

# BOARD CONNECTIONS AND M&A TRANSACTIONS

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## **ABSTRACT**

YE CAI: Board Connections and M&A Transactions  
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We examine M&A transactions between firms with current board connections and show that acquirers obtain significantly higher announcement returns in such transactions. Acquirer announcement returns in transactions with a first-degree board connection where the acquirer and the target share a common director are 2.46% greater than those in non-connected transactions. Similarly, acquirer announcement returns in transactions with a second-degree board connection where one director from the acquirer and one director from the target serve on the board of a third firm are 1.62% greater than those in non-connected transactions. Our results suggest that first-degree board connections benefit acquirers by allowing them to acquire the target at a lower takeover premium. Second-degree board connections, on the other hand, benefit acquirers by resulting in greater value creation from the deal, as evidenced by greater combined acquirer and target announcement returns and better post-merger operating performance in such deals.

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## CHAPTER 1

### INTRODUCTION

This paper examines M&A transactions with a current board connection between acquirer and target firms and presents evidence that acquirers obtain significantly higher announcement returns in such transactions. We study two types of board connections between acquirer and target firms. The first type is where the two firms share a common director before the deal announcement and we refer to this type of connection as a “first-degree connection”. The second type is where one director from the acquirer and one director from the target have been serving on the board of a third firm before the deal announcement. We refer to this type of connection as a “second-degree connection”. We focus only on *current* board connections in that the acquirer and the target must have a board connection through their directors at the time of the deal announcement. This is because current board connections are presumably more observable to shareholders and are more important for information flow and performance of current M&A transactions than other types of board connections existed in the past.

The expected effect of board connections on M&A outcomes is not obvious. On the one hand, having a board connection between two firms may improve information flow between the firms, and increase each firm’s knowledge and understanding of the other firm’s operations, business, and corporate culture, with a positive effect on M&A outcomes. On the other hand, a board connection between two firms may make it easier for executives and

directors to develop personal relationships in circles outside the firm, and to propose and implement deals with a personal agenda at the detriment of their shareholders.

In our sample of 1,664 US acquisitions between 1996 and 2008, we observe a board connection between the acquirer and the target in 9.4% of the transactions. In terms of dollar deal values, connected transactions represent 19.8% of the overall transaction volume from 1996 to 2008. We evaluate the effect of board connections on M&A transactions by studying announcement returns, takeover premiums, long-run operating performance of the newly merged firm, and advisory fees paid to investment banks. In first-degree connected transactions, we first find that acquirer abnormal returns from two days before to two days after the acquisition announcement are 2.46% higher than those in non-connected transactions. This effect is economically large given that the unconditional mean acquirer announcement return is -2.16% in our sample. In addition, we find lower target announcement returns and lower takeover premiums in the presence of a first-degree connection. We do not find a significant difference in combined acquirer and target announcement returns between first-degree connected transactions and non-connected transactions. This suggests that although first-degree connections benefit acquirers, they are not related to greater overall value creation from the deal. Finally, we find that advisory fees are lower in first-degree connected transactions, consistent with the view that connected directors have an information advantage about the true value of the target and synergies from the deal, which reduces the need for investment banks to price and structure the deal. A first-degree connection is associated with a 0.64% reduction in advisory fees as a percentage of deal value. This effect is economically important given that the mean percentage advisory fee for our sample is 1.30%.



Similar to transactions with a first-degree connection, acquirer shareholders obtain higher announcement returns in transactions with a second-degree connection as well. Acquirer announcement returns are 1.62% higher in the presence of a second-degree connection, compared to those in non-connected transactions. Different from first-degree connections, however, target shareholders neither experience lower announcement returns nor obtain lower takeover premiums in such transactions. More importantly, combined announcement returns are 1.74% higher in these deals, relative to non-connected deals. This effect is economically meaningful given the mean combined announcement return is 1.03% in our sample. In addition, the post-deal operating performance of the combined firm is better in transactions with a second-degree connection, suggesting that such deals are associated with better performance in the long run as well.

Taken together, although both types of board connections are related to greater acquirer announcement returns, our results suggest that the economic mechanisms driving these superior returns are different in first and second-degree connections. First-degree connections benefit acquirers by allowing them to acquire the target at a lower price without resulting in greater value creation from the deal. In contrast, second-degree connections benefit acquirers by resulting in greater value creation from the deal, as evidenced by higher combined announcement returns and better post-deal operating performance of the combined firm in such deals.

An important concern for our analysis is that board connections do not arise randomly and they may be related to certain omitted firm characteristics which could independently affect M&A outcomes. To address such endogeneity concerns, we conduct a number of robustness tests. One possibility is that it is the acquisition experience of the acquirer which

explains our results. Firms with greater acquisition experience may be more likely to gain connected directors as a result of past acquisitions, and they may also be less likely to undertake value-destroying deals. It is also possible that firms with greater similarity, firms with previous business relations, and firms located at a closer distance to each other are more likely to have common directors and to generate better M&A outcomes when they merge. Another possibility is that firms with better corporate governance and higher quality directors are more likely to have board connections given that there may be a great demand for their high quality directors. Such firms could also be more likely to engage in high quality M&A deals. To address these possibilities, we control for the acquisition history of the acquirer, similarity between the acquirer and the target, the existence of a previous business relation between the acquirer and the target, geographical proximity between the acquirer and the target, and board quality and corporate governance of the acquirer. We verify that the positive effect of board connections on acquirer announcement returns remains robust after including all these control variables.

To rule out any remaining unobservable characteristics of connected acquirers which may lead to better M&A outcomes, we perform an analysis with firm-fixed effects where we compare the deals in which the acquirer has a board connection to the target with those deals by the *same acquirer* in which the acquirer has no board connection to the target. If board connection is a simple proxy for firm quality, such acquirers should generate better M&A performance independent of whether they acquire connected or non-connected targets. Our results, however, show that these acquirers obtain higher announcement returns from their acquisitions of connected targets.

There has been a recent and growing literature examining the role of board connections and networks in corporate financial policies.<sup>1</sup> Our paper is closely related to Ishii and Xuan (2010) who examine the effect of *social* ties between acquirer and target firms on merger performance. As opposed to our finding that *professional connections* present at the time of the acquisition announcement have a *positive* effect on acquirer announcement returns, Ishii and Xuan (2010) find that *social ties* between acquirer and target firms have a *negative* effect on acquirer announcement returns. The two papers are different in terms of the types of board connections they study. Our paper focuses on *professional* rather than *social* board connections in that the acquirer and the target must have a board connection at the time of the acquisition announcement. In Ishii and Xuan (2010), on the other hand, firms are classified as socially connected if they have executives who went to the same school or worked at the same firm in the past. There is a possibility that current and professional board connections we analyze in our paper are a subset of broader social and school ties among executives. This is not a concern for our first-degree board connections since such connections involve only one director connecting two firms. For our second-degree connections, we manually collect data on the educational backgrounds of connected directors and find that only two directors in our sample exhibit the type of school connections defined in Ishii and Xuan (2010). This finding suggests that the set of professional board connections at the time of the acquisition announcement does not overlap with the set of social connections formed in the past, and provides an explanation for why our paper identifies a *positive* effect of board connections on M&A outcomes while Ishii and Xuan (2010) identify

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<sup>1</sup> See, for example, Hallock (1997), Fich and White (2003), Hwang and Kim (2009), and Engelberg, Gao, and Parsons (2009) on the effect of director networks on CEO pay, Hochberg, Ljungqvist, and Lu (2007) on the effect of networks in the venture capital industry, and Cohen, Frazzini, and Malloy (2008) and Kuhnen (2009) on the effect of social ties in the mutual fund industry.

a *negative* effect. Together, these studies illuminate the mechanisms by which social and professional ties affect M&A outcomes, and suggest that differentiating professional ties from social ties is critical in understanding how different types of board connections impact M&A performance.

In other related work, Schonlau and Singh (2009) find that firms with more connected boards to other firms are more likely to undertake acquisitions as well as to be acquired. Such firms also exhibit better performance in the years after the acquisition. Their paper analyzes the acquisition activity of a firm as a function of how connected its board is to other firms, but does not look at direct board connections between acquirer and target firms—the primary focus of our paper. In other work, Fracassi (2008) constructs a measure of social ties between two firms and shows that firms with a greater level of social ties exhibit similar investment patterns. Rather than focusing on inter-firm connections, Schmidt (2008) investigates the costs and benefits of internal ties between the CEO and the board members of a given firm, and finds that more friendly boards are associated with higher announcement returns for acquirers with greater advisory needs. Fracassi and Tate (2008) present evidence that greater level of connections between the CEO and the directors within a firm is related to weaker board monitoring and lower market valuation.

