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Three essays on corporate finance

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THREE ESSAYS ON CORPORATE FINANCE

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Three Essays on Corporate Finance

by

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I dedicate this thesis to my parents and my husband, Dr. ZHOU Ke.

Three Essays on Corporate Finance

KANG Mengyao

Abstract

This dissertation has three essays in corporate finance. In the first chapter, We investigate whether a CEO's experience with mergers matter when her firm becomes a takeover target? We find that shareholders receive higher premiums when their CEO has experience. The evidence suggests this is due to learning rather than innate skills or selection. Consistent with superior negotiation of salient features of takeover offers, experienced target CEOs obtain either safer cash payments or higher premiums as the fraction of cash in the offer decreases. These benefits do not come at the cost of other contractual concessions or inefficiencies in takeover negotiations. Overall, the results suggest that M&A experience is valuable when the CEO's firm becomes a takeover target.

In the second chapter of my dissertation, We use hand-collected SEC filing data on M&A deal negotiation and processing details to examine the impact of board connections on the process and efficiency of corporate M&As. We find that targets with well-connected boards are more likely to be approached by potential acquirers, introduce more competing bidders during deal negotiations, and be ultimately acquired by connected acquirers. Moreover, well-connected targets are less likely to rely on financial advisors to source potential acquirers. The combined acquirer-target announcement abnormal returns are higher for deals involving more connected targets, and all the deal surplus accrues to the targets. These targets are also paid with significantly higher

premiums. Overall, the evidence suggests that board connections help facilitate a value-enhancing deal process for targets in the market for corporate control.

In the last chapter of my dissertation, We evaluates the information leakage in M&As by examining the correlation between the abnormal trading activities before merger and acquisition (M&A) announcement. Using hand-collected data on the M&A private negotiation process, We find that the abnormal trading activities start from the beginning of the merger negotiation. Moreover, the stock run-ups accumulated from the beginning of the negotiation is, on average, about twice as much as that estimated using the 42-day window period, which highlight a significant underestimation of stock run-ups in prior studies. In addition, the abnormal trading activities are significant around the key event dates during the private negotiation period. These findings suggest that information leakage, rather than market anticipation, contributes to the abnormal trading activities. Evidences suggest that financial advisor and institutional investors contribute to the abnormal trading activities.

Chapter 1

Learning to Negotiate Takeovers? The Role of Target CEO Experience

1.1   Introduction

Agents of target firms are seldom passive during mergers and acquisitions (M&A) and Chief Executive Officers (CEOs) play a central role in the process (e.g., Graham, Harvey, and Puri, 2015). Target CEOs often have informal discussions with their prospective counterparts before initiating the formal process that involves other important firm stakeholders, and lead the efforts of targets actively seeking buyers or conducting private auctions (e.g., Hartzell, Ofek, and Yermack, 2004; Boone and Muhlerin, 2007; Masulis and Simsir, 2015). Therefore, it seems sensible that the ability of target CEOs to navigate the merger process should be key to its fruition and effects for the target shareholders.

Based on the principle that learning from experience leads to superior economic outcomes (e.g., Lucas, 1988; Hax and Majluf, 1982; Henderson, 1968; Arrow, 1962), we posit that the CEO's prior exposure to takeovers increases her ability to achieve superior outcomes for her shareholders when their firm becomes a target. Several studies examine the effects that takeover experience of acquiring firms and CEOs has on their acquisition behavior and performance.[1] However, no existing study focuses

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[1] The evidence generally shows that serial acquirers earn progressively lower returns, but the economic mechanism driving this empirical regularity remains a matter of debate, as discussed at the end of this section.

on the role of the target CEO's experience with takeovers. Our empirical analysis aims to fill this gap in the literature.

Consistent with our main conjecture, in a sample of 932 M&A deals between U.S. listed companies from 2000 to 2014, we find that offer premiums are higher when the target CEO has prior exposure to takeovers while in senior management positions during her professional life. Our empirical estimates of target CEO experience premiums in takeovers are statistically significant and economically large. The incremental premium associated with target CEO M&A experience is nearly 10 percentage points, an increase of 25 (30) percent relative to the unconditional mean (standard deviation) of takeover offer premiums in our sample.

The premise of our maintained hypothesis is that learning by experience indeed occurs and has unique benefits in the context of M&A. Compared to inexperienced CEOs on the receiving end of takeover offers, target CEOs with prior M&A exposure should have more direct appreciation of the value, tax, and risk tradeoffs associated with takeover offer terms for target shareholders (e.g., Brown and Ryngaert, 1991; Rappaport and Sirower, 1999; Rhodes-Kropf and Vishwanathan, 2004). While merger advisors can serve an important role in this regard, the evidence suggests that their effectiveness is often hampered by conflicts of interests (e.g., Allen et al., 2004; Becher et al. 2015, Becher and Juergens, 2010; Agrawal et al., 2013). Therefore, the ability of the target CEO to navigate the takeover process and independently assess its consequences should be of first order importance for the welfare of her shareholders.

Nonetheless, there are other potential explanations of our baseline results that would not require the target CEO's learning from her M&A experience. Our baseline

evidence may spuriously reflect a correlation between target CEO and firm M&A experience, or the fact that experienced CEOs select to lead firms likely to become targets that would command higher premiums. The evidence, however, does not support these explanations. In particular, at odds with explanations based on the overlap of CEO and firm experiences, we obtain similar results when we explicitly control for target firm experience or drop CEOs whose merger experience solely stems from their recent tenure with the target firms. Moreover, inconsistent with the target CEO's job-selection explanation, we obtain similar results when we drop recently appointed target CEOs who had M&A experience coming into the job. Further exploiting the fact that our measure reflects the full history of CEOs' takeover experiences in senior management appointments, we find that the experience premium is significant whether a CEO accumulated such experience inside or outside the current target firm.

Another possibility is that the target CEO experience premium reflects ex ante selection by potential bidders that can offer higher takeover premiums. We conduct several tests to assess this possibility and find no evidence to support it. To begin, using a matched-control sample approach, we construct a measure of 'abnormal' M&A experience for the current target CEO. We find no evidence that experience premiums depend on whether the current target CEO M&A experience is abnormally high. Moreover, when we instrument for target CEO's exposure to mergers using the matched non-target CEO experience, we obtain estimates in line with our baseline evidence. We next examine whether target CEO experience can explain bidder and total wealth gains or their relation with target wealth gains. Although we find that target CEO experience is positively associated with target wealth gains consistent with our

baseline results, we find no evidence that it explains bidder or total gains. When we adopt the testing framework of Berkovitch and Narayanan (1993) based on the relation of bidder and total gains with target gains, the evidence indicates that the takeover motives of bidders do not vary with whether the target CEO has prior exposure to mergers. Overall, these results suggest that ex ante selection by bidders is unlikely to explain the higher takeover premiums offered to target firms led by CEOs with M&A experience.

While the M&A experience of target CEOs seems intrinsically valuable during takeovers, our baseline results cannot discriminate whether experience premiums stem from learning or innate ability, as Croci and Petmezas (2009) suggest for bidder CEOs. To this end, we test contrasting predictions associated with the two mechanisms. First, we examine the relation between the experience premium and the extent of the CEO's prior exposure to M&A. In line with Ebbinghaus' (1885) classic arguments and subsequent research in economics, we find evidence consistent with concave learning curves, whereby some experience suffices to attain the full benefits of prior exposure to the merger process. These results are instead at odds with the idea that M&A experience should increase with the latent innate ability of CEOs.

Next, we investigate whether the experience premium depends on the typical success enjoyed by the CEO in her prior takeover experiences. Consistent with learning but not with innate ability, we find no significant differences in experience premiums between target CEOs with least successful takeover histories and other experienced CEOs. Furthermore, the professional or education background of the target CEO cannot explain the incremental takeover premiums associated with her M&A experience. Yet,

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her prior experience on the receiving end of takeover offers commands a larger incremental premium. Overall, these results support the conjecture that the target CEO experience premium in mergers stems from skills and expertise that the CEO gains as a result of her prior dealings in M&A.

In the second part of our analysis, we broaden our focus on the M&A process to shed light on the economic tradeoffs that make the CEO's learning from experience valuable when her firm becomes the target of a takeover. The first question that we explore is whether target CEO experience explains takeover offer price revisions. Supporting the idea that experienced CEOs develop superior haggling skills, our results show that the experience premium is partly due to higher offer price revisions when the target CEO has prior exposure to takeovers. Moreover, consistent with more efficient bargaining, the effect of CEO experience on offer price revisions depends largely on the opening offer premium. For instance, when initial offer premiums are one standard deviation below the sample mean, the effect of experience on price revisions is twice as large as the effect at the mean. By contrast, we find no relation between initial premiums and price revisions for target CEOs without M&A experience.

We next examine whether target CEO experience affects other important features of takeover offers and their potential tradeoffs against premiums. The results of these tests show that target CEO experience does not lead to more frequent tender offers or target termination fee provisions. Notably, however, we do find that target CEOs with takeover experience receive offers systematically tilted toward cash payments. This is noteworthy because the payment method directly affects the risk and tax consequences of takeover offers and thus, together with premiums, their value for target shareholders

(e.g., Rhodes-Kropf and Vishwanathan, 2004; Rappaport and Sirower, 1999; Brown and Ryngaert, 1991).

Therefore, in a simultaneous equations framework, we directly test whether target CEO experience premiums are affected by other features of takeover offers. Our results indicate that target CEO experience affects the tradeoff underlying takeover offers with respect to offer premium and method of payment. In particular, we find no evidence that experience premiums stem from cash offers, which rules out a tax tradeoff explanation for the effect of CEO experience on offer premiums. Instead, we find that target CEO experience premiums increase with the proportion of bidder equity in the offer consideration. Namely, while the experience premium estimate in all-cash offers is five percent and not statistically significant, it increases significantly to more than 18 percent when the offer consideration includes no cash. This evidence suggests that experienced target CEOs obtain higher premiums that compensate their shareholders for valuation risks associated with equity-swaps in mergers.

In our last set of tests, we examine whether target CEO experience explains outcomes of the takeover process that should be affected by the CEO's ability to negotiate efficiently. We first test whether CEO experience explains the degree of hostility or competition in takeover contests. While we find no evidence that target CEO experience gives rise to more frequent non-friendly contests, the results show that the likelihood of receiving offers from multiple bidders increases with CEO experience. Together with our earlier results, this evidence suggests that the experience premiums may be partly due to the target CEOs' ability to foster competition when opening (public) bids are particularly low. We next examine the effect of CEO experience on

the ultimate fruition of the takeover process. Although target CEO experience neither reduces nor increases the likelihood that the firm is ultimately acquired, we find that CEO experience is associated with shorter contest completion lags after the target is first put-in-play. Therefore, rather than stalling to a breaking point, experienced target CEOs seem able to negotiate superior terms while also navigating the process to a faster resolution.

Overall, we conclude that the prior M&A exposure of CEOs is valuable for their shareholders when their firms become takeover targets. In particular, CEO experience leads to superior outcomes for target shareholders with respect to the tradeoff between takeover premiums and payment method. Namely, when their CEO is experienced, target shareholders receive either safer cash offers or higher premiums as the fraction of bidder equity in the offer consideration increases. These benefits do not appear to require other contractual concessions, or to come at the cost of increased hostility and reduced likelihood of completion of takeover contests. In fact, if anything, target CEO M&A experience is associated with faster (public) negotiations, which further reduce the risk borne by target shareholders.

Our study contributes to several strands of the literature. At a general level, we contribute to the broad research in psychology and several fields of economics on the consequences of 'learning-by-doing'. Dating back to Ebbinghaus (1885), researchers have traditionally posited that albeit valuable, learning by experience is characterized by decreasing marginal benefits (e.g., Lucas, 1988; Henderson, 1968; Arrow, 1962; Bills, 1934). Consistent with this literature, in the context of corporate decision-making,

we show that the M&A experience of CEOs that become takeover targets is valuable and that indeed the implied learning curve is markedly concave.

We also add to the corporate finance research that relates corporate decision-making to CEOs' personal and professional experiences. In particular, existing studies show that firm risk-taking reflects CEOs' life experiences such as marital status (Roussanov and Savor, 2014), political affiliation (Hutton et al., 2014), military experience (Benmelech and Frydman, 2015; Malmendier et al., 2011), as well as exposure to extremely negative economic and natural events (Bernile et al., 2016; Schoar and Zuo, 2013; Malmendier et al., 2011). Relatedly, Malmendier and Tate (2008) conclude that the acquiring CEOs' propensity to pursue risky value-destroying acquisitions reflects life and educational experiences that fuel overconfidence. Our results contribute to this literature by showing that CEOs can in fact learn from M&A experience to achieve superior negotiation outcomes when their firms become takeover targets.

