272
	(0.0197)	(0.0196)	(0.0197)	(0.0197)	(0.0197)	(0.0196)	(0.0196)	(0.0195)
InsiderOwnership	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
DiversifyingAcquisition	0.0090*	0.0084*	0.0090*	0.0083	0.0089*	0.0081	0.0096*	0.0088*

	(0.0050)	(0.0051)	(0.0050)	(0.0050)	(0.0050)	(0.0051)	(0.0050)	(0.0050)
TenderOffer	-0.0052	-0.0050	-0.0059	-0.0057	-0.0060	-0.0057	-0.0059	-0.0056
	(0.0069)	(0.0070)	(0.0069)	(0.0070)	(0.0070)	(0.0070)	(0.0070)	(0.0070)
MergerEquals	0.0306*	0.0295*	0.0301*	0.0289	0.0305*	0.0292	0.0309*	0.0297*
	(0.0172)	(0.0178)	(0.0176)	(0.0183)	(0.0175)	(0.0182)	(0.0173)	(0.0180)
NumberBids	-0.0044	-0.0038	-0.0041	-0.0035	-0.0039	-0.0033	-0.0041	-0.0036
	(0.0130)	(0.0133)	(0.0129)	(0.0132)	(0.0129)	(0.0132)	(0.0129)	(0.0132)
Constant	0.0063	-0.0070	0.0051	-0.0073	0.0034	-0.0090	0.0047	-0.0085
	(0.0210)	(0.0237)	(0.0208)	(0.0236)	(0.0208)	(0.0236)	(0.0209)	(0.0236)
Industry Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	881	881	882	882	881	881	882	882
R-squared	0.0730	0.0810	0.0720	0.0800	0.0700	0.0780	0.0710	0.0790

Table 7 Regression Analyses for Director Connections by Using Discrete Variable

This table reports the regression results for the full sample by using discrete variables to measure the existence of connections. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

VARIABLES	(1) All	(2) All	(3) 1st Type	(4) 1st Type	(5) 2nd Type	(6) 2nd Type	(7) 3rd Type	(8) 3rd Type
Deal_id_1st	-0.0135	-0.0118	-0.0110	-0.0089				
	(0.0129)	(0.0127)	(0.0127)	(0.0124)				
Deal_id_2nd_ex	0.0016	0.0029						
	(0.0094)	(0.0095)						
Deal_id_3rd_ex	-0.0078	-0.0092*						
	(0.0055)	(0.0056)						
Deal_id_2nd					-0.0009	0.0000		
					(0.0078)	(0.0078)		
Deal_id_3rd							-0.0075	-0.0090
							(0.0054)	(0.0056)
Size	-0.0006	-0.0004	-0.0007	-0.0006	-0.0006	-0.0006	-0.0005	-0.0003
	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)
Q	-0.0037	-0.0026	-0.0038	-0.0028	-0.0037	-0.0027	-0.0036	-0.0025
	(0.0025)	(0.0026)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0025)
Leverage	0.0421***	0.0434***	0.0430***	0.0448***	0.0426***	0.0446***	0.0418***	0.0433***
	(0.0140)	(0.0140)	(0.0141)	(0.0141)	(0.0141)	(0.0141)	(0.0140)	(0.0140)
Stock Run-up	0.0991**	0.0861**	0.0947**	0.0820**	0.0937**	0.0813**	0.0978**	0.0843**
	(0.0400)	(0.0403)	(0.0396)	(0.0401)	(0.0397)	(0.0402)	(0.0399)	(0.0402)
Stock_Deal	-0.0313***	-0.0298***	-0.0312***	-0.0299***	-0.0315***	-0.0301***	-0.0313***	-0.0297***
	(0.0052)	(0.0053)	(0.0052)	(0.0053)	(0.0052)	(0.0053)	(0.0052)	(0.0053)
OCF	-0.0245	-0.0267	-0.0244	-0.0269	-0.0242	-0.0269	-0.0241	-0.0264
	(0.0197)	(0.0196)	(0.0197)	(0.0196)	(0.0197)	(0.0196)	(0.0196)	(0.0196)
InsiderOwnership	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
DiversifyingAcquisition	0.0092*	0.0085*	0.0091*	0.0084*	0.0093*	0.0085*	0.0092*	0.0085*

	(0.0050)	(0.0050)	(0.0050)	(0.0050)	(0.0050)	(0.0050)	(0.0050)	(0.0050)
TenderOffer	-0.0052	-0.0051	-0.0061	-0.0059	-0.0064	-0.0061	-0.0055	-0.0053
	(0.0070)	(0.0070)	(0.0070)	(0.0070)	(0.0070)	(0.0070)	(0.0070)	(0.0071)
MergerEquals	0.0303*	0.0293	0.0302*	0.0291	0.0308*	0.0296	0.0308*	0.0295*
	(0.0173)	(0.0179)	(0.0176)	(0.0182)	(0.0176)	(0.0182)	(0.0172)	(0.0179)
NumberBids	-0.0043	-0.0038	-0.0039	-0.0033	-0.0037	-0.0032	-0.0040	-0.0033
	(0.0127)	(0.0130)	(0.0129)	(0.0132)	(0.0128)	(0.0131)	(0.0129)	(0.0132)
Constant	0.0079	-0.0060	0.0038	-0.0085	0.0027	-0.0092	0.0067	-0.0074
	(0.0209)	(0.0234)	(0.0207)	(0.0236)	(0.0207)	(0.0234)	(0.0212)	(0.0237)
Industry Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	882	882	882	882	882	882	882	882
R-squared	0.0730	0.0810	0.0710	0.0780	0.0700	0.0780	0.0720	0.0810

Table 8 Regression Analyses for Director Connections Period 1 (1999-2007)