The organization of the paper is as follows. Chapter 2 introduces our sample and reports summary statistics. Chapter 3 analyzes the relation between board connections and acquisition announcement returns. Chapter 4 examines the impact of board connections on the long-run operating performance of the combined firm. Chapter 5 investigates financial advisory fees paid to investment banks in the presence of a board connection. A final chapter concludes.

## CHAPTER 2

### DATA AND SAMPLE DESCRIPTION

Our sample of acquisitions is from the Securities Data Company's (SDC) US Mergers and Acquisitions database. We begin with all completed mergers and acquisitions with the announcement date and the effective date between 1996 and 2008. We identify all deals in which both the acquirer and the target are public firms, and the acquirer controls less than 50% of the target before the acquisition announcement and owns 100% after the transaction. We require that both the acquirer and the target have annual financial statement information available from Compustat and daily stock return data from CRSP. We further eliminate small transactions in which the deal value disclosed in the SDC is less than \$5 million, or less than 1% of the acquirer's market capitalization measured on the sixth trading day prior to the announcement date.

We choose our time period from 1996 to 2008 because the SEC has mandated all registrants to file their documents online using the EDGAR system starting from 1996. The EDGAR database has over 600 different types of forms, and for the purpose of our study, we gather all available proxy statements (Form DEF 14-A). Proxy statements provide detailed information for each director, such as their name, age, work experience, board affiliation, and education background. We also supplement our director data using the RiskMetrics (formerly IRRC) Directors database. This data is of annual frequency and covers directors of S&P500, S&P MidCaps, and S&P SmallCaps firms. We require that both the acquirer and the target have proxy statements in EDGAR or have available director information in the RiskMetrics

database in the year immediately prior to the deal announcement. Our final sample consists of 1,664 M&A transactions which meet these criteria.

For each M&A transaction, we read through the director information sections of the acquirer's and the target's proxy statements in the year prior to the acquisition announcement. If the acquirer and the target share at least one common director, the deal is classified as a transaction with a first-degree connection. Similarly, if at least one director from the acquirer and one director from the target serve together on the board of a third company, the deal is classified as a transaction with a second-degree connection. Among the 1,664 M&A deals in our sample, there is a board connection between the acquirer and the target in 156 deals. In 65 out of 156 connected transactions we have a first-degree connection, and in the remaining 91 transactions we have a second-degree connection.

In 12 of the 65 first-degree connections, the connected director is an independent director at both the acquirer and the target. In 42 observations, the connected director is an executive at the acquirer, and in 15 observations he is an executive at the target.<sup>1</sup> In the case of second-degree connections, the connected director at the acquirer is an independent director in 74 out of 91 transactions, and he is an executive at the acquirer in the remaining 17 transactions. Similarly, the connected director at the target is an independent director in 75 transactions, and an executive at the target in the remaining 16 transactions. These patterns suggest that connected directors are less likely to be independent in first-degree connections than in second-degree connections. Finally, we observe that a typical board connection between the acquirer and the target originates five years before the announcement of the deal.

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<sup>1</sup> Some connected directors are executives at both the acquirer and the target, such as being the CEO of the acquirer and the non-executive chairman of the target. This explains why the sum of independent and executive directors in first-degree connections is greater than the number of first-degree board connections in our sample.

Panel A of Table 1 presents the distribution of our M&A sample by announcement year. Consistent with Moeller, Schlingemann, and Stulz (2004), the number of acquisitions drops in the early 2000s from its highest level in 1999, rebounds back in 2003, and then hits another trough in 2008. The pattern of connected transactions across years follows a similar trend as the overall sample. There is a board connection between the acquirer and the target in about 10% of the transactions. In terms of dollar deal values, connected transactions represent 19.8% of the overall transaction volume from 1996 to 2008.

Panel B of Table 1 shows the industry distribution of our sample of acquisitions based on the industry of the acquirer firm where industry classification follows the twelve Fama-French industry definitions (Fama and French (1997)). Finance, Business Equipment, and Healthcare are the most active industries in our sample in terms of the number of acquisitions. We observe the same pattern for connected transactions as well where the greatest number of connected acquisitions take place in the Finance industry, followed by Business Equipment and Healthcare industries. Overall, transactions with board connections do not concentrate strongly by industry and their industry distribution exhibits a similar pattern as the overall M&A sample. Our analysis later will include both year and industry fixed effects to control for industry and time trends affecting M&A activity.<sup>2</sup>

Table 2 reports the summary statistics for various acquirer, target, and deal characteristics. We describe the variable construction in more detail in the Appendix. The table first presents the means for the full sample, followed by the three subsamples of first-degree connected transactions, second-degree connected transactions, and non-connected transactions. It is interesting to note that target firms in first-degree connected deals have

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<sup>2</sup> We also conduct robustness checks by removing the deals where the acquirer is in the Finance industry and excluding the internet bubble period from our sample.

lower return on assets, smaller amount of operating cash flow, and exhibit poorer industry-adjusted stock price performance in the six month-period prior to the acquisition announcement. These patterns suggest that these firms underperform their industry peers, and might represent attractive takeover opportunities. In terms of deal characteristics, both types of connected transactions are more likely to be diversifying acquisitions, although significantly so only in second-degree connected transactions where a transaction is defined as diversifying if the acquirer and the target do not share the same two-digit SIC code. This suggests that connected transactions are less likely to combine similar firms from related industries relative to non-connected transactions.<sup>3</sup> Finally, transactions with a first-degree connection are less likely to be mergers of equals.

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<sup>3</sup> This observation is not surprising given that the Clayton Act of 1914 prohibits directors from simultaneously serving on the boards of competing firms.



## CHAPTER 3

### BOARD CONNECTIONS AND ANNOUNCEMENT RETURNS

#### 3.1 Univariate Analysis

To measure the effect of an acquisition on the value of the acquirer and the target, we obtain cumulative abnormal returns (CARs) using the standard event study method developed by Brown and Warner (1985). We use the CRSP value-weighted return as the market return and estimate the market model parameters over the period from event day -210 to event day -11. We follow Bradley, Desai, and Kim (1988) and form a value-weighted portfolio of the acquirer and the target with the weights based on their market capitalization at the eleventh trading day prior to the acquisition announcement date. Table 3 presents the cumulative abnormal returns for acquirer (ACARs), target (TCARs) as well as combined portfolio of acquirer and target firms (PCARs) around the acquisition announcement. We report the mean and median CARs over three different windows: the three-day event window (-1, +1), the five-day event window (-2, +2), and the seven-day event window (-3, +3), where the event day 0 is the acquisition announcement date. In the remainder of the paper, we refer to the announcement returns over the five-day event window (-2, +2) in discussing the effect of board connections on M&A outcomes.

Table 3 Column (1) shows the mean and median CARs for the full sample. We find that the mean five-day abnormal return for acquirers is -2.16% and significantly different from zero at the 1% level. Although the mean announcement return for our sample of acquirers is lower than what is reported in other studies such as Fuller, Netter, and

Stegemoller (2002) and Masulis, Wang and Xie (2007), this is not very surprising given that our sample contains only public targets. The negative ACARs are in line with the earlier findings that on average M&A transactions destroy value for acquirer shareholders when they involve acquisitions of public firms (Fuller et al. (2002)). The mean five-day abnormal return for target firms is 21.12%, and significantly different from zero at the 1% level. The mean five-day combined abnormal return PCAR is 1.03%, consistent with the positive combined returns documented by Andrade, Mitchell, and Stafford (2001), Moeller et al. (2004), and Wang and Xie (2009). Median CARs show a similar pattern as the means.

We next split the entire M&A sample into three groups based on whether a deal involves a board connection and the type of the connection, and present the subsample CAR results. Most importantly, mean ACARs are not significantly different from zero in both first and second-degree connected transactions, while in non-connected transactions the mean five-day ACAR is -2.35% and significantly different from zero at the 1% level. This result suggests that acquisitions of public firms do not lead to value destruction for acquirer shareholders if the acquirer and the target have a board connection at the acquisition announcement. The mean and median difference in five-day ACARs between first-degree connected transactions and non-connected transactions are 2.46% and 1.81% respectively, and significant at the 10% level. They are also economically large compared to the sample mean ACAR of -2.16% and median ACAR of -1.67%. Similarly, the mean and median difference in five-day ACARs between second-degree connected transactions and non-connected transactions are 1.62% and 1.15%, and significant at the 5% and 10% level respectively. This finding that acquirers do not experience significantly negative announcement returns in connected transactions is important since numerous studies have

shown that acquisitions of public targets destroy value for the acquirer. For instance, Bradley et al. (1988) report a -3% abnormal returns to acquirers of 1980s, Wang and Xie (2009) document a -2.9% acquirer announcement return for a sample of acquisitions where both acquirers and targets are covered by the IRRC database, and Moeller et al. (2004) find a -1.7% average abnormal return for large acquirers acquiring public firms over the period from 1980 to 2004.