Last but not least, we provide a novel contribution to the merger literature. Prior studies extensively examine the effects of M&A experience on the behavior and performance of acquiring firms and CEOs. The recurring evidence is that serial acquirers earn progressively lower returns, seemingly at odds with learning. Yet, the economic forces underlying this pattern remain a matter of debate. Fuller et al. (2002), Malmendier and Tate (2008), and Billet and Qian (2008) propend for overconfidence and hubris explanations. Ahern (2010) suggests an explanation based on decreasing returns to scale. Notwithstanding the pattern in announcement returns, Aktas et al. (2009, 2011, and 2013) report evidence consistent with learning by serial acquirers. We

add to this line of research by showing for the first time how target CEO M&A experience affects takeover negotiation outcomes. One benefit of our focus on target CEOs is that it provides a cleaner setting in which to assess the role of learning from M&A experience.

The rest of the paper proceeds as follows. Section 2 provides details about our main variables, data sources, and sample characteristics. In Section 3, we document the target CEO experience premium in mergers and describe the results of several tests that we conduct to evaluate plausible explanations of our baseline evidence. In Sections 4 and 5, we discuss the evidence related to the effects of target CEO experience on the negotiation of offer terms and on the takeover process. In Section 6, we summarize our analysis and conclusions.

1.2   Sample, Data Sources, and Main Variables

Our sample includes M&A offers for U.S. targets between January 1, 2000 and December 31, 2014 in the *Securities Data Corporation's (SDC) U.S. M&A Database*. We require that both target and bidder firms be publicly traded, and that the offer be for more than 50% of the target outstanding shares. We further restrict the sample to targets and bidders that have at least 200 trading day returns in *CRSP* leading to the offer announcement, and positive book values of assets and equity in *Compustat* as of the last pre-offer fiscal yearend. In addition, we require that the target CEO's work history be available in *BoardEx*. As shown in Appendix A, this yields a final sample of

932 unique attempted deals in 912 unique takeover contests that have non-missing data in *SDC*, *BoardEx*, *CRSP*, and *Compustat*.[2]

The key variable of interest in our empirical tests is the CEO's prior experience with the M&A process when her firm becomes target of an acquisition. To construct this measure, we collect the target CEO's history of senior management appointments (e.g., executive, director, or equivalent level) from *BoardEx*. We focus on senior management appointments because it is more likely that the CEO would gain knowledge of the merger process in such positions – as opposed to lower level positions. We then merge firms in the CEO's senior management appointment history with the set of firms making or receiving M&A offers between 1980 and 2014, where the bidder sought to acquire a control stake and the deal status is known.[3]

We define a CEO as having relevant M&A experience on date *t*, if she was ever in a senior management position while her firm made or received a takeover offer between January 1980 and *t*. For the 932 (912) unique attempted takeover deals (contests) in our sample, we identify target CEOs as having prior M&A experience in 756 (737) cases.

For the CEOs identified as having M&A experience, we construct various other measures to differentiate those experiences. In particular, we identify: the number of unique M&A offers the CEO experienced (*Target CEO Experience Number*); whether the CEO gained the experience while in the senior management of the current target (*Only Inside Experience*, *Only Outside Experience*, and *Inside & Outside Experience*);

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[2] For robustness, we repeat all our tests using only takeover offers for full control of the target, where the bidder owns less than 50% prior and aims to own 100% of the target equity after the deal.
[3] To obtain a complete history of M&A's experiences in the senior management appointment history of the CEO, we match the *BoardEx* and *SDC* records manually by using company names.

and whether she was in a deal on the receiving end of the offer (M&A *Experience as*

Target), between publicly traded firms (*M&A Experience in All Public Firm Deals*), or

while appointed as CEO or CFO of the target or bidder (*M&A Experience as CEO or*

CFO). Lastly, when feasible – 655 cases out of 756, we characterize the 'quality' of

the CEO's experience using the market reaction to the deals where she was involved.

In particular, for each deal involving listed firms in the CEO's senior management

history, we measure the market-adjusted three-day return around the deal

announcement. We then compute the mean market reaction across deals in the CEO's

M&A history and construct three alternative indicators of *Poor Experience* based on

whether the mean is: below the median; or in the bottom quartile of our sample; or

negative.

1.2.1 Descriptive statistics

Table 1.1 reports the sample mean and standard deviation of variables related to

target CEO M&A experience. Across the 932 unique attempted deals in our sample, 81

percent of target CEOs have some prior M&A experience, at a mean (median) number

of past deals of 6.4 (3). While four fifths of target CEOs in our sample have some M&A

experience, those experiences are quite diverse. Among the 756 deals where target

CEOs have prior M&A experience, the CEO gained such experience exclusively as a

result of her senior management appointments at (outside) the current target firm in 35

(23) percent of cases. Approximately 40 percent of CEOs with experience have been

on the receiving end of a takeover offer before the current one and half have prior

experience in deals involving all listed companies. The overwhelming majority of

CEOs with M&A experience gained it while serving as CEO or CFO of the relevant

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firm. There is also large variation in the typical performance of prior acquisitions in which the CEOs were involved. In particular, the mean acquisition performance is negative in 40 percent of the (655) cases where we can measure announcement returns of the firm employing the CEO in a senior management position at the time of the acquisition.

[Insert Table 1.1 here]

Our primary objective is to assess the role of target CEO experience in merger negotiations. However, CEO experience with mergers is likely correlated with other factors that can affect current merger outcomes. Therefore, to avoid spurious inferences, we control throughout our empirical analysis for a host of other CEO and firm characteristics that may be correlated with both CEO M&A experience and merger negotiation outcomes.[4] Appendix B provides details on data sources and construction of all variables used in our empirical tests.

Table 1.2 presents summary statistics for the full sample of M&A offers in columns (1-2), as well as for the two subsamples of offers where the target CEO has prior M&A experience or no experience in columns (3-4) and (5-6), respectively. Column (7) reports the univariate *t*-statistics for mean differences between the two subsamples. We report sample statistics for target CEO characteristics other than M&A experience in Panel A, for bidder and target firm pre-offer characteristics in Panel B,

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[4] A separate and important question is whether target CEO M&A experience is in fact exogenous in our sample or endogenously selected by bidding firms. In Section 1.3.1, we discuss this issue and present the results of the empirical tests we conduct to address it.

for offer level characteristics in Panel C, and for contest level characteristics in Panel D.

[Insert Table 1.2 here]

With few exceptions, the univariate statistics in Table 1.2 support the notion that target CEO M&A experience varies systematically along important dimensions that may explain merger negotiation outcomes. Compared to inexperienced CEOs, target CEOs with M&A experience tend to have longer tenure as CEO and are more likely to be US-born, have CFO experience, and hold a college degree from a high ranked institution. Moreover, when the target CEO has M&A experience, both bidder and target firms tend to be larger, have more volatile returns, rely less on debt financing, and have better operating performance prior to the deal. Importantly and perhaps unsurprisingly, the extent of target firm M&A experience is highly positively correlated with that of its CEO – an issue that we address explicitly in a number of ways in our empirical analysis.

Germane to the aim of our investigation, the statistics in Panel C and D provide evidence that merger negotiation outcomes vary significantly with target CEO experience. When the target CEO has previously been involved in M&A deals, offer premiums and offer premium revisions tend to be significantly higher, and offers are more heavily tilted toward cash payments and more likely to be tender offers. Moreover, while both the target and the combined firm announcement returns are significantly higher when the target CEO has prior experience, there is no evidence that target shareholders' gains come at the expense of incremental losses for bidder shareholders.

Overall, the univariate evidence is suggestive of benefits to target shareholders stemming from their CEO's prior experience with the merger process. Nonetheless, it is hard to draw conclusive inferences from these univariate tests due to the numerous other differences between the two samples. In the remainder of our analysis, we assess the robustness of this prima facie evidence as well as shed light on the underlying trade-offs and economic mechanisms.

1.3   Target CEO M&A Experience and Offer Premiums

In this section, we first discuss the results relating to the effect of target CEO M&A experience on merger premiums, arguably one of the most important outcomes of the merger process for target shareholders. We then examine some alternative explanations for our baseline results, including the potential issue of endogenous selection by acquirers. In subsequent sections, we investigate whether other features of the merger process depend on CEO experience and can explain the equilibrium relation between CEO experience and merger premiums.

1.3.1 Baseline results

Our main conjecture is that target CEO experience with mergers enhances her bargaining ability in merger negotiations and leads to superior outcomes for target shareholders. In our baseline analysis, we test this conjecture by examining the reduced-form effect of CEO experience on merger premiums. To this end, we estimate the following model at the bidder-target offer level:

$$Premium_i = \alpha + \beta \times Target\ CEO\ M\&A\ Experience_i +$$

$$+ \gamma \times Controls_i + \theta_{year} + \theta_{FF12} + \varepsilon_i \qquad (1)$$

where *Premium* is the final price offered by the bidder in deal *i* divided by target stock price as of 4 weeks before announcement minus one, the target CEO experience is as previously defined, and the set of deal-level *Controls* includes all of the CEO, target, and bidder characteristics in Panels A and B of Table 1.2. To absorb time- and industry-invariant unobservable factors, we include deal year and target Fama-French 12 industry fixed effects – θ_{year} and θ_{FF12}, respectively.

Table 1.3 reports OLS estimates of the coefficients of interest in equation (1) above, as well as *t*-statistics based on two-way clustered standard errors by industry and year that account for correlations in merger premiums across market conditions and industries. We include only fixed effects in column (1), add firm level controls in column (2), and further control for the target firm M&A experience in column (3).

[Insert Table 1.3 here]

The full sample results in Panel A of Table 1.3 show that there is a statistically significant positive relation between offer premiums and target CEO M&A experience across all model specifications. The estimated effect of CEO experience is economically sizable. In column (2), holding all else constant, average offer premiums relative to pre-offer stock prices are almost 10 percentage points higher when the target CEO has previous experience with M&A in senior management positions. This effect corresponds to an increase of about 25 (30) percent of the takeover offer premium unconditional mean (standard deviation) in our sample.

One potential concern with the estimates in column (2) is due to the correlation between target CEO and target firm M&A experiences. It may be that the effect we

document is a reflection of increased firm organizational capital as opposed to CEO human capital resulting from M&A experience. Moreover, Mitchell and Lehn (1990) show that firms engaging in value destroying acquisitions are more likely to later become takeover targets. Therefore, it is conceivable that the target CEO experience premium in column (2) partly reflects a valuation reversal of earlier value-destroying acquisition activity by the target. Both of these arguments imply that the CEO experience premium is a spurious effect due to the target firm M&A experience. We attempt to address this concern in several ways.

To begin, we augment the baseline model in column (2) by explicitly controlling for target firm M&A experience in column (3). The evidence in column (3) does not support the idea that the CEO experience premium is a spurious reflection of effects associated with target firm M&A experience. In fact, if anything, the estimated CEO experience premium is larger when we control for firm experience. In particular, merger premiums are on average 13% higher when the CEO has prior M&A experience gained with another firm in her work history and the current target has no experience. In contrast, the combined effect is only about 6% when both the CEO and the firm have prior experience. In Panel B, to further purge the effect of recent overlapping target CEO and firm M&A experiences, we drop observations where the CEO experience stems exclusively from the firm's acquisition activity in the two years prior to becoming a target. Across all specifications in Panel B of Table 1.3, we obtain results that are very similar to those in Panel A. This evidence altogether suggests that the positive effect of target CEO experience on premiums is distinct from the effect of firm experience.

Another potential concern is that CEOs with M&A experience preemptively select to work for firms likely to become targets that would command higher takeover premiums. If so, the CEO experience premium spuriously reflects the CEO's selection ability rather than any beneficial effect of CEO experience for target shareholders. To address this concern, in Panel C of Table 1.3, we drop offers where the target appointed the CEO with prior M&A experience within 3 years of the current takeover contest. Once again, across all model specifications in Panel C, we obtain results that are very similar to those in Panel A for the full sample. Thus, the evidence is not consistent with the idea that CEO experience premiums in mergers reflect the ability of recently appointed CEOs to preemptively select attractive likely targets.

Next, we examine more directly whether the CEO experience premium in mergers depends on the origin of the experience. In particular, we segment CEOs with experience by whether their M&A exposure is gained while in senior positions at the current target, at firms other than the current target, or both. Table 1.4 reports the results of this analysis.

[Insert Table 1.4 here]

Regardless of whether we control for CEO tenure, we find that all types of CEO M&A experience are associated with positive, large, and statistically significant incremental merger premiums. Although the estimated effect is larger in the case of CEOs with only outside experience compared to other experience types (i.e., more than 15 versus less than 11.5 percent), we cannot reject the hypothesis that effect of CEO experience is independent of the origin of the CEO's M&A exposure. This evidence further supports the idea that the CEO experience premium is likely the result of CEO

exposure to the merger process rather than a reflection of the target firm's past acquisition experience or the CEO's ability to select attractive likely targets.