This table presents the regression results during 1999-2007. Column (1) – (6) report regressions using continuous variables, and column (7) – (9) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable						Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	1st Type	1st Type	2nd Type	2nd Type	3rd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0070**	-0.0075**							
	(0.0034)	(0.0036)							
Percent_2nd			-0.0033***	-0.0026***					
			(0.0008)	(0.0010)					
Percent_3rd					-0.0021**	-0.0019*			
					(0.0010)	(0.0010)			
Deal_id_1st							-0.0191		
							(0.0179)		
Deal_id_2nd								-0.0047	
								(0.0105)	
Deal_id_3rd									-0.0077
									(0.0077)
Size		0.0001		-0.0002		-0.0001	0.0001	0.0001	0.0002
		(0.0021)		(0.0021)		(0.0021)	(0.0021)	(0.0021)	(0.0021)
Q		-0.0060*		-0.0058*		-0.0051	-0.0060**	-0.0057*	-0.0055*
		(0.0030)		(0.0031)		(0.0031)	(0.0030)	(0.0031)	(0.0031)
Leverage		0.0411**		0.0409**		0.0416**	0.0400**	0.0398**	0.0400**
		(0.0192)		(0.0192)		(0.0193)	(0.0192)	(0.0190)	(0.0192)
Stock Run-up		0.1330**		0.1260**		0.1360**	0.1370**	0.1290**	0.1380**
		(0.0625)		(0.0630)		(0.0631)	(0.0627)	(0.0630)	(0.0640)
Stock_Deal		-0.0362***		-0.0357***		-0.0365***	-0.0365***	-0.0365***	-0.0364***
		(0.0070)		(0.0070)		(0.0069)	(0.0069)	(0.0070)	(0.0069)
OCF		-0.0049		-0.0048		-0.0053	-0.0052	-0.0045	-0.0050
		(0.0273)		(0.0272)		(0.0271)	(0.0273)	(0.0271)	(0.0272)
InsiderOwnership		0.0005		0.0005		0.0004	0.0005	0.0004	0.0004

		(0.0004)		(0.0004)		(0.0004)	(0.0004)	(0.0004)	(0.0004)
DiversifyingAcquisition		0.0037		0.0031		0.0059	0.0039	0.0041	0.0046
		(0.0067)		(0.0068)		(0.0068)	(0.0067)	(0.0068)	(0.0068)
TenderOffer		0.0076		0.0075		0.0081	0.0080	0.0073	0.0077
		(0.0089)		(0.0088)		(0.0088)	(0.0089)	(0.0088)	(0.0088)
MergerEquals		0.0633**		0.0651***		0.0633***	0.0634**	0.0642**	0.0624**
		(0.0252)		(0.0238)		(0.0241)	(0.0252)	(0.0249)	(0.0251)
NumberBids		0.0109		0.0108		0.0101	0.0110	0.0119	0.0108
		(0.0196)		(0.0198)		(0.0202)	(0.0196)	(0.0197)	(0.0198)
Constant	-0.0280*	-0.0165	-0.0286*	-0.0144	-0.0286*	-0.0170	-0.0165	-0.0167	-0.0175
	(0.0153)	(0.0375)	(0.0154)	(0.0376)	(0.0154)	(0.0378)	(0.0375)	(0.0373)	(0.0374)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	382	382	382	382	382	382	382	382	382
R-squared	0.0070	0.1260	0.0120	0.1270	0.0130	0.1290	0.1240	0.1210	0.1230

Table 9 Regression Analyses for Director Connections Period 2 (2008-2013)

This table presents the regression results during 2008-2013. Column (1) – (6) report regressions using continuous variables, and column (7) – (9) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable						Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	1st Type	1st Type	2nd Type	2nd Type	3rd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0028	-0.0026							
	(0.0026)	(0.0023)							
Percent_2nd			-0.0007	-0.0005					
			(0.0005)	(0.0004)					
Percent_3rd					0.0000	0.0003			
					(0.0011)	(0.0011)			
Deal_id_1st							-0.0024		
							(0.0168)		
Deal_id_2nd								0.0066	
								(0.0112)	
Deal_id_3rd									-0.0060
									(0.0082)
Size		-0.0002		-0.0001		-0.0001	-0.0001	-0.0001	0.0001
		(0.0020)		(0.0020)		(0.0020)	(0.0020)	(0.0020)	(0.0020)
Q		0.0010		0.0012		0.0012	0.0011	0.0012	0.0011
		(0.0039)		(0.0039)		(0.0039)	(0.0039)	(0.0039)	(0.0039)
Leverage		0.0540***		0.0524***		0.0522***	0.0524***	0.0519***	0.0511***
		(0.0192)		(0.0193)		(0.0191)	(0.0192)	(0.0192)	(0.0191)
Stock Run-up		0.0580		0.0621		0.0593	0.0598	0.0618	0.0616
		(0.0517)		(0.0520)		(0.0516)	(0.0516)	(0.0516)	(0.0515)
Stock_Deal		-0.0249***		-0.0242***		-0.0255***	-0.0253***	-0.0259***	-0.0249***
		(0.0078)		(0.0079)		(0.0078)	(0.0078)	(0.0078)	(0.0078)
OCF		-0.0495*		-0.0504*		-0.0502*	-0.0504*	-0.0507*	-0.0501*
		(0.0275)		(0.0275)		(0.0274)	(0.0274)	(0.0274)	(0.0274)
InsiderOwnership		-0.0002		-0.0002		-0.0002	-0.0002	-0.0002	-0.0002

		(0.0004)		(0.0004)		(0.0004)	(0.0004)	(0.0004)	(0.0004)
DiversifyingAcquisition		0.0121*		0.0119		0.0123*	0.0123*	0.0123*	0.0121
		(0.0073)		(0.0074)		(0.0073)	(0.0074)	(0.0073)	(0.0074)
TenderOffer		-0.0114		-0.0113		-0.0120	-0.0117	-0.0120	-0.0111
		(0.0097)		(0.0098)		(0.0098)	(0.0097)	(0.0098)	(0.0098)
MergerEquals		-0.0037		-0.0036		-0.0030	-0.0030	-0.0021	-0.0019
		(0.0230)		(0.0229)		(0.0229)	(0.0229)	(0.0229)	(0.0228)
NumberBids		-0.0197		-0.0194		-0.0194	-0.0194	-0.0200	-0.0189
		(0.0153)		(0.0154)		(0.0154)	(0.0154)	(0.0152)	(0.0152)
Constant	-0.0584**	-0.0036	-0.0598**	-0.0067	-0.0609**	-0.0078	-0.0067	-0.0063	-0.0039
	(0.0293)	(0.0394)	(0.0291)	(0.0392)	(0.0294)	(0.0393)	(0.0394)	(0.0391)	(0.0395)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	500	500	499	499	500	500	500	500	500
R-squared	0.0240	0.0800	0.0240	0.0780	0.0220	0.0780	0.0780	0.0790	0.0790