Target shareholders, on average, experience a sizeable announcement return in both connected and non-connected transactions. Specifically, they obtain five-day announcement returns of 18.62% in first-degree connected transactions, 22.70% in second-degree connected transactions, and 21.13% in non-connected transactions, all significantly different from zero at the 1% level. Although mean target announcement returns are lower in first-degree connected transactions and higher in second-degree connected transactions than those in non-connected transactions, the differences in the univariate comparison are not significant.

Combined announcement returns are positive for both connected and non-connected transactions, suggesting that an average M&A transaction in our sample creates value. Although there is no significant difference between first-degree connected transactions and non-connected transactions in terms of the overall value creation at the acquisition announcement, we find that the combined announcement returns are significantly larger in second-degree connected transactions than in non-connected transactions. The mean difference in five-day PCARs between second-degree connected transactions and non-connected transactions is 1.74% and economically significant compared to the sample average PCAR of 1.03%.

Given that M&A transactions come in waves and exhibit industry clustering, we perform a number of robustness checks to make sure that our results are not specific to a certain industry or a particular time period. We repeat our univariate analysis in different subsamples by removing bank mergers (where the acquirer has an SIC code between 6000 and 6999), by removing the Internet bubble period from 1998 to 2001, and by conducting our analysis using the first and second-half of our sample period separately. Our untabulated results show that the effect of board connections on announcement returns remains robust in each of these specifications.

Taken together, our results from the univariate analysis of announcement returns suggest that acquirers do better in transactions with both first and second-degree board connections in terms of the announcement returns they experience. In addition, deals with a second-degree connection appear to be more value creating given that combined announcement returns in such deals are significantly larger than those in non-connected transactions.

## 3.2 Multivariate Analysis

### 3.2.1 Acquirer Announcement Returns

In this section, we check the robustness of our finding on the positive effect of board connections on acquirer returns in a multivariate setting by controlling for factors which have been shown to affect announcement returns by earlier work. The dependent variable in these regressions is the five-day ACAR. The key independent variables are a first-degree board connection indicator variable *First-degree Connection* that takes on the value of one if there is a first-degree connection between the acquirer and the target, and zero otherwise, and a

second-degree board connection indicator variable *Second-degree Connection* that takes on the value of one if there is a second-degree connection between the acquirer and the target, and zero otherwise.

Following Moeller et al. (2004), we include a variable *Acquirer Size* defined as the logarithm of the acquirer's market capitalization at the eleventh trading day prior to the acquisition announcement. We control for the method of payment by including an indicator variable *Stock Deal* that takes on the value of one if the acquisition is financed partially or fully with stock, and zero otherwise. We also control for whether the deal is diversifying by including an indicator variable *Diversifying Acquisition* that takes on the value of one if the acquirer and the target do not share the same two-digit SIC code, and zero otherwise. We include a variable *Relative Deal Size* as the ratio of deal value to acquirer's market capitalization. In addition, we control for whether the deal is done in the form of a tender offer, whether the deal is hostile, as well as acquirer and target firms' Tobin's Q, leverage, operating cash flow, all measured at the fiscal year-end prior to the acquisition announcement, and pre-announcement stock price run-up measured over the [-210,-11] event window. All regressions include year and industry fixed effects, and the t-statistics are adjusted for heteroskedasticity and acquirer clustering.

Regression (1) in Table 4 presents our results. The coefficients on *First-degree Connection* and *Second-degree Connection* are both positive and significant at the 10% and 1% level respectively. Acquirers experience abnormal returns that are 2.4% higher in transactions with a first-degree connection and 1.8% higher in transactions with a second-degree connection, compared to transactions with no connection. These magnitudes are economically large relative to the mean ACAR of -2.16% in our sample. Hence, our key

result on the positive relation between board connections and acquirer announcement returns continues to hold after controlling for the factors affecting acquirer returns known in the literature.

The coefficients on the other control variables are consistent with the findings in the literature. Similar to Moeller et al. (2004), we find a negative correlation between acquirer size and ACAR. We also find that stock-financed deals have lower ACARs, consistent with Travlos (1987) and Amihud, Lev, and Travlos (1990). Acquisitions with greater deal size relative to the size of the acquirer have lower ACARs, in line with the finding in Moeller et al. (2004). In addition, acquirers in tender offers and acquirers with higher operating cash flows perform better, as in Moeller et al. (2004) and Masulis et al. (2007). Acquirers with greater stock price run-up prior to the acquisition announcement have lower ACARs, consistent with Masulis et al. (2007), and supporting the view that such acquisitions might be motivated to a greater extent by the overvalued stock of the acquirer. Finally, ACARs are higher when the target has lower operating cash flow.

#### Alternative Explanations

Our results so far suggest that board connections are associated with better announcement returns for acquirers. In this section, we proceed with different specifications of our multivariate analysis to evaluate whether the observed difference in acquirer announcement returns between connected and non-connected transactions could be explained by alternative mechanisms. A concern for our analysis is that board connections do not arise randomly and they may be related to certain omitted firm characteristics which could independently affect M&A outcomes. To address such endogeneity concerns, we conduct a number of additional tests. Specifically, we investigate whether the positive relation between

board connections and acquirer returns can be explained by the acquirer's acquisition history, greater firm similarity between the acquirer and the target in connected transactions, existence of a previous business relation between the acquirer and the target, greater geographic proximity between the acquirer and the target, and corporate governance, board characteristics, and other unobservable firm characteristics of the acquirer in connected transactions.

*Acquirer Acquisition Experience:* One possible explanation for the positive relation between board connections and acquirer returns is that firms which are more frequent and experienced acquirers may gain more connected directors on their boards as an outcome of their past acquisitions. At the same time, they may also be less likely to undertake value-destroying deals due to their acquisition experience. To evaluate this possibility, in Table 4 Regression (2), we add a new variable *Acquirer Pre3YR Num of Deals* which measures the total number of acquisitions an acquirer has made in the past three years preceding the current acquisition announcement. This variable does not show up significantly, and both first and second-degree board connection indicators remain significant in explaining ACARs.<sup>1</sup>

*Firm Similarity between the Acquirer and the Target:* Firms with greater similarity could be more likely to have common directors on their boards. At the same time, more similar firms may also be expected to undertake better M&A deals. To address this possibility, we investigate whether acquirer and target firms exhibit greater similarity in connected transactions than in non-connected transactions. Given that firms in related industries are expected to display greater similarity, first we revisit our earlier observation on

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<sup>1</sup> Our results are robust if we replace *Acquirer Pre3YR Num of Deals* with the volume of acquisitions an acquirer has engaged in during the past three years as a percentage of the acquirer's current market capitalization.

the industry classifications of acquirer and target firms in connected transactions. Acquirer and target firms share a same two-digit SIC code in 62% of the first-degree connected transactions, in 59% of the second-degree connected transactions, and in 70% of the non-connected transactions. Thus, in terms of industry classification, connected transactions are *less* likely to combine similar firms from related industries. Our second measure of firm similarity *Corr(Stock Return)* is the stock return correlation between the acquirer and the target in the six-month period ending one month prior to the acquisition announcement (Fama and French (1992)). In Table 4 Regression (3) which includes these two measures of firm similarity, we continue to find that both types of board connections are positively related to acquirer announcement returns. Hence, it is unlikely that our results can be explained by greater similarity between the acquirer and the target in connected transactions.

*Previous Business Relation between the Acquirer and the Target:* M&A transactions between connected firms might be preceded by a business relation between the acquirer and the target, and formation of such business relations is positively correlated with one or both firms gaining a board of director from the partner firm. If the two firms in such a relation end up merging subsequently, such transactions could be expected to generate better announcement returns for the acquirer due to the previous business relation between the two firms. In other words, the existence of a previous business relation between the acquirer and the target may be driving board connections as well as higher acquirer announcement returns.

To understand whether our results are driven by a previous business relation between the acquirer and the target, we add additional control variables into our specification. In Regression (4), we include a *Previous Business Relation* indicator variable that takes on the value of one if there exists any kind of alliance and joint venture activity between the



acquirer and the target in the three years prior to the acquisition announcement, and zero otherwise. We obtain our alliance and joint venture data from the SDC Joint Ventures/Alliances database. The second variable we include in Table 4 Regression (4) is the acquirer's toehold in the target prior to the acquisition announcement given the possibility that previous business relations might involve an equity investment by the acquirer in the target. We create a *Toehold* indicator variable that takes on the value of one if the acquirer has an equity stake in the target before the deal announcement, and zero otherwise. Note that in only 2.6% of our M&A sample, the acquirer possesses a toehold in the target prior to launching a bid. Regression (4) shows that including the two new control variables does not change our main results, and both types of board connections remain positively related to acquirer returns. In addition, neither the *Previous Business Relation* variable nor the *Toehold* variable is significantly related to acquirer announcement returns.