Another concern with our baseline results is that they may reflect endogenous selection by potential bidders. In particular, bidders' propensity to pursue acquisitions of firms led by CEOs with M&A experience may increase with the ability to afford higher premiums. This implies that the bidder's ex-ante willingness to pay higher premiums rather than the CEO's negotiation ability related to her merger experience explains the target CEO experience premiums. This explanation, however, naturally raises a question about the economic mechanism that leads bidders to behave this way. A sensible answer seems to be that potential bidders anticipate tougher bargaining by target CEOs who have prior M&A experience, in line with our maintained hypothesis. Notwithstanding, we conduct several tests to examine the implications of this line of reasoning.

We begin by taking as given the bidder's decision to acquire a firm similar to the current target and test whether the choice to deal with an experienced CEO explains our baseline results. If the bidder's choice to deal with experienced target CEOs reflects a willingness to pay higher premiums, then we would expect the CEO experience premium to be higher when a viable acquisition alternative does not exist. To test this prediction, we construct a matching non-target CEO measure that captures the M&A experience of the CEO of a comparable potential target firm. Specifically, we define an indicator variable that equals 1 if the CEO of the matching firm has M&A experience, where the control subject is the firm: a) in the target Fama-French 48 industry; b) not

involved in an M&A in the year prior and following the current takeover contest; and c) with asset book value closest to the target.

[Insert Table 1.5 here]

Table 1.5 reports the results of two separate tests. In column (1), we augment our baseline specification to include the 'abnormal' target CEO M&A experience (i.e., target CEO experience *minus* matching non-target CEO experience). In columns (2-3), we instead report limited-information maximum likelihood estimates of a simultaneous equation system where we instrument for the selected CEO M&A experience with the experience of the matching non-target CEO. The evidence in column (1) of Table 1.5 shows that the CEO experience premium is not significantly related to the CEO 'abnormal' experience. This is not consistent with the idea that the bidder willingness to pay a premium should decrease with the availability of potential targets whose CEOs are less experienced. Similarly, although the estimated structural effect of CEO M&A experience on merger premiums is somewhat higher in column (3), its magnitude is roughly comparable to our baseline estimates.

We next take as given the bidder's decision to deal with the CEO of the current target and test whether bidder acquisition motives vary with target CEO M&A experience. Bidder willingness to pay higher premiums should increase with expected combined gains from the merger. This line of reasoning implies that the endogenous selection of experienced target CEOs should be associated with higher combined gains and possibly bidder gains. In Panel A of Table 1.6, we test this prediction using merger announcement returns as a measure of expected gains. Confirming the earlier premium-based results, in columns (1) and (2), we find that target announcement returns are

significantly higher, approximately 6 percent, when target CEOs have prior exposure to M&A. However, we find no evidence that target CEO experience is related to the bidder or combined firm gains. This evidence seems at odds with explanations of the target CEO experience premium as stemming from bidder ex-ante selection related to merger synergies.

[Insert Table 1.6 here]

Synergies, however, may not be the key motive behind M&A and thus the main determinant of bidder insiders' willingness to pay higher premiums. Two possible alternative motives are managerial hubris (e.g., Roll, 1986) and agency conflicts (e.g., Shleifer and Vishny, 1989; Jensen, 1986; Amihud and Lev, 1981), which may lead bidders to 'overpay' for M&A targets. We adopt the testing strategy of Berkovitch and Narayanan (1993) to assess whether bidder motives vary significantly by target CEO M&A experience. In particular, we examine whether the relations between target dollar wealth gains and bidder or combined dollar wealth gains depend on target CEO's prior exposure to mergers. The logic of Berkovitch and Narayanan's empirical strategy implies that if bidder motives vary significantly with target CEO M&A experience, then the correlations between target gains and bidder or combined gains should vary by target CEO experience.

Panel B of Table 1.6 reports the results of this analysis. The upper block of the panel, models (A-C), shows the estimates obtained independent of target CEO experience. It is noteworthy that our estimates are remarkably similar to those reported in Berkovitch and Narayanan (1993). Although the full sample estimates suggest systematic transfers of wealth from bidder to target shareholders (i.e., hubris), this

inference largely depends on total wealth effects. Similar to the conclusions of Berkovitch and Narayanan, our evidence is consistent with synergistic motives when total gains are positive and agency motives when total gains are negative.

More important for our purposes, we find that there are no substantial differences when we segment the sample by target CEO M&A experience in the lower block of Panel B, models (D-I). Consistent with earlier results, the residual wealth gains of target shareholders (i.e., estimated α's) are systematically larger when the CEO has prior exposure to mergers. However, the correlations between target gains and bidder or combined gains consistently have the same signs and roughly the same magnitude for the subsamples of target CEOs with and without M&A experience. This evidence indicates that bidder motives are unlikely to vary systematically with the target CEO's prior exposure to mergers.

In summary, our baseline evidence shows that a takeover target obtains higher premiums when its CEO has prior exposure to the M&A process in senior management positions. The target CEO experience premium in mergers does not seem to be a spurious reflection of target firm experience, nor does it appear to reflect the target CEO's ability to select to join attractive likely targets. Furthermore, we find no evidence to suggest that the CEO experience premium stems from endogenous selection to deal with experienced target CEOs by bidder firms that are willing to pay higher premiums in the first place.

Overall, there appear to be intrinsic gains to shareholders from CEO M&A experience when their company becomes target of a takeover attempt. In the remainder

of this section, we examine the potential sources of the CEO experience-related advantage enjoyed by target shareholders.

1.3.2 Target CEO M&A experience premium: learning or innate ability?

Although CEO M&A experience seems intrinsically valuable for shareholders of target firms, a natural question remains as to the origin of this value. Our main conjecture is that the benefits of exposure to mergers stem from learning the skills that lead to superior outcomes in merger negotiations, which are likely different from skills that make the CEO of a going-concern successful. However, similar to Croci' and Petmezas' (2009) argument for bidder CEOs, target CEO experience may simply reflect innate M&A skills. An important challenge in our context is differentiating between the effects of learning versus innate ability. To this end, we conduct a series of tests for which learning- and innate ability-based explanations have reasonably distinct predictions.

To begin, we examine whether the extent of target CEO's prior exposure to mergers affects the documented M&A experience premium. If M&A experience is a proxy for CEO innate skills that are valuable in the merger process, more skilled individuals should have greater exposure to M&A. This implies that, all else constant, the CEO experience premium should increase linearly or perhaps at increasing rates with the extent of her M&A exposure. Conversely, rooted in Ebbinghaus' (1885) classic arguments, researchers in psychology, economics, and management have long posited concave learning curves whereby experience yields decreasing marginal returns (e.g., Hax and Majluf, 1982; Henderson, 1974, 1968; Bills, 1934). As such, if

the CEO experience premium is due to learning, we expect that the underlying relation should be concave.

Table 1.7 reports the results of our analysis of the relation between takeover premiums and the extent of target CEO M&A experience. The structure of these tests is similar to our baseline analysis, except that we allow for nonlinearities in the relation between the extent of target CEO experience sorted by ascending order into terciles and offer premiums. We allow for a quadratic functional form of the experience-premium relation in column (1), whereas we adopt a less restrictive function specification in column (2).

[Insert Table 1.7 here]

Consistent with the learning curves traditionally posited, the evidence in Table 1.7 suggests the existence of a concave relation between the extent of target CEO M&A experience and takeover premiums. The results in columns (1) and (2) show that there is a statistically significant incremental premium associated with some CEO experience as opposed to none. In the first tercile of target CEO M&A experience, the estimates imply incremental premiums between about 10 and 14 percent depending on the assumed functional form. However, further experience seems to yield no significant incremental benefits. Therefore, given that the highest number of prior deals in the first tercile of target CEO experience is 3, it appears that the gains from learning about the M&A process are rather immediate.

To further distinguish between learning- and ability-based explanations, we next exploit the variation in the type of M&A experiences among target CEOs. We first

focus on the degree of success experienced by the target CEO in past deals that she was involved in while in senior management positions. Ability-based explanations suggest that the CEO experience premium should be more predominantly concentrated among target CEOs who experienced greater success. In contrast, gains from learning should be associated with both positive and, perhaps to a greater degree, negative experiences. As previously discussed, we construct three proxies for the degree of success in the CEO's M&A history using the mean announcement returns experienced by her shareholders in those past deals. Each proxy is a categorical variable that identifies to various degrees the most unsuccessful CEO experiences.

[Insert Table 1.8 here]

The evidence in columns (1-3) of Table 1.8 lines up with explanations based on learning. In particular, suggesting that even negative experiences are valuable, target CEO experience is associated with significantly higher takeover premiums independent of the typical performance of deals that she was involved in while in senior management positions. In fact, inconsistent with the predictions of innate ability-based explanations, we find that even the most negative CEO M&A experiences are not significantly less valuable when a firm becomes the target of a takeover attempt.

In the remainder of Table 1.8, we examine whether the target CEO experience premium depends on the degree to which the CEO's prior exposure to mergers resembles the current takeover attempt. Namely, we test whether M&A experience premiums increase when the target CEO was previously (a) on the receiving end of takeover offers, (b) involved in publicly traded firms' deals, or (c) acting CEO or CFO during a takeover.

The evidence in columns (5) and (6) of Table 1.8 indicates that there is no incremental experience premium associated with the CEO having been involved in deals where both firms were listed or she was acting as CEO/CFO of the firm, respectively. This suggests that gains from learning about mergers arise insofar the current target CEO was reasonably exposed to the intricacies of negotiating a takeover deal, even if the institutional setting was different or she did not directly control the process. Notably, however, we find that having prior M&A experience on the receiving end of takeover offers is incrementally valuable. The estimates in column (4) imply that the experience premium increases by nearly a quarter, from 11.9 to 14.2 percent, if the target CEO occupied senior positions at firms that were targets of takeover attempts. This suggests that there is added value from CEO exposure to elements of the takeover process peculiar to the selling side in corporate control transactions.

Similar to innate skills-based arguments, it is possible that target CEOs with exposure to mergers acquired relevant M&A skills during their educational or professional life. If so, then our measure of CEO M&A experience may simply proxy for skills that she acquired independently of her actual exposure to mergers. To assess this possibility, we explore whether the CEO experience premium in takeovers depends on the target CEO's educational and professional background unrelated to mergers. In our tests, we focus on professional experiences related to the finance profession, because these seem more germane to the merger process, as well as on whether the CEO holds a graduate degree in business administration or a degree from a top university. Table 1.9 reports the results of this analysis.

[Insert Table 1.9 here]

The evidence in Table 1.9 indicates that our baseline inferences on target CEO experience premiums hold across various educational or professional backgrounds. In particular, target CEO M&A experience is associated with significantly higher takeover premiums whether or not the CEO has experience in the finance profession, holds an MBA, or graduated from a top institution. Moreover, with the exception of MBA degrees, the CEO background characteristics do not appear to have statistically significant effects on takeover premiums or on their relation with target CEO experience.

Overall, the evidence discussed in this section consistently supports the idea that there are gains from learning for CEOs exposed to the merger process prior to becoming takeover targets. The results indicate that the marginal returns of M&A experience are decreasing and that experience is valuable independent of past M&A success, in line with theories of learning and inconsistent with innate ability-based explanations. Moreover, consistent with learning-by-doing, the experience premium is higher when the CEO was previously on the receiving end of takeover offers and it is independent of her educational or professional backgrounds.

1.4 Target CEO M&A Experience and Takeover Negotiations

The evidence so far shows that target CEO M&A experience results in higher takeover premiums and, consistent with learning, this effect seems to originate directly from the CEO's exposure to the merger process. In this section, we examine whether target CEO experience more broadly affects the contracting that takes place in merger

negotiations. We begin by exploring the relation between target CEO experience and takeover premium revisions. We then investigate the effect of CEO experience on other important terms of takeover offers. Lastly, in a simultaneous-equation framework, we examine whether target CEO experience affects the equilibrium trade-offs underlying takeover premiums and other offer terms.

1.4.1 Offer premium revisions

The baseline evidence indicates that the final premiums offered in M&A deals are higher when the target CEO has prior exposure to the merger process. Our main conjecture is that these incremental premiums reflect the CEO learning to negotiate more effectively as a result of her M&A experience. A natural question related to our maintained hypothesis is whether the CEO experience premiums in final offer prices are the result of higher initial offer premiums or larger offer premium revisions once a target is put-in-play.

If M&A experience improves target CEOs' effectiveness in merger negotiations, then takeover offer price revisions should be directly related to the CEO's prior exposure to the merger process. This effect, however, should be inversely proportional to the CEO's ability to obtain higher initial offer premiums during private negotiations that typically take place before her firm is put-in-play (e.g., Boone and Muhlerin, 2007).

Table 1.10 reports the results of our tests of the predictions related to takeover premium revisions. The dependent variable of interest is the proportional change in offer price from the first to the final bid. We compute offer price revisions at the bidding firm level in columns (1-3) and at takeover contest level in columns (4-6). In addition to all of the standard pre-offer controls, we augment the baseline model specifications

by including the initial offer premium in columns (2-3) and (5-6), and its interaction with target CEO M&A experience in columns (3) and (6).