Table 10 Regression Analyses for Director Connections Non-Financial Firms (1999-2007)

This table presents the regression results for non-financial firms during 1999-2007. Column (1) – (3) report regressions using continuous variables, and column (4) – (6) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable			Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1st Type	2nd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0072					
	(0.0049)					
Percent_2nd		-0.0020**				
		(0.0008)				
Percent_3rd			-0.0011			
			(0.0014)			
Deal_id_1st				-0.0130		
				(0.0234)		
Deal_id_2nd					0.0019	
					(0.0113)	
Deal_id_3rd						-0.0045
						(0.0116)
Size	-0.0013	-0.0013	-0.0011	-0.0013	-0.0014	-0.0011
	(0.0033)	(0.0033)	(0.0034)	(0.0033)	(0.0033)	(0.0033)
Q	-0.0045	-0.0043	-0.0042	-0.0045	-0.0043	-0.0043
	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0040)	(0.0040)
Leverage	0.0387	0.0383	0.0394	0.0383	0.0392	0.0386
	(0.0254)	(0.0254)	(0.0254)	(0.0254)	(0.0255)	(0.0254)
Stock Run-up	0.2100**	0.2010**	0.2090**	0.2140**	0.2090**	0.2120**
	(0.0938)	(0.0949)	(0.0948)	(0.0942)	(0.0949)	(0.0955)
Stock_Deal	-0.0381***	-0.0382***	-0.0383***	-0.0390***	-0.0400***	-0.0389***
	(0.0113)	(0.0114)	(0.0114)	(0.0112)	(0.0114)	(0.0112)
OCF	0.0059	0.0057	0.0046	0.0056	0.0055	0.0052
	(0.0310)	(0.0309)	(0.0310)	(0.0310)	(0.0308)	(0.0310)

InsiderOwnership	0.0007	0.0007	0.0006	0.0007	0.0007	0.0006
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
DiversifyingAcquisition	-0.0046	-0.0046	-0.0023	-0.0038	-0.0035	-0.0032
	(0.0090)	(0.0091)	(0.0093)	(0.0089)	(0.0090)	(0.0091)
TenderOffer	0.0056	0.0052	0.0056	0.0057	0.0054	0.0054
	(0.0093)	(0.0092)	(0.0092)	(0.0093)	(0.0092)	(0.0092)
MergerEquals	0.0878**	0.0882**	0.0869**	0.0881**	0.0892***	0.0882**
	(0.0343)	(0.0345)	(0.0346)	(0.0342)	(0.0342)	(0.0342)
NumberBids	0.0258	0.0262	0.0258	0.0261	0.0266	0.0260
	(0.0228)	(0.0230)	(0.0233)	(0.0228)	(0.0225)	(0.0232)
Constant	-0.0642	-0.0649	-0.0652	-0.0633	-0.0638	-0.0653
	(0.0556)	(0.0558)	(0.0557)	(0.0553)	(0.0551)	(0.0554)
Industry Fixed Effects	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Year Fixed Effects	0.0033	0.0035	0.0035	0.0030	0.0031	0.0035
Observations	236	236	236	236	236	236
R-squared	0.1670	0.1660	0.1650	0.1650	0.1630	0.1640

Table 11 Regression Analyses for Director Connections Non-Financial Firms (2008-2013)

This table presents the regression results for non-financial firms during 2008-2013. Column (1) – (3) report regressions using continuous variables, and column (4) – (6) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable			Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1st Type	2nd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0033					
	(0.0022)					
Percent_2nd		-0.0005				
		(0.0005)				
Percent_3rd			-0.0002			
			(0.0014)			
Deal_id_1st				-0.0050		
				(0.0182)		
Deal_id_2nd					0.0159	
					(0.0123)	
Deal_id_3rd						-0.0072
						(0.0103)
Size	-0.0026	-0.0023	-0.0023	-0.0024	-0.0025	-0.0021
	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)
Q	-0.0004	-0.0001	-0.0002	-0.0002	-0.0000	-0.0002
	(0.0042)	(0.0042)	(0.0042)	(0.0042)	(0.0042)	(0.0042)
Leverage	0.0722***	0.0703***	0.0696***	0.0699***	0.0699***	0.0677***
	(0.0212)	(0.0213)	(0.0213)	(0.0213)	(0.0213)	(0.0215)
Stock Run-up	0.0212	0.0263	0.0236	0.0240	0.0267	0.0265
	(0.0636)	(0.0640)	(0.0633)	(0.0634)	(0.0631)	(0.0633)
Stock_Deal	-0.0247**	-0.0242**	-0.0256**	-0.0255**	-0.0279***	-0.0257**
	(0.0105)	(0.0107)	(0.0104)	(0.0105)	(0.0106)	(0.0104)
OCF	-0.0447	-0.0456	-0.0458	-0.0457	-0.0466*	-0.0449
	(0.0281)	(0.0282)	(0.0280)	(0.0280)	(0.0281)	(0.0282)

InsiderOwnership	-0.0007	-0.0007	-0.0007	-0.0007	-0.0007	-0.0007
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
DiversifyingAcquisition	0.0220***	0.0217***	0.0220***	0.0220***	0.0215***	0.0215***
	(0.0082)	(0.0083)	(0.0082)	(0.0082)	(0.0082)	(0.0083)
TenderOffer	-0.0044	-0.0044	-0.0048	-0.0048	-0.0051	-0.0042
	(0.0099)	(0.0100)	(0.0100)	(0.0099)	(0.0100)	(0.0101)
MergerEquals	-0.0396	-0.0389	-0.0375	-0.0383	-0.0351	-0.0357
	(0.0307)	(0.0306)	(0.0306)	(0.0306)	(0.0307)	(0.0305)
NumberBids	-0.0325	-0.0322	-0.0324	-0.0321	-0.0333	-0.0318
	(0.0216)	(0.0216)	(0.0216)	(0.0217)	(0.0217)	(0.0214)
Constant	-0.0111	-0.0159	-0.0156	-0.0152	-0.0147	-0.0123
	(0.0477)	(0.0475)	(0.0476)	(0.0476)	(0.0474)	(0.0477)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	351	350	351	351	351	351
R-squared	0.1390	0.1340	0.1350	0.1360	0.1390	0.1370