*Geographic Proximity between the Acquirer and the Target:* Kedia, Panchapagesan, and Uysal (2007) find that acquirer announcement returns in local transactions are higher than those in non-local transactions where a local transaction is defined as having the acquirer and the target's headquarters located within 100km of each other. If geographically closer firms are more likely to have common board of directors, our results regarding higher acquirer returns could be driven by the greater geographic proximity of the acquirer and the target in connected transactions. To evaluate this possibility, we add geographic proximity variables into our regression. We obtain data on the city and the state of acquirer and target firms from the SDC, and match this data from the US Census Bureau Gazette to get the latitude and the longitude for each acquirer and target firm. The geographic distance between each acquirer and target firm's headquarters is then calculated using the Great Circle

Distance Formula.<sup>2</sup> In Table 4 Regression (5) we include the same *Local Deal* variable as Kedia et al. (2007) and find that both types of board connections continue to have a positive and significant effect on ACARs. The *Local Deal* variable enters positively but not significantly.<sup>3</sup>

*Corporate Governance and Board Characteristics of the Acquirer:* It can be expected that firms with good corporate governance and high quality directors are more likely to have board connections to other firms since their directors might be in great demand from other firms. At the same time, these firms could be expected to undertake better quality M&A deals due to their high quality directors. In other words, better corporate governance and higher quality directors of acquirers could be the factor driving both board connections and better M&A outcomes. To address this possibility, in Table 4 Regression (6) we include the acquirer's GIM index of corporate governance developed by Gompers, Ishii and Metrick (2003). We control for the experience of acquirer directors by including a variable *Director Age* defined as the average age of the directors on the board of the acquirer. We also include a variable *Board Size* defined as the logarithm of the total number of directors on the board of the acquirer, and a variable *Board Independence* defined as the fraction of independent directors on the board of the acquirer. Finally, we include a variable *Board Connectedness* measuring the fraction of acquirer directors holding three or more directorships. Our sample size in this specification reduces to 1,223 because the GIM governance index is available only for S&P1500 companies.

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<sup>2</sup>  $D(a, b) = \arccos [\cos(a_1) \cos(a_2) \cos(b_1) \cos(b_2) + \cos(a_1) \sin(a_2) \cos(b_1) \sin(b_2) + \sin(a_1) \sin(b_1)] * r$ , where  $a_1$  and  $b_1$  ( $a_2$  and  $b_2$ ) are the latitudes (longitudes) of the two points (in radians) respectively, and  $r$  denotes the radius of the earth (approximately 3,963 statutory miles).

<sup>3</sup> We obtain similar results if we use different cutoff points (75km and 125km) for the distance between the acquirer and target firm's headquarters in defining local deals.

Our main finding on the effect of board connections on acquirer returns survives controlling for these corporate governance variables. The GIM index has a negative and significant coefficient, consistent with Masulis et al. (2007) that acquirers with weaker governance obtain worse announcement returns. We also find that the average age of the directors on the acquirer board is positively related to acquirer announcement returns, which support the positive role of director experience in M&As. The *Board Connectedness* variable is insignificant, suggesting that our results are unlikely to be driven by high quality directors holding a large number of board seats in other firms.

The *Board Connectedness* variable is important for the robustness of our results for another reason. As we mentioned previously, Schonlau and Singh (2009) show that firms with boards which are more connected to other firms are more likely to participate in M&As both as an acquirer and as a target, and obtain better performance in the long run after their M&A activity. It is plausible to expect that a firm whose board has many connections to other firms is more likely to have a board connection to the target it acquires. Given that direct board connections between the acquirer and the target continue to matter for acquirer announcement returns after including the *Board Connectedness* variable, our paper suggests that it is the *direct* board connection between the acquirer and the target which results in higher acquirer announcement returns, rather than how connected the acquirer's board is to other firms.

Finally, in Table 4 Regression (7), we include all the control variables together from each robustness specification, and continue to find that board connections remain positively related to acquirer announcement returns.

*Unobservable Firm Characteristics:* To further control for any other unobservable or omitted acquirer firm characteristics which could affect both board connections and M&A outcomes, we conduct an analysis with firm fixed-effects. Specifically, we compare the deals in which the acquirer has a board connection to the target with those deals by the *same acquirer* in which the acquirer has no board connection to the target. Put differently, keeping the identity of the acquirer fixed, we compare the connected and non-connected deals made by the same acquirer. Our sample size reduces significantly to 318 in this specification since we focus only on the deals made by those acquirers which undertake at least one acquisition where they have a board connection to the target.

Table 5 presents our subsample CAR results. Importantly, our key result on the positive relation between board connections and acquirer announcement returns continues to hold. Acquirers we consider in this subsample obtain greater announcement returns from those acquisitions where they have a connection to the target. This result implies that it is the board connection between the acquirer and the target which leads to higher acquirer returns as opposed to some unobservable characteristics of the connected acquirers. We also run the same baseline regression as in Table 4 Regression (1) using this subsample of acquisitions made by connected acquirers. In untabulated results, we continue to find both first and second-degree board connections remain positively related to acquirer announcement returns, although the significance levels are only 20% and 11% because of the considerably reduced sample size.

Our results so far suggest that acquirers obtain greater announcement returns in the presence of both a first and second-degree board connection. It is possible that board connections help value creation from a deal by facilitating information flow between the

acquirer and the target. It is also possible that they allow acquirers to gain an information advantage about attractive takeover targets and acquire them at more favorable prices, relative to outside bidders with no connection to the target. To understand better the economic mechanisms driving greater acquirer announcement returns in connected transactions, we proceed with an analysis of target announcement returns, takeover premiums, and combined acquirer and target announcement returns in the following sections.

### 3.2.2 Target Announcement Returns and Takeover Premiums

In this section, we examine the effect of board connections on target announcement returns and takeover premiums received by target shareholders. First, we analyze target announcement returns in a multivariate framework where the dependent variable is the five-day TCAR. The key independent variables are the same indicator variables *First-degree Connection* and *Second-degree Connection* as in the previous section. We also include the same set of control variables as in the ACAR regressions.

In Table 6 Regression (1), we find that first-degree connections are negatively related to TCARs while second-degree connections are not significantly related to TCARs. This is consistent with our earlier univariate result that target abnormal returns are lower in first-degree connected transactions relative to non-connected transactions, although the difference in the univariate comparison is not significant. A first-degree board connection is associated with a 5.2% reduction in the five-day target announcement returns, significant at the 5% level. The predicted effect of first-degree connections on TCARs is economically significant as well considering that the mean five-day TCAR in our sample is 21.12%.

One potential explanation for this result is that directors in first-degree connected transactions have an information advantage about the true value of the target and this

advantage allows them to acquire the target at a lower price, compared to other potential bidders with no connection to the target. Thus, we expect a lower takeover premium in first-degree connected transactions. To examine this conjecture, we obtain a takeover premium measure *PREM* from the SDC, defined as the percentage difference between the offer price and target's trading price four weeks prior to the announcement date. The mean takeover premiums are 38.0% and 38.7% in first and second-degree connected transactions respectively. For non-connected transactions, the mean takeover premium is 40.7%, slightly higher than those in connected transactions, although not at a significant level.

Using *PREM* as the dependent variable and our earlier key independent variables *First-degree Connection* and *Second-degree Connection*, Regression (2) in Table 6 presents the results on the relation between board connections and takeover premiums after controlling for the same firm and deal characteristics as before. We find that first-degree connections are negatively and significantly related to the level of takeover premiums. A first-degree board connection is associated with an 8.4% reduction in takeover premiums paid by acquirers. This effect is economically large given that the unconditional mean takeover premium in our sample is 40.5%. Thus, lower takeover premiums observed in first-degree connected transactions provide an explanation for our earlier result that acquirers obtain larger announcement returns in first-degree connected transactions. Second-degree board connections, however, are not significantly associated with takeover premiums.

A natural question that follows is why target shareholders would agree to a lower takeover premium in deals with a first-degree connection. First, it is important to note that although TCARs are lower in the presence of a first-degree connection, target shareholders in such transactions still obtain sizeable returns at the acquisition announcement. The mean

five-day TCAR in first-degree connected transactions is 18.62%, significantly different from zero at the 1% level. Second, recall our earlier summary statistics from Table 2 that target firms in deals with a first-degree connection exhibit weaker financial and operational profile. Specifically, they have lower profitability measured by ROA, lower operating cash flow, and exhibit weaker industry-adjusted stock return performance before the acquisition announcement. Given their weaker financial and operational profile, their ability to negotiate a higher price or generate outside offers from other bidders might be limited. Hence, one can expect that acquirers with a board connection to such target firms benefit from their more informed position, and undertake these acquisitions at a more favorable price from the perspective of their shareholders. Consistent with this interpretation, in Table 6 Regression (3) we interact the *First-degree Connection* variable with the target's operating cash flow and find that the negative effect of first-degree connections on takeover premiums is more pronounced for target firms with lower profitability.