[Insert Table 1.10 here]

The evidence in Table 1.10 is consistent with the idea that target CEOs with prior exposure to the merger process have a superior ability to haggle over takeover offer prices once their firm is put-in-play. The positive average effect of CEO experience on offer price revisions is significant at conventional confidence levels and economically large, between 1.82 and 1.36 percent of the deal (columns (1-2)) or contest initial offer prices (columns (4-5)), respectively. These estimates imply a marginal effect of CEO experience between one quarter and one third of the standard deviation of offer price revisions in our sample.

Equally important, the results in columns (3) and (6) of Table 1.10 show that the effect of CEO experience on takeover price revisions depends largely on opening offer premiums. In particular, the evidence indicates that target CEOs with M&A experience haggle more over takeover prices when opening offer premiums are lower. For instance, the contest level estimates imply that the marginal effect of CEO experience on offer price revisions more than doubles, from 1.55 to 3.3 percent, when opening offer premiums drop one standard deviation below the sample mean.

Overall, the evidence shows that target CEO experience premiums in takeovers are partly due to more aggressive haggling over offer prices after an initial bid is publicly announced. Moreover, in line with superior bargaining skills, the results suggest that

the target CEO's aggressiveness in public merger negotiations is inversely proportional to her ability to obtain higher opening offer premiums during private dealings.

1.4.2 Target CEO M&A experience and other features of takeover offers

To gain further insights on the role of CEO experience in merger negotiations, we next focus our analysis on other important aspects of takeover offers that may depend on target CEO's ability to navigate the merger process. This is important because theory suggests that equilibrium premiums are jointly determined with other features of takeover offers as a result of the tradeoffs that determine bidder and target payoffs (e.g., Brown and Ryngaert, 1991; Rappaport and Sirower, 1999).

Prior studies for example indicate that takeover premiums are higher when the offer consideration is more tilted toward cash payments (e.g., Ayers et al., 2003), the attempt bypasses target management via a tender offer (e.g., Schwert, 1996), or targets agree to termination fees (e.g., Officer, 2003). Therefore, in the next set of tests, we examine whether target CEO M&A experience also affects these features of takeover offers.

Table 1.11 reports reduced-form estimates for the effects of target CEO experience on offer terms other than takeover premiums. Column (1) reports tobit regression estimates of a model in which the dependent variable is the fraction of cash in the offer consideration. Columns (2), (3), and (4) report probit regression estimates of models in which the dependent variables are indicators for all cash offers, tender offers, and target termination fee provisions, respectively. Since target termination fees must be explicitly negotiated, the sample in column (4) excludes 219 offers identified in SDC as unsolicited or non-friendly.

[Insert Table 1.11 here]

The evidence in Table 1.11 shows that target CEO M&A experience plays a systematic role in the determination of takeover offer considerations, another broadly recognized key element of M&A deals. Both the fraction of cash offered and the likelihood of all cash offers increase when the target CEO has prior exposure to the merger process. The estimated effects reported in columns (1) and (2) are statistically significant and economically large. All else equal, the average fraction of cash offered increases by nine percent of the total consideration when the target CEO has M&A experience, a one quarter increase relative to the sample standard deviation. The marginal effect on the likelihood of all cash offers is comparably large.

In contrast with the method of payment results, we find no evidence that the likelihoods of bidders resorting to tender offers (column (3)) or targets agreeing to termination fees (column (4)) depend on target CEO's prior exposure to merger negotiations. Hence, consistent with our earlier inferences, it does not appear that bidders systematically select to deal with experienced target CEOs or bypass them via tender offers. Moreover, the target CEO experience premium does not appear to come at the cost of agreeing to a termination fee.

The fact that target CEO M&A experience affects the method of payment is particularly notable, given that the offer consideration structure should affect the valuation risk and tax consequences borne by target shareholders (e.g., Brown and Ryngaert, 1991; Rappaport and Sirower, 1999; Rhodes-Kropf and Vishwanathan, 2004). Namely, cash offers entail lower valuation risk but also have immediate negative tax consequences for target shareholders. This suggests that CEO M&A experience

could play a central role in determining efficient equilibrium takeover offers that balance these opposing effects for target sharheolders.

On the one hand, consistent with tax-based arguments, there is evidence that takeover premiums are higher in cash offers (e.g., Ayers et al., 2003, 2007; Burch et al., 2012). Therefore, our baseline target CEO experience premiums may simply reflect the higher propensity to negotiate cash payments by CEOs with prior exposure to the merger process, rather than directly negotiated higher premiums per se. On the other hand, target CEOs with M&A experience may have a deeper appreciation of the valuation risk associated with equity-swaps and negotiate higher premiums that would compensate shareholders for such risk.

To examine these issues, we adopt a simultaneous equation framework that can accommodate the joint determination of takeover premiums and other offer features. Our main focus, however, is on the structural effects of target CEO M&A experience on merger premiums, conditional on the choices pertaining to other aspects of the merger. To operationalize this analysis and identify the exogenous effects that other offer terms have on the experience premium, we instrument each offer term by reasonably exogenous factors that affect directly the deal feature in question but not the takeover premium.

Table 1.12 reports the results of the analysis that reflects the joint determination of takeover premiums and method of payment – columns (1-2) and (3-4), tender offer structure – columns (5-6), or target termination fees – columns (7-8). We estimate each mixed-process system of equations by limited-information maximum likelihood. Similar to Burch et al. (2012), we instrument for method of payment choices using the

bidder cash holdings prior to the takeover attempt, in columns (1) and (3). In the tender offer model in column (5), we use as an instrument the rate at which firms in the target industry received takeover offers during the year prior to the current offer. In column (7), similar to Officer (2003), we instrument for the inclusion of target termination fees using the inclusion of bidder termination fees.

[Insert Table 1.12 here]

The coefficient estimates in columns (1), (3), (5), and (7) indicate that the instruments adopted for each takeover offer feature are (empirically) relevant, in line with prior studies. The proportion of cash in the offer consideration and the likelihood of an all cash offer increase with the amount of cash held by the bidder ahead of the offer. The likelihood that bidders resort to tender offers increases when the target industry experiences higher levels of takeover activity and, thus, forcing the target management's hand due to potential competition may be a more pressing issue. The likelihood that a (negotiated) offer includes a target termination fee increases when a bidder termination fee is also present. Moreover, in all four models, both the sign and statistical significance of the estimated coefficients on target CEO experience is consistent with those reported for the single-equation models in Table 1.11.

Important for our purposes, the structural estimates in the premium equations indicate that target CEO experience affects some fundamental equilibrium tradeoffs that underlie takeover offers, especially with respect to method of payment choices. In columns (2) and (4) of Table 1.12, there is some marginally significant evidence that takeover offer premiums increase with the proportion of cash offered, consistent with tax-based arguments. However, we find no evidence that the effect of CEO experience

on takeover premiums is due cash offers. Thus, the evidence rules out tax-based arguments that our baseline CEO experience premium simply reflects a higher propensity to negotiate cash payments by CEOs with prior exposure to the merger process.

On the contrary, the incremental takeover premium associated with target CEO experience is significantly higher when offers are more heavily tilted toward equity-swaps. The implied experience premium in all cash offers is only about five percent – and not statistically significant based on untabulated Wald tests, whereas it is over 18 percent and statistically significant in offers whose consideration structure includes no cash. This evidence supports the argument that target CEOs with M&A experience obtain higher premiums to compensate their shareholders for the higher valuation risk associated with equity-swaps.

While the evidence in column (8) of Table 1.12 indicates that choices pertaining to target termination fees do not affect the CEO experience premium, the evidence in column (6) for the premium-tender offer system of equations is noteworthy. In particular, when bidders aim to bypass target management, the results indicate that the net effect of CEO experience on premiums is zero, but offer premiums are significantly higher unconditionally, almost 29 percent. This evidence is intuitively appealing because it suggests that CEO experience is less likely to play a role in (public) negotiations of takeovers when bidders make offers directly to the target shareholders.

Overall, the evidence indicates that target CEO M&A experience results in superior negotiation outcomes for target shareholders with respect to the risk-return trade-off associated with takeover premiums and payment method. Compensating them

for valuation risks, experienced target CEOs obtain for their shareholders either safer cash offers or higher premiums as the fraction of bidder equity in the takeover offer consideration increases.

1.5   Target CEO M&A Experience and the Merger Process

The evidence to this point indicates that target CEO M&A experience leads to superior negotiation outcomes for target shareholders. It is possible, however, that those benefits to target shareholders come at the cost of hampering the successful resolution of the process. If so, the ex post outcomes may not be as appealing for target shareholders as our earlier evidence suggests. In this last part of our analysis, we examine whether target CEO experience explains the level of hostility in takeover negotiations and, ultimately, the likelihood that the target firm is acquired.

To assess the effect of CEO experience on the hostility of merger negotiations, we focus on the attitude of the first bidder that publicly puts the target firm in play and on the degree of competition that ensues after the first bid. Table 1.13 reports the results of our tests conducted at the takeover contest level.

[Insert Table 1.13 here]

The evidence in Table 1.13 indicates that target CEO M&A experience may not have substantial effects on takeover contest hostility. In particular, the results show no statistically significant association between the likelihood that a contest begins with a non-negotiated offer and target CEO's prior exposure to mergers. To the extent that a non-friendly first offer follows failed private negotiations, it does not appear that experienced target CEOs' incremental demands lead to more likely private negotiations' breakdowns.

There is some indication that takeover contests involving target CEOs with prior M&A experience are significantly more likely to result in (public) bidding wars. In particular, the estimated coefficient in column (2) of Table 1.13 corresponds to an increase of approximately four percent in the predicted likelihood of multiple bidders at the mean when the CEO has M&A experience, a magnitude roughly one sixth of the sample standard deviation. Together with our earlier results about the effect of target CEO M&A experience on offer price revisions, this evidence suggests that experienced CEOs are more likely to attract competing bids that ultimately benefit target shareholders. Notwithstanding, we find no statistically significant relation between the actual number of competing bidders in a contest and target CEO M&A experience. The combined results in columns (2) and (3) suggest that bidding wars are fewer but more crowded when the target CEO has *no* experience, which may be due to those CEOs' inability to secure attractive first offers.

We next examine whether target CEO M&A experience affects the likelihood that the target firm is ultimately acquired and the speed at which the takeover process unfolds. Table 1.14 reports the results of this analysis, which like in the previous table is conducted at the contest level. Moreover, in the same table, we separately examine the subsample of negotiated contests, which excludes contests initiated by an unsolicited or non-friendly offer.

[Insert Table 1.14 here]

The evidence in columns (1) and (3) of Table 1.14 shows that there is no statistically significant association between target CEO M&A experience and the likelihood that the target firm is ultimately acquired once it is put-in-play. Thus, the

incremental premium or cash payment benefits obtained by experienced target CEOs do not appear to come at the cost of a decreased probability of takeover contests' successful completion. In fact, consistent with more efficient contracting, the results in columns (2) and (4) show that takeover contests come to successful resolutions in significantly shorter time when the target CEO has prior exposure to mergers. Specifically, the estimates in Table 1.14 imply that target CEO M&A experience reduces takeover completion lags by about one third of the sample standard deviation.

Overall, although our earlier results indicate that target CEOs with M&A experience drive harder bargains in takeover contests, the evidence in this section shows that target CEO experience does not hamper the successful resolution of takeover contests. On the contrary, the evidence implies that although they foster incremental takeover competition, experienced target CEOs also facilitate a faster resolution of successful takeover contests.

1.6   Summary and Conclusions

CEOs play a central role during takeover negotiations. However, the skills necessary to achieve superior takeover negotiation outcomes may be different from those that make the CEO of a going-concern successful, and this is especially true for CEOs of target firms. Thus, we conjecture that the potential learning stemming from a CEO's prior exposure to the takeover process can be valuable for her shareholders when their firm becomes a target. We test the implications of these arguments in a sample of 932 deals between 2000 and 2014.

Supporting our main conjecture, we find that takeover offer premiums are substantially higher when the target CEO has prior M&A experience. In a battery of

supplemental tests we evaluate other potential explanations for our baseline findings. However, we find no support for explanations that suggest target CEO M&A experience premiums may be due to the target firm M&A experience, job-selection by target CEOs, target-selection by potential bidders, or innate M&A skills of the target CEO. Our evidence instead consistently lines up with the learning hypothesis. When we expand the focus of our analysis, we find that the M&A experience of target CEOs more broadly affects the equilibrium tradeoffs underlying takeover offer negotiations and their outcomes.

Overall, we conclude that a CEO's prior exposure to takeover contests is valuable for her shareholders when their firm becomes a target. In particular, experienced CEOs are able to secure superior offers for target shareholders in terms of the risk-return tradeoff associated with the negotiation of takeover premiums and payment method. These benefits to target shareholders do not come at the cost of other contractual concessions or increased frictions in the takeover process. If anything, target CEO M&A experience appears to also facilitate a successful resolution of takeover contests at a faster pace.