Table 12 Regression Analyses for Director Connections by Controlling Acquirer and Target Characteristics (1999-2007)

This table presents the regression results during 1999-2007 by controlling acquirer and target characteristics. Column (1) – (3) report regressions using continuous variables, and column (4) – (6) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable			Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1st Type	2nd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0072*					
	(0.0038)					
Percent_2nd		-0.0028***				
		(0.0011)				
Percent_3rd			-0.0019*			
			(0.0012)			
Deal_id_1st				-0.0163		
				(0.0193)		
Deal_id_2nd					-0.0017	
					(0.0117)	
Deal_id_3rd						-0.0097
						(0.0083)
Size_A	0.0010	0.0008	0.0007	0.0011	0.0011	0.0012
	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)
Q_A	-0.0057	-0.0056	-0.0052	-0.0058*	-0.0057	-0.0055
	(0.0035)	(0.0036)	(0.0036)	(0.0035)	(0.0036)	(0.0036)
Leverage_A	0.0420*	0.0416*	0.0430*	0.0412*	0.0421*	0.0421*
	(0.0237)	(0.0235)	(0.0237)	(0.0237)	(0.0235)	(0.0237)
StockRun-up_A	0.1210*	0.1130	0.1180*	0.1230*	0.1160	0.1220*
	(0.0709)	(0.0712)	(0.0712)	(0.0712)	(0.0717)	(0.0718)
Size_T	-0.0033	-0.0034	-0.0028	-0.0032	-0.0033	-0.0032
	(0.0037)	(0.0035)	(0.0036)	(0.0036)	(0.0036)	(0.0036)
Q_T	-0.0065	-0.0065	-0.0050	-0.0062	-0.0062	-0.0059

	(0.0047)	(0.0047)	(0.0048)	(0.0047)	(0.0049)	(0.0048)
Leverage_T	0.0054	0.0071	0.0052	0.0046	0.0044	0.0050
	(0.0227)	(0.0228)	(0.0225)	(0.0227)	(0.0227)	(0.0226)
StockRun-up_T	0.1700*	0.1720*	0.1750*	0.1720*	0.1770*	0.1810*
	(0.0976)	(0.0978)	(0.0977)	(0.0976)	(0.0981)	(0.0967)
OCF_A	0.0035	0.0035	0.0049	0.0035	0.0045	0.0047
	(0.0291)	(0.0290)	(0.0290)	(0.0291)	(0.0289)	(0.0292)
OCF_T	0.0033	0.0032	0.0001	0.0029	0.0021	0.0007
	(0.0182)	(0.0182)	(0.0182)	(0.0181)	(0.0181)	(0.0183)
InsiderOwnership_A	0.0004	0.0003	0.0003	0.0004	0.0003	0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
InsiderOwnership_T	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	(0.0002)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0002)
Stock_Deal	-0.0370***	-0.0362***	-0.0377***	-0.0374***	-0.0376***	-0.0372***
	(0.0085)	(0.0086)	(0.0085)	(0.0085)	(0.0085)	(0.0085)
DiversifyingAcquisition	0.0040	0.0034	0.0063	0.0043	0.0047	0.0053
	(0.0072)	(0.0073)	(0.0073)	(0.0072)	(0.0073)	(0.0073)
TenderOffer	0.0056	0.0055	0.0060	0.0059	0.0054	0.0055
	(0.0092)	(0.0091)	(0.0092)	(0.0093)	(0.0092)	(0.0092)
MergerEquals	0.0690**	0.0715**	0.0687**	0.0692**	0.0700**	0.0678**
	(0.0329)	(0.0309)	(0.0314)	(0.0329)	(0.0329)	(0.0325)
NumberBids	0.0122	0.0122	0.0107	0.0123	0.0130	0.0117
	(0.0201)	(0.0202)	(0.0210)	(0.0201)	(0.0200)	(0.0204)
Constant	-0.0030	-0.0013	-0.0049	-0.0026	-0.0023	-0.0049
	(0.0432)	(0.0432)	(0.0434)	(0.0433)	(0.0427)	(0.0431)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	333	333	333	333	333	333
R-squared	0.1570	0.1590	0.1600	0.1550	0.1530	0.1560

Table 13 Regression Analyses for Director Connections by Controlling Acquirer and Target Characteristics (2008-2013)

This table presents the regression results during 2008-2013 by controlling acquirer and target characteristics. Column (1) – (3) report regressions using continuous variables, and column (4) – (6) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variable			Discrete Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1st Type	2nd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0030					
	(0.0021)					
Percent_2nd		-0.0009**				
		(0.0003)				
Percent_3rd			0.0015			
			(0.0012)			
Deal_id_1st				-0.0039		
				(0.0177)		
Deal_id_2nd					0.0117	
					(0.0127)	
Deal_id_3rd						0.0068
						(0.0098)
Size_A	0.0002	0.0005	0.0008	0.0005	0.0007	0.0005
	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)
Q_A	0.0021	0.0021	0.0022	0.0020	0.0023	0.0021
	(0.0047)	(0.0047)	(0.0047)	(0.0048)	(0.0048)	(0.0047)
Leverage_A	0.0363	0.0346	0.0326	0.0345	0.0340	0.0349
	(0.0240)	(0.0241)	(0.0238)	(0.0239)	(0.0241)	(0.0238)
StockRun-up_A	0.0704	0.0725	0.0717	0.0721	0.0767	0.0706
	(0.0575)	(0.0577)	(0.0577)	(0.0575)	(0.0573)	(0.0576)
Size_T	-0.0010	-0.0012	-0.0018	-0.0013	-0.0018	-0.0016
	(0.0032)	(0.0032)	(0.0033)	(0.0032)	(0.0032)	(0.0033)
Q_T	-0.0010	-0.0009	-0.0016	-0.0010	-0.0015	-0.0012