### 3.2.3 Combined Acquirer and Target Announcement Returns

In this section we proceed with the analysis of combined announcement returns in order to understand whether board connections are significantly related to the overall value creation from a deal. Our dependent variable in this multivariate analysis is the five-day PCAR, and the key independent variables are *First-degree Connection* and *Second-degree Connection*. We include the same set of control variables as in the ACAR and TCAR regressions.

Table 7 Regression (1) shows that the PCARs are positively related to the *Second-degree Connection* variable, suggesting that deals with a second-degree connection generate greater value creation at the acquisition announcement. A second-degree board connection

translates into a 1.8% increase in the five-day combined announcement returns. This effect is economically meaningful given the mean five-day PCAR of 1.03% for our sample. First-degree board connections, on the other hand, are not significantly related to combined announcement returns.

Taken together, our results from the univariate and multivariate analysis of announcement returns suggest that first and second-degree board connections have different implications for an M&A transaction. While first-degree board connections benefit acquirers, they do not imply greater overall value creation since combined announcement returns in first-degree connected deals are not significantly different from those in non-connected deals. The interesting role of first-degree connections is that they appear to affect the allocation of the surplus between the acquirer and the target. Keeping all else constant, first-degree connections lead acquirers to obtain greater share of the surplus and experience higher announcement returns. It is worth repeating that although target shareholders obtain a lower fraction of the surplus in the presence of a first-degree connection, they still experience significant amount of wealth creation since their five-day return around the acquisition announcement is 18.62%, significantly different from zero at the 1% level. The source of bargaining power for acquirers in first-degree connected transactions appears to originate from their board connection to underperforming firms which represent attractive takeover opportunities. Given their poor performance, it is expected that these target firms have a limited ability to demand a higher price from the connected bidder or to generate alternative offers from outside bidders. Second-degree connections, on the other hand, are associated with greater overall value creation from the deal in terms of combined announcement returns.



This result provides an explanation for why acquirers obtain larger announcement returns in such deals.<sup>4</sup>

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<sup>4</sup> The effects of board connections on target announcement returns, takeover premiums, and combined announcement returns remain robust when we include our earlier control variables from the ACAR regressions such as the physical distance between the acquirer and the target, the existence of a previous business relation between the acquirer and the target, and corporate governance variables, etc. Since corporate governance variables are available only for a small set of target firms in our sample, the sample size with these control variables drops considerably.

## CHAPTER 4

### BOARD CONNECTIONS AND LONG-RUN OPERATING PERFORMANCE

The previous section shows that second-degree board connections are positively related to the overall value creation from the deal at the acquisition announcement, consistent with the view that they facilitate information flow between the connected firms and have a positive impact on the value created from the deal. In this section, we examine whether board connections also have a significant effect on the long-run operating performance of the newly merged firm after the deal completion. If board connections improve information flow between the connected firms and provide the connected directors with greater knowledge about each company's business, operations, and culture, they may have a positive effect on the operating performance of the combined firm after the deal completion.

We use the return on assets ROA as our measure of operating performance. For each fiscal year in the three-year period preceding the deal announcement, we calculate the industry-adjusted ROA of the acquirer and the target by subtracting the median ROA in their industry based on the two-digit SIC codes. Following Healy, Palepu, and Ruback (1992), we construct a portfolio of the acquirer and the target, and calculate the industry-adjusted ROA of the portfolio for a given fiscal year as the weighted average of acquirer's and target's industry-adjusted ROA where the portfolio weights are calculated using the book values of the acquirer and the target at the beginning of that fiscal year. We use the three-year average of the industry-adjusted ROA as a measure of the pre-merger ROA of the acquirer and the target. We then track each acquisition for three years after the deal completion year, and

calculate the three-year average of the combined firm's industry-adjusted ROA as our measure of post-merger ROA. Finally, we calculate the change in operating performance of the combined company  $\Delta ROA$  as the difference between post-merger ROA and pre-merger ROA. We find that the mean  $\Delta ROA$  is 0.015 for first-degree connected transactions and 0.030 for second-degree connected transactions, both higher than 0.004 for non-connected transactions. The difference in  $\Delta ROA$  between second-degree connected transactions and non-connected transactions is significant at the 10% level.

We next analyze the relation between board connections and long-run operating performance of the newly merged firm in a multivariate setting where our dependent variable is  $\Delta ROA$  and the key independent variables are *First-degree Connection* and *Second-degree Connection*. We also include the same set of control variables as in our earlier announcement return regressions. Table 7 Regression (2) shows that the *Second-degree Connection* variable has a positive and significant coefficient. A second-degree board connection leads to a 2.3% increase in the operating performance of the combined company adjusted for its industry and pre-merger operating performance. This result is supportive of our earlier finding that transactions with a second-degree connection are associated with greater value creation measured by combined abnormal returns around the announcement date. First-degree connections, on the other hand, are not significantly related to the operating performance of the combined firm, consistent with our earlier finding that they are not significantly related to overall wealth creation experienced by acquirer and target shareholders at the announcement date.

It is possible that directors who serve on the boards of both the acquirer and the target recuse themselves from the merger negotiation due to the potential for conflicts of interest

between acquirer and target shareholders. In such situations, it may be common to hire a special panel of experts to oversee the merger negotiation. The need for a special panel of experts should be greater in the presence of a first-degree connection than a second-degree connection given that the potential for conflicts of interest is greater in first-degree connections. Hence, if a special panel of experts has a positive impact on M&A outcomes, combined acquirer and target announcement returns and post-deal operating performance should be better in first-degree connections since special panels are more likely to be hired in such deals. However, our results show that first-degree connections are not significantly related to value creation from the deal, while in second-degree connections where the need for special panels is presumably lower, we find greater amount of value creation both at the deal announcement and in the longer run after the deal completion. Thus, it is unlikely that our results are driven by the presence of special committees in connected transactions.<sup>1</sup>

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<sup>1</sup> Kisgen, Qian and Song (2009) find that the market reacts negatively towards transactions where the acquirer hires a special panel providing a fairness opinion. Hence, it is not clear whether special panel of experts plays a value adding role in M&A transactions.

## CHAPTER 5

### BOARD CONNECTIONS AND ADVISORY FEES

Investment banks play an important role in the market for corporate control. They identify potential target firms, propose high synergy deals, and facilitate M&A transactions (McLaughlin (1990, 1992)). If firms in connected transactions have greater information and knowledge about deal profitability and source of synergy gains, they might have a lower need for investment banks for initiating, pricing, and structuring the deal, leading to the prediction that transaction costs in connected transactions should be lower. Given that the information advantage of the acquirers about the true value of the target should be greater in first-degree connections, we expect that transaction costs should be lower particularly in the presence of a first-degree connection.

To test this prediction, we collect financial advisory data from the SDC. In our sample, an average M&A deal involves one financial advisor for the acquirer and one for the target. Because advisory fees are usually charged as a percentage of deal value, we calculate the percentage advisory fees as the ratio of dollar amount of advisory fees to the dollar amount of deal value. We find that acquirers on average pay a percentage fee of 0.55% in first-degree connected transactions, 0.40% in second-degree connected transactions, and 0.62% in non-connected transactions. A similar pattern emerges for the advisory fees paid by target firms: the mean percentage fees are 0.77% and 0.64% for first-degree and second-degree connected transactions respectively, and 0.84% for non-connected transactions.

To understand whether board connections are significantly related to advisory fees, we use a multivariate setting where our key independent variables are, as before, the *First-degree Connection* and *Second-degree Connection* indicator variables. The dependent variable is the percentage fee paid by the acquirer in Table 8 Regression (1), the percentage fee paid by the target in Regression (2), and the total percentage fee paid by the acquirer and the target in Regression (3). We also include a number of firm and deal characteristics such as deal size, acquirer size, method of payment, whether the deal is a diversifying acquisition, whether it is done in the form of a tender offer, and deal attitude. Firms with a greater level of M&A activity in the past may be expected to pay lower advisory fees because of their repeated business with investment banks. Hence, we also include in the regressions our earlier variable *Acquirer Pre3YR Num of Deals* which measures the total number of acquisitions an acquirer has made in the last three years, and the corresponding variable *Target Pre3YR Num of Deals* for target firms.