Chapter 2

The Impact of Board Connections on M&As

2.1 Introduction

There is no consensus on how board connections affect the firms' takeover decisions. Some studies show that the board connections are beneficial to the acquirer shareholders in that connections allow firms to have better access to information (Cohen, Frazzini, and Malloy 2008; Schonlau and Singh, 2009; Gompers and Xuan, 2009; Cai and Sevilir, 2012), to learn from their network partners' experiences (Beckman and Haunschild, 2002), and to become more active in the market for control (Stuart and Yim, 2010; Renneboog and Zhao, 2014). On the other hand, connections may lead to flaws in decision-making and lead to value destruction. For example, Ishii and Xuan (2014) find that the existence of social ties between acquirers and targets are associated with negative market reactions, higher target board retention rates, higher probability of acquirer CEO receiving deal related bonus, and poorer post-deal performance.

One way to resolve the discrepancy is to examine the merger's searching and negotiation process. However, most of the above studies focus exclusively on merger outcomes[5] because of the lack of organized data on merger process. Investigating the

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[5] Most of the studies focus on the deal outcomes such as market reactions to deal announcements (Cohen, Frazzini, and Malloy 2008; Schonlau and Singh, 2009; Cai and Sevilir, 2012; Ishii and Xuan, 2014; Stuart and Yim, 2010; Renneboog and Zhao, 2014), post-deal operating and stock performance (Ishii and Xuan, 2014), as well as factors that link with the deal outcomes (Renneboog and Zhao, 2014; Cai and Sevilir, 2012).

merger process is crucial because it allows us to observe how a deal process evolves and how such a process facilitates improvement in economic efficiency. Starting from Boone and Mulherin (2007), researchers begin to investigate the private negotiation process, but mostly focus on comparing the auction to negotiations and the initiator of the deal[6]. To our knowledge, there is no study examining factors that affect deal process and efficiency.

In this paper, we study the impacts of board connections on M&A deals by focusing on the merger process, from the first date of the private negotiation to the consummate of the deal. We focus on the target firms because the information provided by the proxy statement is only based on the takeover targets[7]. The identities of the potential acquirers and the whole searching process for acquirers are not revealed.

Based on the proposition that connections can increase one's access to information, we posit that targets with well-connected boards are able to facilitate more efficient searching processes and achieve superior economic deal outcomes. Several studies have shown that CEO and directors may use their connections to gain personal benefit[8]. However, their incentive might be different when their roles shift from acquirers to targets. No study focuses on the target board connections and our study fills the gap in the literature.

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[6] Some research study how the deal started (Masulis and Simsir, 2015; Aktas, Bodt, Bollaert, and Roll 2016). They examine whether deal outcomes of target initiated deal different from that of acquirer initiated deals (Oler and Smith, 2008; Masulis and Simsir, 2015). Another trend of study focus on how a target sell its firm (Schlingemann and Wu, 2015; Anilowshi, Macias, and Sanchez, 2009; Boone and Mulherin, 2007).

[7] Definitions of each private takeover process variables are shown in Appendix D.

[8] See, for example, El-Khatib, Fogel, and Jandik (2015), Barnea and Guedj (2006), Ishii and Xuan (2014).

To begin with, we test how board connections affect the firms' merger likelihood. We calculated the board connections from *BoardEx* database and collected information about the deals private negotiation process from target proxy statement. Then we match the data to the *SDC* database by company names. We find that firms with well-connected boards are more likely to become takeover targets or acquirers. These findings are consistent with the information hypothesis that firms with more connections possess higher merger opportunities.

Then, we test the impacts of board connections on the deal process. We keep those deals of which the target proxy statement can be obtained from *SEC EDGAR* database. For a sample of 848 M&A deals from the Year 2002 to Year 2014, we find that targets with well-connected boards are associated with efficient selling processes and superior deal outcomes. Specifically, targets with more connections are more likely to be involved in acquirer initiated deals, contact more potential acquirers in the private auction process, and be acquired by connected acquirers.

In the next set of tests, we investigate whether the use of financial advisors can substitute the effect of board connections on obtaining superior outcomes. For example, Bowers and Miller (1990) find that financial advisors help acquirers identify better targets. It is possible that firms can compensate for the lack of board connections by employing financial advisors in the searching process. We first conduct tests on the relationship between board connections and the use of financial advisors in the process of searching for potential acquirers. Then, we test whether the use of financial advisors to introduce potential acquirers are associated with superior deal outcomes. Our results show that well-connected targets are less likely to use financial advisors in the process

of searching for potential acquirers and contact the announced acquirer. In addition, we investigate whether the use of financial advisors is beneficial to targets. We find that the use of financial advisors to contact the announced acquirers is associated with lower premium and target market returns. What is more, among targets which hire financial advisors during the M&A process, the financial advisor fees are significantly higher for those deal that announced acquirers are contacted by financial advisors than other deals. All of our results indicate that financial advisors cannot be used as substitutions of board connections.

In addition, our results show that targets with more connections are associated with better deal outcomes. The combined acquirer-target abnormal returns to the merger announcement are higher for deals in which targets have more connections, but all the abnormal returns accrue to the targets. What is more, the premiums are higher for deals with well-connected targets. This number is not only statistically significant but also economically sizeable. Targets get 4% higher in premiums with 1 standard deviation increase of target board connections.

Since we include all type of connections in our test, it is possible that our results are mainly driven by one type of the connections. To test this possibility, we segment all the target board connections into three types by the way the connections are acquired. The three types of connections are: connections gained through directors' work experience, social activities, and educational experience. Our results indicate that work and education connections are associated with more efficient searching process and superior deal outcomes. Although social connections are correlated with enhanced deal outcomes, they do not consistently lead to more efficient searching process.

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So far we have shown that board connections are valuable to the targets. However, there are alternative explanations to our findings. For example, we cannot discriminate the effect of directors' experiences from that of connections. Past experiences of the directors can affect firm's acquisition behaviour while these experiences also allow directors to build their connections (Custodio and Metzger, 2013; Huang, Jiang, Lie, and Yang, 2014; Mcdonald, Westphal, Graebner, 2008). To rule out this alternative explanation, we use the number of years the directors sit on quoted board positions as a proxy of the directors' experience. We find that connections of those directors with fewer experiences are also associated with better deal process and outcomes. These findings are at odds with the alternative explanation that our results are driven by directors' experience instead of directors' connections. Our results are robust when we use the directors' age as an indicator of the directors' experience.

Another concern is that our results may spuriously reflect the correlation between directors' innate ability and connections. It is highly possible that more capable directors conduct deals more efficiently and are also better connected. If that were the case, the connections would be simply a proxy of the directors' innate skill. To assess this possibility, we use the directors' education background to measure his ability. We find that the connections of directors without top school education background also contribute to the efficiency of the deal process, which is inconsistent with the innate ability hypothesis.

Our last set of tests examine whether targets intentionally build their connections before the merger negotiation to complete the deal efficiently. However, as our baseline results suggested, well-connected target are more likely to be involved in acquirer

initiated deals. This result does not support the build-up-connection argument. In addition, instead of using current board connections, we use the target board connections two years before the deal announcement and get similar results. These results are at odds with the build-up-connection explanation.

Overall, we conclude that the board connections are valuable to the firms when they become takeover targets. Specifically, board connections allow the targets to be exposed to more merger opportunities. In additions, these connections help the target identify better merger counterparts and reduce the use of financial advisors in the searching process, which is associated with higher cost. All these efficient merger processes lead to superior merger outcomes. Namely, the targets get higher premiums and better market reactions.

Our study contributes to several strands of literature. First, we contribute to the literature about board connections and firm decision-making. Some studies focus on board inner connections. Relatedly, Hwang and Kim (2009) provide evidence that a proportion of independent boards are substantively not independent while Schmidt (2015) studies the social ties between the CEO and board member and finds that CEO-board connection has both benefits and costs to the firm. Other researchers focus on the board outside connections and show that these connections have impacts on the corporate activities. For example, studies show that network can affect the firms (funds) operating performance (Cohen, Frazzini, and Malloy, 2008; Hochberg, Ljungqvist, and Lu, 2007) and stock price (Akbas, Meschke, Wintoki, 2016; Akbas, Hann, Polat, and Subasi, 2017), while Fracassi and Tate (2012) and Fracassi (2016) find evidence that networks are influential to the firms' governance and financial policies. Engelberg, Gao,

and Parson (2012) show that firms with bank connections enjoy lower interest rates. We contribute to the literature by focusing on the board connections and the target firms' merger activities. Consistent with the literature, we find that board connections can affect the corporate M&A decisions.

Our findings also provide novel insights into the factors that affect the success of the mergers. The evidence in general shows that CEO characteristics (Malmendier and Tate, 2008; Billet and Qian 2008; Yim 2013), firm characteristics (Aktas, Bodt, Bollaert, and Roll, 2009 and 2011), and acquirer target social ties (Ishii and Xuan, 2014; Cai and Sevilir, 2012) have impact on the merger outcomes. As far as we know this paper is the first study that investigates the effects of target board connections on deal outcomes. Our results prove the importance of target board connections to the deal successfulness.

Last but not least, we also contribute to the literature about the private negotiation process. Since Boone and Mulherin (2007), many studies focus on the private negotiation process of mergers. For example, these studies show that the probabilities of firms to initiate a deal are affected by their financial constraints and economic conditions (Masulis and Simsir, 2015), CEO ownership and compensation structure (Fidrmuc and Xia, 2017), and CEO narcissism (Aktas, Bodt, Bollaet, and Roll, 2016). In additions, other researchers find that the selling method (auction or negotiation) can affect the deal outcomes (Boone and Mulherin, 2007; Anilowshi, Macias, and Sanchez, 2009; Schlingemann and Wu, 2015). However, less is known about the factors that affect the merger negotiation process. Our paper contributes to the literature by showing that board connections have impacts on the merger process.

The structure of this paper proceeds as follow. Section 2 discusses related literature and Section 3 details our data collection process. Section 4 reports our results and in Section 5 we discuss alternative explanations. Section 6 concludes.

2.2 Literature Review

2.2.1 Private Takeover Process

One strand of literature on private takeover process focuses on the initiating party of the deals. Masulis and Simsir (2015) find that targets that are economically weak, subject to financial constraints, and experience negative economy-wide shocks are more likely to initiate M&A deals. Consistent with this study, Fidrmuc and Xia (2017) find that firms with higher CEO ownership, golden parachutes, and stock option granted to the CEO are more likely to initiate the deal. Aktas et al. (2016) find that acquirers with higher CEO narcissism are more likely conduct acquirer initiated deals. While Chen and Wang (2015) find that the targets' private information about its stand-alone value, and the bidder's private information about its valuation on the target firm are the key factors in determining the time of initiation. In addition, studies have shown that the deal outcomes of target initiated deal are different from that of acquirer initiated deals. For example, Masulis and Simsir (2015) find that for target initiated deals, the takeover premium, target abnormal returns and deal value to EBITDA multiples are lower. Moreover, Oler and Smith (2008) find that firms that make take-me-over announcement are more likely to underperform their peers.

Another trend of study on the private takeover process examines how targets navigate the merger process. Boone and Mulherin (2007) is the first study that uses

information from private negotiation to determine whether the selling process is auction or negotiation. Several studies show that these two selling methods do not yield significantly different deal outcomes (Boone and Mulherin, 2007, 2008, and 2009). Chira and Volkov (2015) suggest that one of the reasons that auction selling process does not outperform negotiation is due to the existent of auction failure cost. They find that auction failure are associated with lower final premiums and higher acquirer returns. Xie (2010) find that the selling process is affected by how the deal initiated. They show that target initiated deals are more likely to use auction while acquirer initiated deals are more likely to negotiate one-to-one.

However, none of these studies focus on the firm characteristics that could affect the deal selling process. In this paper, we contribute to the literature by examining how target board connections affect the deal selling process.

2.2.2 Board Connections and Acquisition Decisions

Numerous studies have shown that board connection can affect the performance of a firm/fund (Cohen, Frazzini, and Malloy 2008; Hochberg et al, 2007), corporate governance (Fracassi and Tate, 2012), and decisions (Fracassi, 2008).