	(0.0055)	(0.0055)	(0.0054)	(0.0055)	(0.0056)	(0.0054)
Leverage_T	0.0022	0.0016	0.0038	0.0013	0.0015	0.0023
	(0.0242)	(0.0242)	(0.0242)	(0.0243)	(0.0242)	(0.0243)
StockRun-up_T	-0.0218	-0.0159	-0.0214	-0.0188	-0.0193	-0.0209
	(0.0572)	(0.0572)	(0.0563)	(0.0570)	(0.0570)	(0.0572)
OCF_A	-0.0582*	-0.0575*	-0.0568*	-0.0586*	-0.0584*	-0.0588*
	(0.0317)	(0.0316)	(0.0315)	(0.0316)	(0.0315)	(0.0317)
OCF_T	0.0269*	0.0266	0.0261	0.0265	0.0265	0.0270
	(0.0163)	(0.0164)	(0.0163)	(0.0163)	(0.0163)	(0.0164)
InsiderOwnership_A	-0.0002	-0.0002	-0.0002	-0.0002	-0.0003	-0.0002
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
InsiderOwnership_T	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Stock_Deal	-0.0230**	-0.0213**	-0.0234**	-0.0231**	-0.0236**	-0.0231**
	(0.0098)	(0.0099)	(0.0098)	(0.0098)	(0.0097)	(0.0098)
DiversifyingAcquisition	0.0049	0.0049	0.0047	0.0052	0.0049	0.0052
	(0.0081)	(0.0081)	(0.0081)	(0.0081)	(0.0081)	(0.0081)
TenderOffer	-0.0073	-0.0071	-0.0084	-0.0078	-0.0080	-0.0082
	(0.0109)	(0.0110)	(0.0110)	(0.0109)	(0.0110)	(0.0109)
MergerEquals	0.0082	0.0084	0.0086	0.0089	0.0107	0.0088
	(0.0205)	(0.0204)	(0.0208)	(0.0205)	(0.0206)	(0.0206)
NumberBids	-0.0155	-0.0151	-0.0148	-0.0150	-0.0154	-0.0155
	(0.0178)	(0.0178)	(0.0181)	(0.0178)	(0.0175)	(0.0179)
Constant	0.0126	0.0086	0.0063	0.0105	0.0112	0.0066
	(0.0455)	(0.0453)	(0.0455)	(0.0456)	(0.0449)	(0.0454)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	406	405	406	406	406	406
R-squared	0.0690	0.0680	0.0700	0.0670	0.0680	0.0680

Table 14 Regression Analyses for Director Connections by Reconstituting Subsamples

This table presents the regression results by reconstituting three subsamples. The subsample in column (1) and (4) consists of deals with the first type of connection and deals without any kind of connection introduced in this thesis. The other two subsamples are constituted analogously. Column (1) – (3) report regressions using continuous variables, and column (4) – (6) report regressions using discrete variables. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5], and the main independent variables are the first three types of connections.

	Continuous Variables			Discrete Variables		
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1st Type	2nd Type	3rd Type	1st Type	2nd Type	3rd Type
Percent_1st	-0.0058**					
	(0.0028)					
Percent_2nd		-0.0012**				
		(0.0005)				
Percent_3rd			-0.0010			
			(0.0008)			
Deal_id_1st				-0.0252		
				(0.0162)		
Deal_id_2nd					-0.0309**	
					(0.0142)	
Deal_id_3rd						-0.0223**
						(0.0102)
Size	0.0016	0.0015	-0.0005	0.0035	0.0048	0.0000
	(0.0046)	(0.0037)	(0.0016)	(0.0046)	(0.0038)	(0.0016)
Q	-0.0106	-0.0024	0.0009	-0.0119	-0.0017	0.0007
	(0.0083)	(0.0056)	(0.0027)	(0.0086)	(0.0054)	(0.0027)
Leverage	0.0873*	0.0671*	0.0495***	0.0663	0.0556	0.0475***
	(0.0524)	(0.0392)	(0.0162)	(0.0485)	(0.0373)	(0.0161)
Stock Run-up	-0.0025	0.0169	0.0304	0.0202	0.0048	0.0314
	(0.0733)	(0.0621)	(0.0267)	(0.0683)	(0.0605)	(0.0265)
Stock_Deal	-0.0213	-0.0255*	-0.0279***	-0.0235	-0.0267**	-0.0278***
	(0.0147)	(0.0129)	(0.0059)	(0.0143)	(0.0122)	(0.0059)

OCF	-0.1790***	-0.0289	-0.0381*	-0.1930***	-0.0292	-0.0374*
	(0.0659)	(0.0542)	(0.0216)	(0.0661)	(0.0539)	(0.0217)
InsiderOwnership	-0.0008	0.0002	-0.0001	-0.0007	0.0002	-0.0001
	(0.0007)	(0.0006)	(0.0003)	(0.0007)	(0.0006)	(0.0003)
DiversifyingAcquisition	0.0143	0.0125	0.0072	0.0148	0.0138	0.0064
	(0.0195)	(0.0142)	(0.0056)	(0.0198)	(0.0137)	(0.0056)
TenderOffer	0.0042	-0.0206	-0.0082	0.0030	-0.0161	-0.0072
	(0.0273)	(0.0211)	(0.0077)	(0.0290)	(0.0215)	(0.0077)
MergerEquals	0.1040**	0.0198	0.0171	0.0963**	0.0159	0.0166
	(0.0419)	(0.0422)	(0.0209)	(0.0386)	(0.0336)	(0.0206)
NumberBids	-0.0448*	0.0338	-0.0082	-0.0419*	0.0383	-0.0083
	(0.0259)	(0.0263)	(0.0179)	(0.0221)	(0.0257)	(0.0178)
Constant	0.0280	-0.0809	-0.0083	0.0168	-0.0994**	0.0043
	(0.0630)	(0.0494)	(0.0275)	(0.0620)	(0.0489)	(0.0282)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	101	143	703	101	144	703
R-squared	0.2950	0.1430	0.0860	0.2850	0.1670	0.0920

Table 15 Regression Analyses for Director and Senior Manager Connections

This table presents the regression results. Directors and senior managers are both taken into account to count the connections. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5]. Model (1) includes all four types of connections and model (2) incorporates the first three types. Column 3 to column 6 reports the results for each type of connection, respectively. Column 7 shows the results for the fourth type by using continuous variable to measure the connections.