We find that both acquirer and target firms pay lower percentage financial advisory fees in the presence of a first-degree board connection. Regression (1) shows that having a first-degree connection reduces the percentage fees paid by acquirers by 0.22%. This is economically significant considering that acquirers in our sample pay an average percentage fee of 0.60%. Target firms also pay lower fees in first-degree connected transactions: the coefficient of the *First-degree Connection* variable in Regression (2) is -0.21 and significant at the 5% level. This is also economically important given that the mean percentage fee paid by targets in our sample is 0.83%. Finally, Regression (3) shows that the total percentage fees paid by the acquirer and the target are significantly lower in the presence of a first-degree connection. Economically, a first-degree connection leads to a 0.64% reduction from the

sample mean of 1.30%, reducing total percentage fees almost by half. These results are consistent with our conjecture that directors in the first-degree connections have an information advantage regarding the true underlying value of the target, leading to a lower need for the advisory role of investment banks in initiating and pricing the deal.

## CHAPTER 6

### CONCLUSIONS

This paper examines M&A transactions with a board connection between acquirer and target firms and presents evidence that acquirers obtain significantly higher announcement returns in such transactions. We study two types of board connections between acquirer and target firms. In first-degree connections, the acquirer and the target share a common director before the deal announcement. In second-degree connections, one director from the acquirer and one director from the target have been serving on the board of a third firm before the deal announcement.

Our results suggest that first-degree connections benefit acquirers by providing them with an information advantage about the true value of the target firm, and by allowing them to acquire underperforming firms at an attractive price. In addition, advisory fees paid to investment banks are significantly lower in the presence of a first-degree connection. Second-degree connections, on the other hand, appear to facilitate efficient deal making as evidenced by greater overall value creation experienced by acquirer and target shareholders at the deal announcement, and better operating performance of the combined firm after the deal completion. Overall, we conclude that deals with board connections between acquirer and target firms represent an important set of mergers which do not destroy value for acquirers.



**Table 1: Sample Distribution**

Panel A and B present the number of M&A transactions by announcement year and by acquirer industry classification respectively. Both the acquirer and the target are public firms with complete CRSP and Compustat information, and have proxy statements on EDGAR or have available director data in the RiskMetrics database in the year immediately prior to the acquisition announcement. Numbers for the full sample are presented first, followed by three subsamples based on the presence and the degree of board connections. First-degree connected transactions are the deals where the acquirer and the target share at least one common director. Second-degree connected transactions are the deals where at least one director from the acquirer and one director from the target sit together on the board of a third firm. The rest of the deals are classified as non-connected transactions.

<i>Panel A: By Announcement Year</i>							
Year	Full Sample	First-degree Connected		Second-degree Connected		Non-Connected	
		Number	Percentage	Number	Percentage	Number	Percentage
1996	66	1	1.5%	4	4.4%	61	4.0%
1997	167	10	15.4%	14	15.4%	143	9.5%
1998	229	7	10.8%	12	13.2%	210	13.9%
1999	226	10	15.4%	16	17.6%	200	13.3%
2000	181	11	16.9%	8	8.8%	162	10.7%
2001	147	9	13.8%	5	5.5%	133	8.8%
2002	57	4	6.2%	3	3.3%	50	3.3%
2003	117	3	4.6%	2	2.2%	112	7.4%
2004	117	1	1.5%	1	1.1%	115	7.6%
2005	110	3	4.6%	5	5.5%	102	6.8%
2006	119	3	4.6%	6	6.6%	110	7.3%
2007	104	3	4.6%	12	13.2%	89	5.9%
2008	24	0	0.0%	3	3.3%	21	1.4%
Total	1,664	65	100.0%	91	100.0%	1,508	100.0%

<i>Panel B: By Acquirer Industry</i>							
12 Fama-French Ind. Classification	Full Sample	First-degree Connected		Second-degree Connected		Non-Connected	
		Number	Percentage	Number	Percentage	Number	Percentage
Nondurables	54	3	4.6%	3	3.3%	48	3.2%
Durables	22	0	0.0%	3	3.3%	19	1.3%
Manufacturing	113	4	6.2%	7	7.7%	102	6.8%
Energy	61	4	6.2%	5	5.5%	52	3.4%
Chemical products	30	1	1.5%	5	5.5%	24	1.6%
Business equipment	399	20	30.8%	14	15.4%	365	24.2%
Telecom	63	1	1.5%	2	2.2%	60	4.0%
Utilities	43	2	3.1%	4	4.4%	37	2.5%
Wholesale and retail	91	4	6.2%	3	3.3%	84	5.6%
Healthcare	144	8	12.3%	11	12.1%	125	8.3%
Finance	516	15	23.1%	26	28.6%	475	31.5%
Other	128	3	4.6%	8	8.8%	117	7.8%
Total	1,664	65	100.0%	91	100.0%	1,508	100.0%

**Table 2: Summary Statistics**

This table presents the mean summary statistics of 1,664 completed US mergers and acquisitions between 1996 and 2008. Both the acquirer and the target are public firms with complete CRSP and Compustat information, and have proxy statements on EDGAR or have available director data in the RiskMetrics database in the year immediately prior to the acquisition announcement. Full sample means are displayed first, followed by means of three subsamples based on the presence and the degree of board connections. All variable definitions are in the Appendix. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Full Sample	(2) First-degree Connected	(3) Second-degree Connected	(4) Non- Connected	(2)-(4)	(3)-(4)
# of observations	1,664	65	91	1,508		
<i>Acquiror Characteristics</i>						
Mkt cap (\$Mil.)	11,998	8,135	24,186	11,429		**
Tobin's Q	2.15	2.45	2.22	2.14		
Leverage	0.21	0.23	0.24	0.21		*
ROA	0.10	0.09	0.11	0.09		
OCF	0.10	0.09	0.11	0.10		
Prior ind.-adjusted returns	0.05	0.05	0.03	0.05		
<i>Target Characteristics</i>						
Mkt cap (\$Mil.)	1,338	841	3,769	1,212		***
Tobin's Q	1.86	1.88	2.03	1.85		
Leverage	0.20	0.21	0.25	0.20		**
ROA	0.06	0.02	0.09	0.06	*	*
OCF	0.06	0.02	0.09	0.06	*	*
Prior ind.-adjusted returns	0.01	-0.07	-0.01	0.01	*	
<i>Deal Characteristics</i>						
Transaction value (\$Mil.)	1,926	1,272	5,256	1,754		***
Percentage of cash	34.17	30.38	34.11	34.34		
Percentage of stock	57.22	61.57	56.89	57.05		
Stock deal	0.69	0.68	0.69	0.69		
Diversifying acquisition	0.31	0.38	0.41	0.30		*
Relative deal size	0.40	0.37	0.45	0.39		
Tender offer	0.14	0.15	0.18	0.13		
Hostile	0.01	0.00	0.01	0.01		
Merger of equals	0.02	0.00	0.03	0.02	***	

**Table 3: Univariate CAR Comparisons**

This table presents the mean and median acquirer announcement returns (ACAR), target returns (TCAR), and combined portfolio returns (PCAR) over the three-day, five-day, and seven-day event windows around the acquisition announcement date. Column (1) reports full sample CARs, and Column (2), (3), (4) report the mean and median for three subsamples based on the presence and the degree of board connections. The last two columns report the mean and median differences in CARs between the first-degree connected transactions and the non-connected transactions, and the second-degree connected transactions and non-connected transactions, respectively. \*\*\*, \*\*, \* and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)		(2)		(3)		(4)		(2)-(4)		(3)-(4)	
	Full Sample		First-degree Connected		Second-degree Connected		Non-Connected		Mean	Median	Mean	Median
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
<b>ACAR</b>												
[-1,+1]	-2.15***	-1.46***	-0.69	-0.57	-0.89	-0.71	-2.29***	-1.58***	1.60*	1.00	1.40**	0.87
[-2,+2]	-2.16***	-1.67***	0.11	0.03	-0.72	-0.62	-2.35***	-1.78***	2.46*	1.81*	1.62**	1.15*
[-3,+3]	-2.23***	-1.84***	-0.03	-1.02	-0.68	-0.73	-2.42***	-1.93***	2.39	0.91	1.73**	1.20**
<b>TCAR</b>												
[-1,+1]	20.32***	16.77***	17.35***	15.29***	21.61***	19.47***	20.37***	16.71***	-3.02	-1.43	1.24	2.75
[-2,+2]	21.12***	17.96***	18.62***	17.28***	22.70***	20.99***	21.13***	17.86***	-2.51	-0.58	1.57	3.13
[-3,+3]	21.64***	18.70***	19.15***	20.28***	22.93***	22.19***	21.67***	18.32***	-2.52	1.96	1.26	3.87
<b>PCAR</b>												
[-1,+1]	0.91***	0.57***	1.40	0.84	2.47***	2.00***	0.80***	0.50***	0.61	0.34	1.67**	1.50**
[-2,+2]	1.03***	0.69***	1.92*	1.46*	2.64***	2.10***	0.89***	0.63***	1.03	0.82	1.74**	1.47**
[-3,+3]	0.96***	0.75***	1.82	0.38	2.77***	2.64***	0.81***	0.64***	1.00	-0.26	1.96**	2.00***