When it comes to merger and acquisitions, researchers have different views on how external board connections affect firm performance in M&A. On the one hand, board connection allows firms to get more M&A related information (Cohen Frazzini, and Malloy 2008; Ishii and Xuan, 2014; Schonlau and Singh, 2009) and experience (Beckman and Haunschild, 2002; Stuart and Yim, 2010). For example, Cai and Sevilir (2012) find that acquirers with first-degree connection to the target are able to get a lower premium while acquirers with second-degree connected to the target are more

likely to achieve a higher post-deal performance. In addition, they find that when acquirer and target have a common director, acquirer announcement returns are significantly higher than those of deals without such connection. Instead of focusing on the target-acquirer ties, Schonlau and Singh (2009) study the board connection of acquiring firms and their acquisition performance. They find that central boards are more likely obtain higher post-merger abnormal return. Renneboog and Zhao (2014) study how board networks affect the takeover process and find that well-connected firms (central firms) are more likely to become bidders and they are able to complete the deal in a shorter time. The experiences associated with director's connection are also valuable to firms. Stuart and Yim (2010) find that companies which have directors with private equity deal exposure are more likely to receive private equity offers

On the other hand, board connection might cause decision bias. Ishii and Xuan (2014) find that M&A are more likely to take place between firms with social ties. The acquirer-target connection ties have significant negative effect on the acquirer and combined announcement returns. In addition, the existence of social ties is associated with higher target board retention rate, higher probability of acquirer CEO receiving deal related bonus and poorer post-deal performance.

All the literature mentioned above focus on the acquirer-target social ties or the acquirer board connections. However, little is known about the impacts of target board connections in the M&A process.

2.3 Data Source and Sample Description

2.3.1 Data Source

Our sample includes M&A transactions for U.S. targets between 1 January 2002 and 31 December 2014 in Securities Data Corporation's (SDC) U.S. M&A Database. We exclude those deals that target and acquirer firms are not publicly traded. In addition, we require the percentage of shares acquired by the bidder is more than 50% of the target total shares outstanding and the deal status is either 'withdrawn' or 'completed'. Then we restrict our sample to those deals which target merger negotiation information is available from the U.S. Securities and Exchange Commission (SEC) website. We further delete those deals which have missing firm and deal characteristics. Finally, we require that the target's board connection information can be obtained from BoardEx database[9]. Since some of the Companies in BoardEx are assigned to more than one company ID, we manually clean this data to make sure that each firm corresponds to a unique ID. Detailed sample selection process are reported in Appendix C. Our final sample consists of 848 M&A deals with both public targets and acquirers.

The variable of interest in our study is the firm's board connection. For each director/CEO[10], we acquire all the connections that started before the year of the M&A announcement from *BoardEx* database. Unlike previous studies that only focus on social connections, work connections (Cai and Sevilir, 2012; Ishii and Xuan, 2014[11]), and education connections (Cohen et al, 2008; Ishii and Xuan, 2014), we included all

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[9] We match the BoardEx database to SDC database by using company names.
[10] We include the connections of Directors, CEOs, Presidents, as well as Chairmen. Our results are robust if we include those Executives' connections.
[11] Though labeled as 'social', the way Ishii and Xuan (2014) measure the 'social ties' is by using directors' work and education experience.

the connections that gained through work experience, social experience, and educational experience. Then we sum the total number of connection of all directors to get the firm's connection size. Duplicate connections are removed. Finally, we standardize the total connections by the sample mean and standard deviations. Summary statistics of board connections are presented in Table 2.1.

For each firm, we also construct alternative indicators that evaluate different types of connections. Specifically, we segment all the connections by whether they are gain through the director's work experiences (Work Connections), social activities (Social Connections), or educational experiences (Education Connections). In addition to segment the channels that the connections are gain, we also group the connections by the types of director characteristics. Related to the alternative explanations, we separate those connections of experienced directors from those of less experienced directors and those connections of directors with top-school education background from those without.

Information about the deals private negotiation process are collected from *SEC EDGAR* database. Merger process information can be obtained from the 'merger background' section of target firm's proxy statement (specifically, Form DEF 14 or Form S-4). The merger background section provides information about pre-announcement merger negotiation. From this section, we collected information of which party who initiate the deal, the first date of the private negotiation process, the number of potential acquirers contacted, whether the target use of financial advisor during the searching process, and how those potential acquirers were contacted. In addition, for each deal that uses financial advisor during the searching process, we also

documented whether the announced acquirer is contacted by financial advisors. The announced acquirer is defined as the acquirer that make public merger announcement with the target.

Relevant deal characteristics are obtained from *SDC* database, target and acquirer firm characteristics are collected from *Compustat* database and stock information are collected from *CRSP* database. Detailed definitions of all variables can be found in Appendix D.

2.3.2 Descriptive Statistics

Table 2.1 reports the sample mean, median, and standard deviation of the board connections. In our sample, the mean (median) of connection size is 2,485 (1782). Of all the connections, around 57% of the firm's connections are gained from the director's work experience, 9% of the connections are built through social activities while 34% of the connections are built through past education experience. Around 24% of the total connections are brought into the firms by experienced directors while 11% of the total connections belong to directors that graduate from top schools. In addition, on average, the target firms' connection size increased dramatically 2 years before the merger announcement. This finding might correlate with the alternative explanation that target firms build up their connections in order to facilitate efficient merger process and achieve superior deal outcomes. We will address this concern in Section 5.

[Insert Table 2.1 here]

In this study, we focus on how board connections are correlated with the merger negotiation and outcomes. However, the deal process and outcomes are also associated

with firm characteristics (e.g. size and operating performance) and deal characteristics (e.g. payment method and tender offer). Therefore, in all the following empirical models we control firm characteristics. In addition, we control for deal characteristics in those tests of deal outcomes.

[Insert Table 2.2 here]

Table 2.2 reports the summary statistics of target and acquirer characteristics (Panel A), deal negotiation process (Panel B), and deal outcomes (Panel C). As reported in Panel A, all of our firm characteristics are comparable to those of studies that use similar sample selection process (Cai and Sevilir, 2012). On average, acquirer firms are larger than the target firms, have higher Tobin's Q, and better operating performance.

Panel B describes the variables related to the deal negotiation process. In our sample, about half of the deals are initiated by acquirers. We classify a deal as acquirer initiated deal if the target selling process was started by one of the potential acquirers (not necessarily the announced acquirer). The total number of potential acquirers participate in the private auction process is highly skewed, with a mean of 12 and median of 3. This is due to around 40% of the deals in our sample only negotiate with one acquirer. 32% of the target finally public announced the merger decision with a connected acquirer. This number is higher than those documented in previous research (10.60% in Ishii and Xuan (2014); 9.4% in Renneboog and Zhao (2014); and 9.4% in Cai and Sevilir (2012)). One of the reasons is that our definition of connections is broader, connections gained through work, social and educational experiences are all included while previous research only includes one of these three types of connections. 43% of the targets use financial advisors in helping them to search for potential

acquirers and 27% of the announced acquirers were first contacted by target financial advisors.

Panel C of Table 2.2 reports the deal premium, market reaction and the total fees paid to financial advisors. Consistent with previous studies, targets earn positive announcement returns while acquirers don't. For those 598 deals that the financial advisor fees can be obtained from *SDC* database, the average dollar paid per thousands of transaction value is 10.

2.4   Results

In this section, we discuss whether the board connections affect the firms' merger probabilities of becoming targets as well as acquirers. Then we analyse how the deal private negotiation processes are influenced by the target board connections. Next, we examine whether the merger outcomes are different for well-connected targets. In the last part of this section, we test if the impacts of different types of connections vary.

2.4.1 Board Connections and Merger Likelihood

To measure how the board connections affect the firms' merger likelihood, we calculate the board connections of all the firms from *BoardEx* database. Then we match the board connections data to *SDC* database by firm names. We obtain the firm characteristics from *COMPUSTAT* database and *CRSP* database. Our final sample for this test includes 48878 firm-year data points without missing control variables.

[Insert Table 2.3 here]

Table 2.3 presents the regression results for the tests of the correlation between merger likelihood and board connections. Column (1) of Table 2.3 reports the firms'

probability of becoming takeover targets while column (2) reports the probability of becoming acquirers. The dependent variable Y of column (1) and column (2) are dummy variables that equal to 1 if the firm has been a takeover target or acquirer in the specific year. We include year and firm Fama-French 12 industry fixed effects in the tests to absorb the unobservable factors.

As reported in Table 2.3, firms with well-connected boards are more likely to become takeover targets as well as acquirers. These results are in line with the previous literature that shows when acquirer and target are connected, their probability of conducting M&A is higher (Ishii and Xuan, 2010; Renneboog and Zhao, 2013; Rousseau and Stroup, 2015). According to the proposition that connections help disseminate information, firms with larger connection size are better at gather information and identify suitable targets/acquirers when they have intentions to conduct merger transactions. In addition, they are more likely to be identified as merger counterparts when other firms plan to engage in merger activities. Consistent with this analysis, our results suggest that well-connected firms have higher probabilities of being involved in M&A transactions.

2.4.2 Board Connections and Merger Process

One of our main conjectures is that targets with well-connected boards can facilitate an efficient merger negotiation process. To test this prediction, we identify different characteristics of the deal process and test how they are correlated with the target board connections. We estimate the correlation with the following model:

$$Merger\ process_i = \alpha_i + \beta_1 \times Target\ board\ connections_i +$$

$$+\beta_2 Controls_i + \theta_{year} + \theta_{FF5} + \varepsilon_i \tag{2}$$

$Merger\ process$ stands for different process characteristics of deal i. In this study, we focus on the deal initiator, the number of potential acquirers contacted, whether the announced acquirer is connected, and the use of financial advisor in searching for potential acquirers. The variable $'Target\ board\ connections'$ is defined in Section 3. $Controls_i$ stands for the control variables included in Table 2.2 Panel A and Panel C. θ_{year} and θ_{FF5} represent the deal year and target Fama-French 5 industry fixed effects, respectively.

Table 2.4 presents how target board connections affect the deal process. The OLS estimates of the coefficients of interest in equation (1) are reported, as well as t-statistics based on two-way clustered standard errors by industry and year. The dependent variables of column (1-3) are 1) indicator of the party that initiates the merger deal, 2) the total number of potential acquirers contacted in the merger negotiation period, and 3) indicator of the acquirer-target connections ties.

[Insert Table 2.4 here]

The results of column (1) of Table 2.4 shows that targets with larger connection size are more likely to be involved in acquirer initiated deals. This finding is consistent with the information hypothesis that connections can help firm disseminate their information. Therefore, when selecting counterparts, acquirers are more likely to obtain information of those well-connected firms and start negotiation with them. The estimated effects of connections are statistically significant.

Column (2) of Table 2.4 reports the correlation between target board connections and the total number of potential acquirers contacted in the whole negotiation process. Our results show that targets with well-connected boards are more likely to approach more potential acquirer in their negotiation period. Having more potential acquirers is beneficial to the target shareholder since with higher level of competition, bidders may overbid (Levitt and List, 2007; Kagel and Levin, 1986). The evidence indicates that on average, an increase of one standard deviation of target board connections is associated with one more potential acquirer.

Another concern is that whether the potential acquirer contacted are due to the targets board connections. It is possible that some unobserved variables are associated with both board connections and the total number of potential acquirer contacted. To rule out this spurious effect, we test whether the well-connected targets are more likely to reach a merger agreement with the connected acquirers. Column (3) of Table 2.4 presents that on average, targets with larger board connection size have higher probabilities to merge with connected counterparts. This result is consistent with the proposition that target use their connections to facilitate efficient negotiation process.

Next, we examine whether the use of financial advisors can substitute the board connections. Studies have shown that financial advisors are important in completing complex deals and they can help the acquirer get higher market returns (Servaes and Zenner, 1996; Golubov, Petmezas, and Travlos, 2012). However, the incentive for financial advisor might conflict with that of target firms (Allen, Jagtiani, Peristiani, and Saunders, 2004; Becher and Juergens, 2010; Agrawal, Cooper, Lian, Wang, 2013). Table 2.5 presents the association between board connections and the use of financial

advisors to search for potential acquirers. Panel A of Table 2.5 reports the correlation between board connections and the use of financial advisors in the process of searching for potential acquirers. Panel B of Table 2.5 presents the association between the deal outcomes and the use of financial advisors.

[Insert Table 2.5 here]

To begin with, we test whether the use of financial advisors different between those well-connected targets and those less-connected firms. As the result presented in column (1) of Panel A, well-connected targets are less likely to use financial advisors in searching for potential acquirers. In addition, column (2) of Panel A shows that the announced acquirers are less likely to be approached by the financial advisor for targets with larger connection size. That is to say, for well-connected targets, they either contact the announced acquirer themselves or the announced acquirer initiate the deal negotiation. However, this result could be due to the facts that well-connected targets are less likely to use financial advisor in the searching process. Thus, the result in column (2) to simply driven by the results of column (1). To address this issue, we conduct subsample tests that only includes those deals that targets had used financial advisors in their searching process. Column (3) reports the result of subsample tests. Consistent with the results of column (2), the announced acquirers are less likely to be first contacted by financial advisors for deals with well-connected targets.

A natural question to ask is that whether contacting potential acquirers directly are associated with superior deal outcomes than searching for potential acquirers by using financial advisors. With a lot of experiences, financial advisors may be better at identifying appropriate acquirers. On the other hand, financial advisors have different

incentives and might not act in the best interests of the targets. Panel B of Table 2.5 reports the results of whether the use of financial advisors in searching for potential acquirers are associated with better deal outcomes.