VARIABLES	All (1)	1st Type (2)	2nd Type (3)	3rd Type (4)	4th Type (5)	4th Type (6)
Deal_id_1st	-0.0300**	-0.0062				
	(0.0121)	(0.0075)				
Deal_id_2nd_ex	-0.0251*					
	(0.0138)					
Deal_id_3rd_ex	-0.0272***					
	(0.0103)					
Deal_id_4th_ex	-0.0191					
	(0.0118)					
Deal_id_2nd			-0.0017			
			(0.0075)			
Deal_id_3rd				-0.0130**		
				(0.0062)		
Deal_id_4th					-0.0067	
					(0.0062)	
Percent _4th						-0.0001
						(0.0001)
Size	-0.0001	-0.0005	-0.0005	-0.0001	-0.0003	-0.0003
	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)
Q	-0.0026	-0.0027	-0.0028	-0.0025	-0.0028	-0.0027
	(0.0026)	(0.0025)	(0.0025)	(0.0026)	(0.0025)	(0.0025)
Leverage	0.0462***	0.0458***	0.0458***	0.0455***	0.0463***	0.0469***
	(0.0139)	(0.0140)	(0.0140)	(0.0138)	(0.0141)	(0.0142)
Stock Run-up	0.0429*	0.0416*	0.0426*	0.0436*	0.0426*	0.0433*
	(0.0237)	(0.0238)	(0.0237)	(0.0237)	(0.0236)	(0.0238)

Stock_Deal	-0.0296***	-0.0300***	-0.0301***	-0.0295***	-0.0302***	-0.0299***
	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)
OCF	-0.0288	-0.0274	-0.0282	-0.0285	-0.0290	-0.0290
	(0.0196)	(0.0197)	(0.0196)	(0.0196)	(0.0196)	(0.0196)
InsiderOwnership	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
DiversifyingAcquisition	0.0080	0.0082	0.0083*	0.0084*	0.0083	0.0083*
	(0.0050)	(0.0050)	(0.0051)	(0.0050)	(0.0051)	(0.0050)
TenderOffer	-0.0038	-0.0051	-0.0055	-0.0045	-0.0050	-0.0054
	(0.0071)	(0.0070)	(0.0070)	(0.0070)	(0.0071)	(0.0071)
Attitude	0.0301*	0.0312*	0.0313*	0.0305*	0.0315*	0.0318*
	(0.0176)	(0.0181)	(0.0181)	(0.0176)	(0.0181)	(0.0182)
MergerEquals	0.0777	0.0744	0.0766	0.0795	0.0771	0.0771
	(0.0835)	(0.0833)	(0.0842)	(0.0843)	(0.0837)	(0.0840)
NumberBids	-0.0072	-0.0062	-0.0067	-0.0077	-0.0067	-0.0063
	(0.0109)	(0.0110)	(0.0110)	(0.0108)	(0.0111)	(0.0111)
Constant	0.0151	-0.0039	-0.0043	-0.0000	0.0000	-0.0047
	(0.0237)	(0.0224)	(0.0223)	(0.0223)	(0.0226)	(0.0225)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	882	882	882	882	882	882
R-squared	0.0890	0.0810	0.0800	0.0850	0.0810	0.0800

Table 16 Regression Analyses for Director and Senior Manager Connections (Non-Financial Firms)

This table presents the regression results for non-financial firms. Directors and senior managers are both taken into account to count the connections. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5]. Model (1) includes all four types of connections. Column 2 to column 5 reports the results for each type of connection, respectively. Column 6 shows the results for the fourth type by using continuous variable to measure the connections.

VARIABLES	(1) All	(2) 1st Type	(3) 2nd Type	(4) 3rd Type	(5) 4th Type	(6) 4th Type
Deal_id_1st	-0.0445**	-0.0117				
	(0.0180)	(0.0087)				
Deal_id_2nd_ex	-0.0358*					
	(0.0194)					
Deal_id_3rd_ex	-0.0353**					
	(0.0167)					
Deal_id_4th_ex	-0.0312					
	(0.0191)					
Deal_id_2nd			-0.0017			
			(0.0085)			
Deal_id_3rd				-0.0126		
				(0.0090)		
Deal_id_4th					-0.0019	
					(0.0092)	
Percent _4th						0.0001
						(0.0002)
Size	-0.0018	-0.0024	-0.0024	-0.0019	-0.0023	-0.0021
	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0020)	(0.0020)
Q	-0.0026	-0.0020	-0.0021	-0.0021	-0.0021	-0.0021
	(0.0030)	(0.0030)	(0.0030)	(0.0030)	(0.0030)	(0.0029)
Leverage	0.0578***	0.0580***	0.0595***	0.0579***	0.0597***	0.0598***
	(0.0166)	(0.0165)	(0.0164)	(0.0163)	(0.0164)	(0.0164)
Stock Run-up	0.0378	0.0382	0.0394	0.0400	0.0395	0.0403
	(0.0290)	(0.0292)	(0.0292)	(0.0290)	(0.0292)	(0.0292)

Stock_Deal	-0.0328***	-0.0328***	-0.0338***	-0.0331***	-0.0340***	-0.0333***
	(0.0076)	(0.0076)	(0.0077)	(0.0075)	(0.0075)	(0.0076)
OCF	-0.0237	-0.0220	-0.0241	-0.0245	-0.0245	-0.0253
	(0.0212)	(0.0212)	(0.0211)	(0.0210)	(0.0210)	(0.0211)
InsiderOwnership	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
DiversifyingAcquisition	0.0096	0.0099	0.0100	0.0101	0.0099	0.0101
	(0.0062)	(0.0062)	(0.0062)	(0.0062)	(0.0062)	(0.0063)
TenderOffer	-0.0011	-0.0025	-0.0031	-0.0021	-0.0030	-0.0029
	(0.0073)	(0.0072)	(0.0072)	(0.0072)	(0.0072)	(0.0072)
Attitude	0.0275	0.0287	0.0291	0.0298	0.0292	0.0291
	(0.0276)	(0.0286)	(0.0287)	(0.0279)	(0.0287)	(0.0288)
MergerEquals	0.2090***	0.2020***	0.2100***	0.2140***	0.2090***	0.2100***
	(0.0311)	(0.0294)	(0.0299)	(0.0286)	(0.0294)	(0.0293)
NumberBids	-0.0125	-0.0102	-0.0118	-0.0140	-0.0118	-0.0114
	(0.0144)	(0.0144)	(0.0145)	(0.0141)	(0.0146)	(0.0146)
Constant	0.0420	0.0068	0.0057	0.0138	0.0073	0.0068
	(0.0331)	(0.0278)	(0.0280)	(0.0286)	(0.0290)	(0.0280)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	587	587	587	587	587	587
R-squared	0.1180	0.1090	0.1060	0.1100	0.1060	0.1070

Table 17 Regression Analyses for Director and Senior Manager Connections by Reconstituting Subsamples

This table presents the regression results for reconstituted subsamples. Directors and senior managers are both taken into account to count the connections. The dependent variable is cumulative abnormal returns (CARs) of the acquiring firm over the event window [-5, 5]. The subsample in column (1) and (2) consists of deals with the first type of connection and deals without any kind of connection introduced in this thesis. The other three subsamples in the remaining columns are constituted analogously.