**Table 4: Determinants of Acquirer Announcement Returns**

This table presents OLS regressions for the sample of completed US mergers and acquisitions between 1996 and 2008. The dependent variable is ACAR, the cumulative abnormal returns of the acquirers from two days before to two days after the deal announcement. All regressions control for calendar year fixed effects and twelve Fama-French industry fixed effects whose coefficients are suppressed for brevity. T-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering are reported in parentheses. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
First-degree Connection	2.444* (1.935)	2.415* (1.907)	2.534** (1.996)	2.627* (1.940)	2.351* (1.878)	2.271* (1.759)	2.331* (1.803)
Second-degree Connection	1.842*** (2.662)	1.825*** (2.653)	1.848*** (2.670)	1.823*** (2.616)	1.801** (2.580)	1.382** (1.987)	1.432** (2.017)
Acquirer Size	-0.270** (-2.201)	-0.231* (-1.836)	-0.193 (-1.346)	-0.278** (-2.248)	-0.262** (-2.130)	-0.200 (-1.062)	-0.031 (-0.158)
Stock Deal	-2.788*** (-6.263)	-2.790*** (-6.263)	-2.704*** (-6.059)	-2.817*** (-6.306)	-2.810*** (-6.311)	-2.424*** (-4.978)	-2.409*** (-5.003)
Diversifying Acquisition	0.357 (0.825)	0.368 (0.851)	0.318 (0.737)	0.357 (0.825)	0.362 (0.837)	0.289 (0.636)	0.201 (0.444)
Relative Deal Size	-1.631*** (-2.757)	-1.619*** (-2.735)	-1.476** (-2.364)	-1.644*** (-2.789)	-1.637*** (-2.767)	-2.605*** (-4.010)	-2.396*** (-3.480)
Tender Offer	0.952* (1.655)	0.937 (1.629)	0.932 (1.618)	0.982* (1.710)	0.970* (1.684)	0.730 (1.232)	0.633 (1.071)
Hostile	-0.002 (-0.001)	0.022 (0.017)	0.219 (0.158)	0.051 (0.038)	-0.012 (-0.009)	1.406 (1.127)	1.927 (1.531)
Acquirer Tobin's Q	-0.328 (-1.548)	-0.335 (-1.582)	-0.325 (-1.535)	-0.326 (-1.534)	-0.333 (-1.573)	-0.442* (-1.851)	-0.508** (-2.206)
Acquirer Leverage	1.590 (1.111)	1.725 (1.205)	1.644 (1.147)	1.572 (1.100)	1.630 (1.142)	-0.806 (-0.485)	-0.807 (-0.492)
Acquirer OCF	7.265*** (2.862)	7.155*** (2.811)	7.166*** (2.815)	7.178*** (2.825)	7.294*** (2.875)	5.877* (1.695)	5.640 (1.632)
Acquirer Stock Price Run-up	-2.180** (-2.438)	-2.193** (-2.451)	-2.189** (-2.448)	-2.176** (-2.423)	-2.150** (-2.417)	-0.540 (-0.526)	-0.518 (-0.510)

Target Tobin's Q	-0.112	-0.114	-0.117	-0.112	-0.112	-0.113	-0.109
	(-0.540)	(-0.549)	(-0.559)	(-0.536)	(-0.540)	(-0.507)	(-0.490)
Target Leverage	-0.622	-0.679	-0.692	-0.594	-0.599	0.436	0.210
	(-0.525)	(-0.573)	(-0.579)	(-0.502)	(-0.505)	(0.346)	(0.167)
Target OCF	-5.161***	-5.156***	-5.040**	-5.057***	-5.171***	-3.240	-2.590
	(-2.651)	(-2.644)	(-2.569)	(-2.598)	(-2.657)	(-1.432)	(-1.146)
Target Stock Price Run-up	0.613	0.627	0.524	0.611	0.598	0.230	-0.029
	(0.812)	(0.830)	(0.692)	(0.809)	(0.794)	(0.292)	(-0.037)
Acquirer Pre3YR Num of Deals		-0.073					-0.095
		(-1.016)					(-1.336)
Corr(Stock Return)			-1.379				-1.768
			(-1.159)				(-1.460)
Previous Business Relation				2.050			2.152
				(1.269)			(1.546)
Toehold				-0.817			-0.402
				(-0.886)			(-0.381)
Local Deal					0.377		0.441
					(0.830)		(0.861)
Acquirer GIM Index						-0.139*	-0.126*
						(-1.900)	(-1.731)
Acquirer Director Age						0.125*	0.133**
						(1.831)	(2.043)
Acquirer Board Size						-0.482	-0.519
						(-0.615)	(-0.673)
Acquirer Board Independence						-0.534	-0.447
						(-0.412)	(-0.344)
Acquirer Board Connectedness						-1.096	-1.559
						(-0.901)	(-1.443)
Constant	3.921**	3.769**	3.378*	3.926**	3.796**	-0.950	-4.114
	(2.254)	(1.875)	(1.875)	(2.262)	(2.178)	(-0.198)	(-0.889)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	1,664	1,664	1,664	1,664	1,664	1,664	1,664	1,664	1,223
Observations	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.102

**Table 5: Announcement Returns of Connected Acquirers**

This table presents the mean subsample acquirer returns (ACAR), target returns (TCAR), and combined portfolio returns (PCAR) over the three-day, five-day, and seven-day event windows around the acquisition announcement date. This subsample contains acquisitions of those acquirers where they have a board connection to the target in at least one of the acquisitions they undertake. Column (1) reports the full sample CARs, and Column (2), (3), (4) report the mean CARs for three subsamples based on the presence and the degree of board connections. The last two columns report the difference in the CARs between the first-degree connected transactions and the non-connected transactions and the second-degree connected transactions and the non-connected transactions, respectively. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Full Sample	(2) First-degree Connected	(3) Second-degree Connected	(4) Non- Connected	(2)-(4)	(3)-(4)
N	318	65	91	162		
<b>ACAR</b>						
[-1,+1]	-1.57***	-0.69	-0.89	-2.30***	1.62*	1.42*
[-2,+2]	-1.51***	0.11	-0.72	-2.60***	2.71**	1.87**
[-3,+3]	-1.60***	-0.03	-0.68	-2.75***	2.72*	2.07**
<b>TCAR</b>						
[-1,+1]	19.62***	17.35***	21.61***	19.41***	-2.05	2.20
[-2,+2]	20.49***	18.62***	22.70***	20.00***	-1.38	2.71
[-3,+3]	20.78***	19.15***	22.93***	20.23***	-1.08	2.70
<b>PCAR</b>						
[-1,+1]	0.84**	1.40	2.47***	-0.30	1.70*	2.77***
[-2,+2]	0.87**	1.92*	2.64***	-0.55	2.47**	3.19***
[-3,+3]	0.81*	1.82	2.77***	-0.69	2.50*	3.46***