First, we test whether the advisor fees are higher for those financial advisors that help in the process of introducing the announced acquirers. As reported in column (1), for a sample 598 deals that the financial advisor fee can be obtained, we find that targets pay one dollar more per thousand of transaction value when they use the financial advisor in the searching process. Since the average transaction value is 2,120 million, this number is not only statistically significant but also economically sizable. To rule out the possibility that targets use financial advisor in the searching process pay high advisor fees because they engage high reputation advisors, we also controlled the target advisors' reputation. The result shows that advisors reputation is not the reason of higher advisor fee, though top advisors do charge more.

Next, we focus on the deal outcomes. Column (2) of Panel B shows that targets get lower premiums when the announced acquirers are connected by their financial advisors. In addition, results from column (3-4) of Panel B indicate that the market returns are lower compared to the market returns of deals that announced acquirers are not introduced by financial advisors. However, the full sample tests might not provide a clear comparison because some connected deals still use financial advisors to approach the announced acquirer while others unconnected deals do not. To exclude the mixed effects, we conduct a set of subsample tests that only include those connected deals without the use of financial advisors in contact the announced acquirer or

unconnected deals that engage financial advisors. Column (5-7) of Panel B shows that our results are robust in the subsample tests.

Overall, the results in Table 2.5 show that board connections can help the targets facilitate cost-efficient searching processes which financial advisors cannot substitute.

2.4.3 Board Connections and Merger Outcomes

In this section, we study how the target board connections affect the deal outcomes. We focus on the market reactions and the deal premiums. We use the trading days from -252 to -42 relative to the announcement date to calculate the market model:

$$R_{it} = a_i + \beta_i \times R_{mt} + \varepsilon_{it} \qquad t = -252,..,-42, \qquad (3)$$

Where R_{it} and R_m are the stock returns of firm i on day t and the CRSP value-weighted market stock returns on day t, respectively. We require the firms to have at least 180 trading days and 843 deals are included in this set of tests. Then we calculate the 3-day (-1, 1) and 23-day (-21, 1) abnormal returns. We include the 23-day abnormal returns to address the stock runup effects documented by Schwert (1996). Table 2.6 presents the correlation between board connections and deal outcomes.

[Insert Table 2.6 here]

Column (1-2) show that targets get higher market reactions when their boards possess higher connections. Two mechanisms can lead to the superior target market performances. Targets can get better performance either though identify counterparts that generate higher synergy or negotiation for larger shares of the total gain. Column (5-6) show that target-acquirer combined returns are significantly higher for deals with well-connected targets. These results are consistent with the conjecture that target

board connections help facilitate better negotiations between the two parties, which lead to deals with higher synergy. In addition, we also find evidence that supports the proposition that well-connected targets get larger shares of the total gain. Column (3) and column (4) of Table 2.6 show that all the combined market gains accrue to the target firms. There is no significant difference of acquirer returns for deals with well-connected targets and deals with less connected targets. What is more, column (7) of Table 2.6 shows that targets get higher premiums when their connection size are larger. Overall, all these findings suggest that well-connected targets can identify acquirers with higher synergy and gain a larger share of the total synergy.

2.4.4 Types of Board Connections

Previous results use the target boards' total connections. One concern is that our results were mainly driven by one type of connections. In this section, we test the influence of different types of connections by segment all the connections into three groups by the channels the connections build through. The three types of connections are connections that build via 1) work experience (Target Work Connections); 2) social activities (Target Social Connections); and 3) education experience (Target Education Connections).

Though studies have shown that all three types of connections can help disseminate information (Cohen, Frazzini, and Malloy, 2008; Gompers and Xuan, 2008; Stuart and Yim, 2010; Fracassi and Tate, 2012), the impacts of the enhanced information flow are different. For example, work connections can help reduce information asymmetry while connections build through social activities and education

experience connected people with common interests and similar backgrounds. Table 2.7 to 2.9 presents the results of variation of impacts of different types of connections.

[Insert Table 2.7 here]

Table 2.7 shows the results of the impacts of different types of connections in the deal process. The main independent variables of Panel A, Panel B, and Panel C are target firm's work connections, social connections, and education connections, respectively. The findings suggest that work connections and education connections are associated with an efficient searching process. However, Social connections are not significantly correlated with the total number of potential acquirers' contacted in the merger process. Targets with higher social connections are not more likely to merge with connected parties.

[Insert Table 2.8 here]

Table 2.8 presents the correlation between different types of board connections and the use of financial advisors in searching for potential acquirers. As suggested by Table 2.8, Education connections are negatively correlated with the use of financial advisor in searching for potential advisors.

[Insert Table 2.9 here]

Though different types of connections have different impacts on the merger process, all of them are correlated with positive market reactions. Table 2.9 reports the results of deal outcomes. The results indicate that for different types of connections, the higher market reactions are gained through different mechanisms. Work and social

connections can help firms in identify counterparts with higher synergy while social and education connections associated with higher premiums.

2.5 Alternative Explanations

Our results so far indicate that board connections are valuable to the target firms. However, one of the concern is that whether the value is generated from target firm's connections. Our main hypothesis is that board connections can help the firms facilitate efficient merger process which leads to superior deal outcomes. However, it is possible that our results are confounded by other factors that correlated with both board connections and the deal process. For example, directors' experience and abilities might also contribute to the well-organized merger process. What's more, these directors with lots of experiences and high abilities are more likely to possess larger connection size. In this Section, we discuss alternative explanations and tests whether our main results are due to the effects of connections.

2.5.1 Connections or Experiences?

To begin, we test whether the directors' experiences contribute to the efficient merger process and superior merger outcomes. Directors' experiences, such as past M&A experiences and industry experiences, also help the directors evaluate the synergy of the merger and negotiate for a larger shares of the synergy. In additions, directors can build their connections through these experiences. Therefore, directors with more industry and past M&A experiences are more likely to be those directors that possess larger connection size.

We use the number of years that the directors have served on board positions as a proxy of the directors' experiences[12]. This proxy is used because it is more germane to those experiences that can contribute to well-organized deal process and better deal outcomes. We obtain this information from *BoardEx* database. We include all the board positions that before the merger announcement year. Then, we segment all the directors into two groups by the sample median. If our results are driven by the directors' experiences rather than their connections, we are expected to observe those connections that belong to directors with shorter board positions are not associated with efficient deal process and superior deal outcomes. Table 2.10 to Table 2.12 present the sets of results to test this alternative explanation.

[Insert Table 2.10 here]

Table 2.10 reports the relation between connections of different directors' experience and M&A process. The main independent variables of Panel A and Panel B are targets board connections of experienced and inexperienced directors. Panel B of Table 2.10 shows that connections of less experienced directors also help the target in getting acquirer initiated deals and merged with connected acquirers.

Next, we test whether connections of less experienced directors can affect the targets' use of financial advisor in the searching process. As reported by Table 2.11, we find that connections of less experienced directors are more significantly correlated with the reduction of use of financial advisor in the searching process. In addition, our

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[12] We also use directors' age as a proxy of the directors' experiences and the results are similar.

results show that connections of experienced directors are not correlated with the use of financial advisor, which is at odds with experience explanation.

[Insert Table 2.11 here]

The evidence in Table 2.12 shows the associations of different directors' experience and deal outcomes. In general, the results of less experienced directors' connections are consistent the results of total connections. The only difference is that the 3-day market returns are not significantly correlated with connections of less experienced directors. However, the 23-day abnormal returns are significantly higher. In addition, our results indicate that both connections of experienced and less experienced directors are associated with higher combined returns. What is more, connections of less experienced directors also benefit the target shareholders by negotiating for a higher deal premiums.

[Insert Table 2.12 here]

Overall, all the results of Table 2.10 to Table 2.12 show that both connections that belong to experienced directors and less experienced directors are valuable to the targets. These findings are at odds with the experience explanation.

2.5.2 Connections or Ability?

Similar to the directors' experiences explanation, we cannot discriminate whether our main results are due to the effect of connections or the directors' ability. It is possible that directors with high innate skills are more likely to build their connections. Moreover, directors with high innate skills can facilitate the well-organized deal process and argue for better deal terms. Therefore, our results might simply reflect the

correlation between connections and ability. To assess this possibility, we investigate whether our results depend on the directors' innate ability.

In this part, we use the directors' education background as an indicator of the directors' innate skill. Arguably, directors graduated from top-ranked school are more likely to possess higher learning ability which can benefit the merger process. We obtain the directors' education background from *BoardEx* database. Top institutes are those ranked within 100 by QS university rankings in the year 2015. Table 2.13 to Table 2.15 reports the results of this set of tests.

[Insert Table 2.13 here]

The evidence in Table 2.13 shows that connections of directors without top school education background also associated with efficient deal process. Furthermore, connections of directors without top school education are more likely to introduce more potential acquirers while connections of those with top school education backgrounds are not. Table 2.14 presents the results of use of financial advisor in the searching process. Though the evidence shows that connections of directors without top school education background do not reduce the firms' use of financial advisor in searching for potential acquirers, these connections reduce the probability that the announced acquirer are introduced by the targets' financial advisors.

[Insert Table 2.14 here]

Table 2.15 show that connections of directors who graduate from non-top school also correlated with superior deal process. Target market announcement returns and acquirer-target combined announcement returns are significantly positively correlated

with connections of directors without top school education. What is more, the premiums are higher for those targets with more connections of directors without top school education.

[Insert Table 2.15 here]

To sum up, all the results reported in Table 2.13 to Table 2.15 are not consistent with the innate skill explanation.

2.5.3 Build-up-connections Explanation?

So far, our results show that firms with connections associated with efficient deal process and outcomes. One concern is that that firms intend to be taken over may build their connections a few years before the merger negotiation. In that case, our results may reflect the ex-ante selection of directors by the targets. In this case, the correlate between connections and deal process are endogenous implies that firms with high willingness to sell rather than the effects of board connections.

As suggested by the results of Table 2.4, target board connections are positively correlated with the probability of being involved in acquirer initiated deals. However according to build-up-connections explanation, firms that increase their connection size before the merger negotiation are more likely to be those that actively seeking buyers. Therefore, our baseline results are not consistent with the ex-ante selection explanation.

We also conduct another set of tests to examine the build-up-connections explanation. Instead of using the target board connections of the merger year, we run all the model specifications by using the targets connections 2 years before the merger announcement. Arguably, firms are less likely to prepare their merger longer than 2

years. Thus, target connections 2 years before the merger are less likely to be affected by the firms' intention to increase their connection size. Table 2.16 report the results of the analysis.

[Insert Table 2.16 here]

Generally, our results are robust when we use the target firms' connections 2 years before the merger announcement. However, some of the estimated effects are smaller compared to the results that use the connections of the merger announcement year. Specifically, connections 2 years before the merger announcement are less significantly correlated with a larger number of total potential acquirers and the use of financial advisors in the searching process. Other findings are robust and consistent with our baseline results. Overall, our results support the idea that board connections benefit the shareholders when the firm become taking over targets and these effects are not due to ex-ante selection.

2.6   Conclusion

Literature has shown that connections are important in disseminating information. With large connection size, firms have better access to information and can reduce information asymmetry in making corporate decisions. In this paper, we examine how board connections affect the merger process and deal outcomes. We conjecture that firms with larger connection size are more likely to face ample M&A opportunities. In addition, we hypothesized that those connections can help firms navigate an efficient merger process, which leads to superior deal outcomes. We test our propositions with 848 M&A deals from 2002 to 2014.

Our results are consistent with our conjectures. We find that firms with larger connection size are active bidders and more likely to become takeover targets. In addition, our results show that targets with well-connected boards are more likely to be approached by potential acquirers, involved in a more competitive auction process, and acquired by connected acquirers. What is more, well-connected targets are less likely to employ financial advisors in the process of searching for potential advisors and evidence show that using financial advisors cannot substitute the effects of board connections. Last but not least, our findings indicate that board connections are associated with better deal outcomes. Well-connected targets obtain significantly higher acquirer-target combined announcement returns while all the abnormal returns accrue to the targets but not the acquirers. Well-connected targets also get higher premiums.

Inconsistent with the alternative explanations that our results are driven by target directors' experience and innate abilities, we find that the connections of directors with less experience and inferior education backgrounds also contribute to the efficiency of the merger. What is more, we do not find evidence that supports the hypothesis and targets build their connections before the merger negotiation.

Overall, our study shows that board connections benefit the firms by increasing merger likelihood, facilitating efficient merger process, and obtaining superior merger outcomes.

Chapter 3

Detecting Information Leakage in M&As

3.1 Introduction

Since the 1980s, studies have shown that the target stocks experience significant positive returns before the merger announcement (Jarrell and Poulsen, 1989; Meulbroe, 1992; Schwert, 1996; King, 2009). For example, Jarrell and Poulsen (1989) examine 172 tender offers from 1981 to 1985 and find the targets' stock experience a run-up before the tender offer announcement. Similarly, Schwert (1996) and Meulbroe (1992) also documents the existence of the abnormal stock trading before the merger announcement. This pre-bid stock run-up not only exist in the U.S. market but also can be found in the Canadian stock market (King, 2009).