	1st Type		2nd Type		3rd Type		4th Type	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	CARwindow5	CARwindow5	CARwindow5	CARwindow5	CARwindow5	CARwindow5	CARwindow5	CARwindow5
Deal_id_1st	-0.0349**	-0.0307**						
	(0.0137)	(0.0137)						
Deal_id_2nd			-0.0401***	-0.0412***				
			(0.0140)	(0.0141)				
Deal_id_3rd					-0.0278***	-0.0274***		
					(0.0104)	(0.0104)		
Deal_id_4th							-0.0256**	-0.0250**
							(0.0104)	(0.0103)
Size	0.0005	0.0007	0.0044	0.0050	0.0001	0.0003	-0.0016	-0.0014
	(0.0031)	(0.0031)	(0.0036)	(0.0037)	(0.0016)	(0.0016)	(0.0016)	(0.0016)
Q	-0.0029	-0.0035	-0.0010	-0.0016	-0.0014	0.0005	-0.0040	-0.0032
	(0.0049)	(0.0048)	(0.0054)	(0.0057)	(0.0026)	(0.0026)	(0.0026)	(0.0027)
Leverage	0.0930***	0.0879***	0.0747**	0.0674*	0.0377**	0.0425***	0.0460***	0.0454***
	(0.0325)	(0.0330)	(0.0362)	(0.0366)	(0.0156)	(0.0158)	(0.0146)	(0.0146)
Stock Run-up	0.0227	0.0259	0.0224	0.0187	0.0380	0.0320	0.0716***	0.0658***
	(0.0545)	(0.0523)	(0.0555)	(0.0558)	(0.0259)	(0.0254)	(0.0250)	(0.0252)
Stock_Deal	-0.0217*	-0.0156	-0.0152	-0.0151	-0.0319***	-0.0297***	-0.0316***	-0.0301***
	(0.0131)	(0.0133)	(0.0121)	(0.0125)	(0.0057)	(0.0057)	(0.0056)	(0.0057)
OCF	-0.0833**	-0.0858**	-0.0219	-0.0193	-0.0242	-0.0288	-0.0037	-0.0034
	(0.0421)	(0.0412)	(0.0532)	(0.0535)	(0.0212)	(0.0209)	(0.0215)	(0.0215)
InsiderOwnership	-0.0001	-0.0002	0.0001	0.0001	0.0000	-0.0001	-0.0001	-0.0001
	(0.0005)	(0.0005)	(0.0006)	(0.0006)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
DiversifyingAcquisition	0.0036	0.0025	-0.0007	-0.0004	0.0099*	0.0089*	0.0069	0.0061

	(0.0138)	(0.0133)	(0.0134)	(0.0133)	(0.0055)	(0.0054)	(0.0054)	(0.0054)
TenderOffer	0.0015	0.0014	-0.0072	-0.0095	-0.0083	-0.0076	-0.0019	-0.0028
	(0.0190)	(0.0194)	(0.0188)	(0.0191)	(0.0072)	(0.0074)	(0.0074)	(0.0076)
MergerEquals	0.0285	0.0378	-0.0021	0.0038	0.0218	0.0180	0.0357**	0.0354*
	(0.0259)	(0.0311)	(0.0283)	(0.0297)	(0.0197)	(0.0203)	(0.0180)	(0.0185)
NumberBids	-0.0079	-0.0087	0.0380	0.0390	-0.0093	-0.0099	-0.0023	-0.0009
	(0.0231)	(0.0241)	(0.0254)	(0.0256)	(0.0165)	(0.0173)	(0.0133)	(0.0135)
Constant	0.0187	-0.0052	-0.0619	-0.0852*	0.0289	0.0098	0.0393	0.0195
	(0.0444)	(0.0501)	(0.0444)	(0.0493)	(0.0255)	(0.0279)	(0.0240)	(0.0266)
Industry Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	180	180	148	148	752	752	771	771
R-squared	0.1260	0.1510	0.1490	0.1550	0.0720	0.0910	0.0890	0.0950

Table 18 Return to Overlapping Institutional Shareholders Based on the Deal Level

This table presents the analysis for cross-holding institutional shareholders based on the deal level. Dollar returns and adjusted returns to such shareholders over the five event windows are reported first, followed by the percentages of holdings of cross-holding institutional shareholders on the acquirer and the target.

		[0, 0]	[-1,1]	[-2,2]	[-3,3]	[-5,5]	Acquirer Percent	Target Percent
Mean	Dollar Return (N=683)	62309.1	135531	87983.01	109808.8	125701.4		
	Scaled Return (N=683)	2.423636	3.562527	3.363127	3.604303	3.80293	31.216	36.125
Median	Dollar Return (N=683)	3576.68	9388.43	11024.89	8581.52	7409.42		
	Scaled Return (N=683)	0.528788	1.467576	1.472711	1.536133	1.551465	31.333	34.630
Std.Dev	Dollar Return (N=683)	715259.4	751444.4	847367.5	1176372	1436017		
	Scaled Return (N=683)	7.159046	7.787927	8.412958	11.40313	12.50964	19.417	24.917

Table 19 Return to Overlapping Institutional Shareholders Based on the Shareholder Level

This table presents the analysis for cross-holding institutional shareholders based on the shareholder level. In panel A, dollar returns (in thousand) and adjusted returns to such shareholders over the five event windows are reported first, followed by the percentages of holdings of cross-holding institutional shareholders on the acquirer and the target. Panel B tests the difference in overlapping shareholders' stakes in the acquirer and the target. Panel C examines the returns to cross-holding institutional shareholders in the transactions with negative acquirer announcement returns.