**Table 6: Determinants of Target Announcement Returns and Takeover Premiums**

This table presents OLS regressions for the sample of completed US mergers and acquisitions between 1996 and 2008. The dependent variable in Regression (1) is TCAR, the cumulative abnormal returns of the target from two days before to two days after the deal announcement. The dependent variable in Regression (2) and (3) is the takeover premium measure from the SDC, defined as the percentage difference between the offer price and target firm's trading price four weeks prior to the acquisition announcement date. All regressions control for calendar year fixed effects and twelve Fama-French industry fixed effects whose coefficients are suppressed for brevity. T-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering are reported in parentheses. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) TCAR	(2) PREM	(3) PREM
First-degree Connection	-5.227** (-2.305)	-8.398** (-2.364)	-8.951** (-2.530)
Second-degree Connection	1.858 (0.921)	-1.132 (-0.422)	-1.086 (-0.405)
Acquirer Size	-0.340 (-1.198)	-0.937** (-2.088)	-0.944** (-2.101)
Stock Deal	-5.530*** (-4.580)	-5.197*** (-2.906)	-5.154*** (-2.880)
Diversifying Acquisition	0.629 (0.593)	3.374* (1.950)	3.394* (1.957)
Relative Deal Size	-6.178*** (-6.585)	-2.717 (-1.580)	-2.662 (-1.548)
Tender Offer	5.644*** (3.688)	6.981*** (2.945)	7.048*** (2.970)
Hostile	-2.041 (-0.462)	12.858** (1.970)	12.938** (1.986)
Acquirer Tobin's Q	0.339 (1.094)	1.757*** (3.161)	1.767*** (3.196)
Acquirer Leverage	-0.876 (-0.271)	-5.270 (-1.083)	-5.294 (-1.091)
Acquirer OCF	4.955 (0.951)	-4.815 (-0.459)	-5.005 (-0.475)
Acquirer Stock Price Run-up	4.232*** (2.889)	11.649*** (4.667)	11.630*** (4.663)
Target Tobin's Q	-1.053*** (-2.612)	-1.215* (-1.729)	-1.213* (-1.725)
Target Leverage	-2.814 (-0.998)	-0.931 (-0.214)	-0.999 (-0.230)
Target OCF	-4.213 (-1.165)	-10.302* (-1.733)	-11.488* (-1.873)
Target Stock Price Run-up	-14.215*** (-9.066)	-6.716** (-2.406)	-6.631** (-2.371)
First-degree Connection*Target OCF			26.589* (1.702)
Constant	30.836*** (7.110)	53.262*** (8.291)	53.235*** (8.287)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	1,664	1,612	1,612
Adj. R <sup>2</sup>	0.158	0.128	0.129



**Table 7: Determinants of Combined Announcement Returns and Long-run Operating Performance**

This table presents OLS regressions for the sample of completed US mergers and acquisitions between 1996 and 2008. The dependent variable in Regression (1) is PCAR, the cumulative abnormal returns of the combined portfolio of acquirer and target firms from two days before to two days after the deal announcement. The dependent variable in Regression (2) is  $\Delta$ ROA, the change in industry-adjusted ROA from three years before the deal announcement to three years after the deal completion. All regressions control for calendar year fixed effects and twelve Fama-French industry fixed effects whose coefficients are suppressed for brevity. T-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering are reported in parentheses. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) PCAR	(2) $\Delta$ ROA
First-degree Connection	0.916 (0.921)	0.001 (0.070)
Second-degree Connection	1.821** (2.530)	0.023* (1.872)
Acquirer Size	-0.521*** (-4.412)	0.001 (0.462)
Stock Deal	-2.327*** (-5.673)	-0.001 (-0.089)
Diversifying Acquisition	0.083 (0.203)	0.007 (0.676)
Relative Deal Size	1.847*** (3.666)	-0.008 (-1.376)
Tender Offer	1.499*** (2.689)	0.011 (0.965)
Hostile	1.354 (0.941)	-0.028 (-1.265)
Acquirer Tobin's Q	-0.297 (-1.488)	0.004 (1.506)
Acquirer Leverage	1.062 (0.810)	0.075*** (2.966)
Acquirer OCF	5.428** (2.316)	-0.253*** (-4.386)
Acquirer Stock Price Run-up	-1.350 (-1.601)	0.004 (0.302)
Target Tobin's Q	-0.139 (-0.614)	0.004 (1.179)
Target Leverage	-1.784 (-1.629)	0.032** (1.982)
Target OCF	-1.750 (-0.965)	-0.068** (-2.129)
Target Stock Price Run-up	-1.035 (-1.452)	-0.011 (-1.073)
Constant	7.199*** (4.263)	-0.016 (-0.678)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Observations	1,664	1,071
Adj. R <sup>2</sup>	0.112	0.119

**Table 8: Determinants of Financial Advisory Fees**

This table presents OLS regressions for the sample of completed US mergers and acquisitions between 1996 and 2008. The dependent variables in Regression (1), (2), and (3) are the percentage financial advisory fees paid by the acquirer, percentage financial advisory fees paid by the target, and the total percentage financial advisory fees paid by the acquirer and the target, respectively. The percentage advisory fees are calculated as the ratio of the dollar amount of advisory fees charged by financial advisors to the dollar amount of the deal value. All regressions control for calendar year fixed effects and twelve Fama-French industry fixed effects whose coefficients are suppressed for brevity. T-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering are reported in parentheses. \*\*\*, \*\*, and \* stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Acquirer	(2) Target	(3) Total
First-degree Connection	-0.215* (-1.732)	-0.213** (-2.168)	-0.635*** (-3.136)
Second-degree Connection	0.030 (0.362)	0.015 (0.289)	-0.009 (-0.081)
Deal Size	-0.136*** (-3.847)	-0.236*** (-8.399)	-0.327*** (-5.591)
Acquirer Size	-0.035 (-1.037)	0.027 (1.532)	-0.036 (-0.687)
Stock Deal	-0.151 (-1.510)	0.010 (0.213)	-0.159 (-0.698)
Diversifying Acquisition	-0.003 (-0.052)	0.070* (1.795)	0.048 (0.478)
Tender Offer	0.004 (0.046)	0.035 (0.649)	0.115 (0.601)
Hostile	0.088 (1.303)	0.069 (0.806)	0.166 (1.117)
Acquirer Pre3YR Num of Deals	-0.007 (-1.119)		-0.004 (-0.290)
Target Pre3YR Num of Deals		0.016 (1.360)	0.015 (0.680)
Constant	1.803*** (8.290)	2.009*** (12.092)	3.551*** (8.331)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	477	1,162	446
Adj. R <sup>2</sup>	0.359	0.314	0.427

## APPENDIX:

### Variable Definitions

Variables	Definitions	Data Source
<i>Panel A: measures of acquisition performance</i>		
ACAR	Cumulative abnormal percentage return for the acquirer using the market model estimated using the return data for the period (-210, -11).	CRSP
TCAR	Cumulative abnormal percentage return for the target using the market model estimated using the return data for the period (-210, -11).	CRSP
PCAR	Cumulative abnormal percentage return for a value-weighted portfolio of the acquirer and the target using the market model estimated using the portfolio return data for the period (-210, -11). The weights are based on the market capitalizations of the acquirer and the target at the sixth trading day prior to the announcement date. The target's weight is adjusted for the acquirer's toehold.	CRSP
PREM	Premium of offer price to target trading price four weeks prior to the original announcement date.	SDC
$\Delta$ ROA	Change in industry-adjusted ROA from three years prior to the deal announcement to three years after deal completion.	Compustat
<i>Panel B: firm and deal characteristics</i>		
Firm Size	Natural logarithm of market value of equity calculated as the number of shares outstanding multiplied by the stock price at the eleventh trading day prior to deal announcement.	CRSP
Tobin's Q	Market value of assets over book value of assets.	Compustat
Leverage	Book value of debt over book value of assets.	Compustat
ROA	Operating income before depreciation, scaled by book value of assets.	Compustat
OCF	Sales minus the cost of goods sold, sales and general administration expenses, and working capital change, scaled by book value of assets.	Compustat
Stock Price Run-up	Buy-and-hold abnormal return (BHAR) during the period (-210,-11) with CRSP value-weighted return as the market index.	CRSP
Prior Ind-Adjusted Returns	Industry-adjusted returns during the six-month period prior to deal announcement.	CRSP
Deal Size	Natural logarithm of dollar amount of deal value.	SDC
Stock Deal	Indicator variable: 1 for deals financed partially or fully with stock, 0 otherwise.	SDC
Diversifying Acquisition	Indicator variable: 1 if acquirer and target do not share the same 2-digit SIC code, 0 otherwise.	SDC
Relative Deal Size	Deal value divided by acquirer's market value of equity.	SDC/CRSP
Tender Offer	Indicator variable: 1 for tender offers, 0 otherwise.	SDC
Hostile	Indicator variable: 1 if the bid is hostile, 0 otherwise.	SDC
Pre3YR Num of	Total number of acquisitions a firm has made in the past	SDC

Deals	three years preceding the current acquisition announcement.	
Corr(Stock Return)	Correlation of stock returns between acquirer and target firms in the six-month period ending at the one month prior to acquisition announcement.	CRSP
Previous Business Relation	Indicator variable: 1 if there are strategic alliances or joint ventures between acquirers and targets in the three years prior to the announcement, 0 otherwise.	SDC
Toehold	Indicator variable: 1 if the acquirer owns a non-zero percentage of target's stock prior to announcement date, 0 otherwise.	SDC
Local Deal	Indicator variable: 1 if the acquirer's headquarter is located within 100km of the target's headquarters, 0 otherwise.	Compustat
GIM Index	Governance index based on 24 antitakeover provisions.	RiskMetrics
Director Age	Average age of board of directors.	RiskMetrics
Board Size	Natural logarithm of total number of directors on board.	RiskMetrics
Board Independence	Percentage of independent directors on board.	RiskMetrics
Board Connectedness	Percentage of directors holding three or more directorships.	RiskMetrics

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