Panel A: Return to Overlapping Institutional Shareholders Based on Shareholder Level

		[0, 0]	[-1,1]	[-2,2]	[-3,3]	[-5,5]	Acquirer Percent	Target Percent
Dollar Return	Mean	451.27421	1439.32	674.99607	1012.33	1336.85	0.38008	0.44916
	Median	8.0779395	67.6618082	51.3589464	55.1186257	70.0046834	0.053776	0.060569
	Std.Dev	18477.77	21208.54	23019.71	31330.74	35934	1.06238	1.33313
	N	42198	42198	42198	42198	42198	42198	42198
Scaled Return	Mean	0.0244475	0.0392981	0.0352462	0.0391225	0.0429148	0.38008	0.44916
	Median	0.0030867	0.0165212	0.0154094	0.0154704	0.0195445	0.053776	0.060569
	Std.Dev	0.0867123	0.0970669	0.1019109	0.1154771	0.1169554	1.06238	1.33313
	N	42198	42198	42198	42198	42198	42198	42198

Panel B: Stakes Difference Test

Type	N	Mean	Std Dev	Std Err	Minimum	Maximum
Ownership on Acquirer	42198	0.00380	0.0106	0.000052	2.98E-10	0.3650
Ownership on Target	42198	0.00449	0.0133	0.000065	9.26E-10	0.8000
Diff (1-2)		-0.00069*** (<.0001)	0.0121	0.000083		

Panel C: Negative Acquirer Announcement Returns

		(0,0)	(-1,1)	(-2,2)	(-3,3)	(-5,5)
Return from total deal	Mean	-897.22	-585.68	-1747.4	-1972.5	-2565.4
	N	29340	28259	27942	27281	25720
Return from Bidder	Mean	-2848.8	-3386.2	-4301.9	-4422.1	-5121
	N	29340	28259	27942	27281	25720
Diff (1-2)	Mean	1951.619 (<.0001)	2800.542 (<.0001)	2554.51 (<.0001)	2449.62 (<.0001)	2555.6 (<.0001)

Table 20 Return to Overlapping Institutional Shareholders for Classification Subsample

This table presents the analysis for cross-holding institutional shareholders based on the shareholder level. Panel A reports dollar returns and adjusted returns to different types of cross-holding institutional shareholders over the five event windows. Panel B examines the returns to cross-holding institutional shareholders in the transactions with negative acquirer announcement returns. Dedicated institutional shareholders behave like active investors (Porter, 1992; Bushee, 1998. Transient institutional investors make frequent transactions and tend to hold small stakes in various firms (Porter, 1992; Bushee, 1998). Quasi-indexing institutional shareholders behave like passive investors (Porter, 1992; Bushee, 1998).

			[0, 0]	[-1, 1]	[-2, 2]	[-3, 3]	[-5, 5]
Panel A: Return to Overlapping Institutional Shareholders Based on Shareholder Level							
Dollar Return	Dedicated (N=1003)	Mean	4489.25	9716.65	7015.34	7634.27	8530.25
		Std Dev	47767.61	62752.16	60506.35	76946.35	91154.77
		Median	17.4115385	196.3941533	153.1605269	152.8716152	185.6678542
	Quasi-indexer (N=28503)	Mean	321.5945188	1388.64	533.9861087	953.4278758	1319.46
		Std Dev	19597.01	21683.13	24146.07	33740.27	38697.99
		Median	5.3090319	63.6554434	47.7227829	51.1031149	66.7477315
	Transient (N=12113)	Mean	439.2559004	922.3304411	504.5027821	632.3756744	825.0684975
		Std Dev	9729.39	11309.38	12907.94	15609.32	16734.83
		Median	14.8969805	77.5882805	58.1419130	64.8902461	77.7659354
Scaled Return	Dedicated (N=1003)	Mean	0.0235229	0.040399	0.0379774	0.0402125	0.0446077
		Std Dev	0.0906236	0.1040435	0.1092745	0.1203493	0.1226565
		Median	0.0040882	0.0179435	0.0163179	0.0162943	0.0187005
	Quasi-indexer (N=28503)	Mean	0.0210668	0.0349336	0.0308381	0.0349134	0.0388049
		Std Dev	0.0815126	0.0912148	0.0959649	0.1105121	0.1120591
		Median	0.0021767	0.0135327	0.0129796	0.0128979	0.0165264
	Transient (N=12113)	Mean	0.0322208	0.048896	0.0450129	0.0484052	0.0519163
		Std Dev	0.0968434	0.108038	0.1131551	0.1246	0.1264303
		Median	0.0059301	0.0231263	0.0220771	0.0217449	0.0261580
Panel B: Negative Acquirer Announcement Returns							
Dollar Return	Dedicated	Mean	-1223.55	-793.048014	-2878.95	-5461.63	-8363.29

		Median	-61.6809206	-12.8689008	-38.4694540	-54.2523698	-62.4684353
		N	671	639	629	625	587
	Quasi-indexer	Mean	-1194.92	-854.438772	-2157.49	-2351.85	-3037.12
		Median	-46.2239237	-23.6083670	-56.3430582	-59.5010586	-99.2768836
		N	19950	19242	18999	18451	17384
	Transient	Mean	-184.45457	-69.8910332	-738.09470	-864.98632	-1087.68
		Median	-15.3538423	-1.3081502	-12.3234464	-7.2358332	-25.9763226
		N	8300	8002	7932	7857	7406
	Dedicated	Mean	0.0097372	0.0156605	0.0099915	0.0064628	0.0079378
		Median	-0.0050182	-0.0045590	-0.0074378	-0.0075768	-0.0117175
		N	671	639	629	625	587
	Quasi-indexer	Mean	0.0046992	0.0117363	0.0033335	0.0016947	0.000165887
Scaled Return		Median	-0.0063344	-0.0061522	-0.0111480	-0.0103523	-0.0166272
		N	19950	19242	18999	18451	17384
	Transient	Mean	0.0192593	0.0257413	0.0177946	0.0171472	0.0173664
		Median	-0.0043939	-0.0011434	-0.0062085	-0.0039790	-0.0092108
		N	8300	8002	7932	7857	7406