Following Schwert (1996), literature well accepts the view that the pre-bid market run-up starts around two months before the merger announcement. Moreover, when calculating the announcement return and deal premium, it is a standard to use the target stock price 42-days before the merger announcement as a reference point. However, this method might be inaccurate because the two-month stock run-up period is an estimated number using the aggregate target stock information. Each deal has its own timeline in the negotiation process and the time it takes to finish the negotiation is various from deal to deal. For example, some the deals might not start two months before the merger announcement. On the other hand, a lot of deals might take about a year of negotiation before the two parties reach an agreement and made a public announcement.

One way to address this problem is to use the private negotiation information to calculate the target stock run-ups. With the information of when the merger negotiation starts and when each important agreements were reached, we can better link the target stock market reactions to the negotiation process. Therefore, with the negotiation process information, we calculate the target stock run-ups more accurately.

Moreover, the information of private negotiation process also allows us to better evaluated the causes of the target stock run-ups. Literature has different views of why the target stock experience significant positive abnormal returns before the merger announcement. One view is that the target stock run-ups before the merger announcement are due to market anticipation of the probability that the target firm might be taken over. For example, Jarrell and Poulsen (1989) show that rumors in media news are the strongest variable in prediction the pre-bid run-ups. Consistently, Gao and Oler (2012) document traders trade on rumors and anticipations of the mergers. Another explanation of the pre-bid target stock run-ups is information leakage. For example, Meulbroek (1992) show that the insider trading contributes to half of the pre-announcement run-ups. Using bond price information, Zhou and Kedia (2014) find that the pre-bid bond price movement is correlated with the acquirer firms' characteristics, which support the insider trading hypothesis. Since market anticipations are based on rumors or the target firms fundamental performance and cannot speculate the negotiation process, we can differentiate these two hypotheses by test whether the abnormal trading activities correlated with the private negotiation process.

In this study, we examine the abnormal trading activities before the merger announcement by using hand-collected data from the SEC filings on the private

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negotiation of the M&A deals[13]. These data provide information about the merger negotiation, such as the date the negotiation process started. These data allow us to test when the abnormal trading activities start, whether these activities are correlated with the merger negotiation and the cause of the abnormal trading activities.

Our results show that target abnormal trading activities start from the beginning of the merger negotiation. In our sample, the average negotiation period before the merger announcement last 288 days. This date is much earlier than the stock run-ups start date documented in the literature[14]. In addition, we find that the target stock abnormal returns and turnovers are significantly high around the date that the target firm receives their first offer price, the date that target firms sign a confidential agreement with potential acquirers, and the date target firms engage financial advisor. This finding provides evidence that the abnormal trading activities are correlated with the merger negotiations.

Next, we test the total size of the target stock run-ups during merger negotiation period. Our results show that the total run-ups from the start date of the merger negotiation are around 9.88%, twice as much as that estimated using the 42-day window period (4.67%). This result indicates that the stock run-ups estimated in the literature are significantly underestimated in prior studies. In addition, our result also indicates the use of [-252, -42] window period in estimate the market model to calculate the announcement return might be inaccurate due to the pre-bid run-ups.

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[13] Merger process information are collected from the 'merger background' section of target firm's proxy statement (e.g. Form DEF 14 or Form S-4). The 'merger background' section provides information about pre-announcement merger negotiation.
[14] Schwert (1996) shows that on average, the target stock run-ups start 42 trading days before the merger announcement.

In the following set of tests, we test whether the negotiation process, target firm characteristics, and deal characteristics affect the abnormal trading activities. Our findings show that the target initiated deals experience less abnormal returns compare to non-target initiated deals. In addition, target size is significantly correlated with the abnormal trading volume, with larger firms are associated with higher average abnormal turnovers. Moreover, the percentage of cash in the total payment correlated with total run-ups and the run-ups from the date that the target first receives offer price. This result is consistent with previous findings that cash payment is associated with higher premiums.

Last but not least, we discuss the possible explanations for the abnormal trading activities. To test whether the run-up is due to market anticipation or information leakage, we identify matching firms to our sample by using the target firms industry and firm size. We find that matching firms do not have stock run-ups around the negotiation period. This finding is consistent with the information leakage explanation and at odds with the industry anticipation explanation. According to the industry anticipation explanation, market observer several characteristics and react to those signals which indicate the firms might be involved in merger negotiation. However, firms that experience similar characteristics have equal probability of being acquirer. Therefore, under market anticipation explanation, we are expected to observe similar abnormal returns to the matching sample. Our results do not support this explanation.

Then, we test several possible channels through which the negotiation information leaks. First, we examine whether the involvement of financial advisors in the merger negotiation affect the target firm's abnormal trading activities. Our findings

show that abnormal trading activities are strongest for those target firms that introduce their long-term financial advisors to the merger negotiation. For those target firms that engage newly hired financial advisors, the abnormal trading activities are more pronounced after the financial advisors are involved in the negotiation. These findings suggest that the target financial advisor is one of the possible sources of the information leakage. Second, we test the insider trading activities around the negotiation period. Our results show that the insider trading is not correlated with the abnormal trading activities. Next, we test whether institution holding level affects the abnormal trading activities. We find that firms with higher level of institutional investors are more likely to experience larger abnormal trading activities. Literature has shown that institutional investor can acquire information at lower cost and are better informed. This result is consistent with the information leakage explanation.

Overall, we conclude that the abnormal trading activities of the target stock start after the merger negotiation starts. Our results indicate that the size and significance level of the abnormal trading activities are associated with the private negotiation process. What is more, evidence suggests that information leakage, rather than market anticipation contribute to the abnormal trading activities.

Our study has several contributions to the literature. First, our studies contribute to the literature about the pre-bid target stock run-ups. Following Schwert (1996), studies calculate the announcement returns and stock run-ups using 42 dates before the announcement as a reference date (e.g. Chatterjee, John, and Yan, 2011; Hasan, Tong, and Yan, 2017). However, our study shows that this calculation might underestimate

the size of stock run-ups. Our results indicate target stock run-ups starts after the private negotiation starts.

Our findings also provide novel insights in examine possible explanations to the pre-bid stock run-ups. Unlike previous studies that focus on the stock trading activities relative to the announcement date, we use other reference dates during the negotiation process (etc. offer date). With this information on private negotiation, we are able to examine whether the abnormal returns and turnovers are associated with the process of the negotiation, which generally considered as inside information. Consistent with the information leakage explanation, we find that the stock abnormal returns and turnovers are significantly correlated with the merger negotiation process.

The structure of this paper proceeds as follow. Section 2 discusses related literature and Section 3 details our data collection process. Section 4 reports our results and Section 5 concludes.

3.2 Literature Review

3.2.1 Stock run-up before merger and acquisition

Since the 1980s', studies have shown that target firms' stock prices experience a significant run-up before the merger announcement (Keown and Pinkerton, 1981; Jarrell and Poulsen, 1989; Meulbroek, 1992; Schwert, 1996; Chakravarty and McConnell, 1997; Meulbroek and Hart, 1997; King, 2009; Zhou and Kedia, 2014; Augustin et al, 2016; Hasan et al, 2017). For example, with a sample of 1,814 target firms, Schwert (1996) finds that the average cumulative abnormal return two-month before the merger announcement date is 13.3%. Jarrell and Poulsen (1989) also document that the stock run-up effect exists for tender offer deals. Zhou and Kedia

(2014) show that there are abnormal trading activities of the target corporate bond and the bond price are correlated with the acquirers' characteristics.

Though studies agree on the existence of the stock run-up before the merger announcement, there are different views on what factors lead the pre-announcement run-up. Some researchers provide evidence that insider trading is the cause of the stock run-up. Meulbroek (1992) using illegal trading data from the Securities and Exchange Commission show that the pre-announcement run-ups are due to inside trading. Zhou and Kedia (2014) find that the target corporate bond prices are correlated with the acquirers' characteristics, which also support the insider trading explanation. What is more, they also find that affiliated dealers are more likely to participate in trades that associated with higher return and sell more bonds that stand to lose. These findings suggest that there is information flows within the financial institutions. In addition, King (2009) analysis Canadian takeovers and find evidence that insiders use private information to trade before the merger announcement.

However, some studies suggest that stock run-up is the results of market anticipation of takeover activities. Jarrell and Poulsen (1989) analysis 172 tender offer deals from 1981 to 1985 and find that the stock run-up before the tender offer announcements is correlated with legal factors. Gao and Oler (2012) find that traders trade on acquisition anticipation and rumors.

3.2.2 Private Negotiation Process of Merger and acquisition

In this paper, we focus on the stock trading activities before the merger announcement. The information of private negotiation process allows us to examine when the information leakage starts and what factors affect the information leakage.

Since Boone and Mulherin (2007), studies start to focus on information about the private negotiation process. The evidence shows that firms characteristics affect their private takeover process. For example, target firms that are economically weak, subject to financial constraints, experience negative economy-wide shocks, have higher CEO ownership, and large stock option granted to the CEO are more likely to initiate M&A deals (Fidrmuc and Xia, 2017; Masulis and Simsir, 2015). Acquirer firms' characteristics also affect its likelihood of initiate a deal. Aktas et al. (2016) find that acquirer CEOs' narcissism is associated with the probability of initiate a takeover. Chen and Wang (2015) find that both the targets' and bidders' private information are the key factors in determining the time of initiation.

In addition, studies have shown that the deal outcomes of the target-initiated deals are different from that of acquirer-initiated deals. For example, Masulis and Simsir (2015) find that target-initiated deals are associated with lower the takeover premium, target abnormal returns and deal value to EBITDA multiples. In addition, Oler and Smith (2008) find that targets with intention of seeking buyers are more likely to underperform their peers.

Another trend of study on the private takeover process examines how targets navigate the merger process. Several studies show that negotiation and auction process do not yield significantly different deal outcomes (Boone and Mulherin, 2007, 2008, and 2009). Chira and Volkov (2015) suggest that the existent of auction failure cost is one of the reasons that auction selling process does not outperform negotiation. Xie (2010) find that target-initiated deals are more likely to associate with auction while acquirer-initiated deals have higher probabilities to negotiate one-to-one.

3.3　Data and sample

3.3.1 Data Source

Our sample includes all the takeover deals for U.S. targets between 1 January 2002 and 31 December 2014 in Securities Data Corporation's (SDC) U.S. M&A Database. We keep those deals that both targets and acquirers are publicly traded, the percentage of shares acquired by the acquirer is larger than 50%, and the deal status is either 'withdrawn' or 'completed'. Then we collect deal characteristics from SDC database. In addition, we obtained the target and acquirer firm characteristics from Compustat database and stock information from CRSP database. We delete those deals which have missing firm or deal characteristics.

Next, we collect the private negotiation information from SEC database. Merger process information can be obtained from the 'merger background' section of target firm's proxy statement (specifically, Form DEF 14 or Form S-4). The 'merger background' section provides information about pre-announcement merger negotiation. For each firm, we acquired important dates of the negotiation process. In addition, we collected information of which party initiated the deal, the number of potential acquirers contacted, whether the target use of financial advisor during the searching process and how those potential acquirers were contacted. Our final sample consists of 748 deals.

In our study, the variable of interests are the important dates during the private negotiation period. We focus on four important dates during the private negotiation process. Frist of all, we define the start date as the first date of the private negotiation process. It is the day that targeted approach (or be approached by) one or more potential

acquirers. The potential acquirers are not necessary to be the announced acquirer[15]. The offer date is the date that target received its first offer price date from a potential acquirer. The confidential date is the day that the target and acquirer signed the first confidential agreement with potential acquirers . We also document the engage advisor date, which is the date that the targets engage financial advisor. In our sample, 748 have information of the start date, 727 have information of offer date, 702 have information of confidential date, and 594 have information of the engage advisor date.

To measure the market abnormal trading activities, we use the target cumulative abnormal return and abnormal trading volume. For the cumulative abnormal return, we calculated the market model by using the target firms' stock data from 253 trading days to 63 trading days before the start date of the private negotiation. Stock trading data is collected from CRSP database.

To calculate the abnormal trading volume, we use the target firms' abnormal turnover before the merger announcement. Target firms' trading volume and total shares outstanding are collected from CRSP database.

Following Lee and Swaminathan (2000), Gebhardt, Lee, and Swaminathan (2001), and Garfinkel and Sokobin (2006), we calculated the firms' daily turnover as the percentage of outstanding shares traded on each event date. Since firms' daily turnover might correlate with the market turnover, we subtract the market-wide turnover on the same day. The market adjusted turnover (MTO) is calculated as follow:

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[15] Announced acquirer is the acquirer that make public merger announcement together with the target firm.

$$\text{MTO} = \frac{\left\{\Sigma_t\left[\left(\frac{Vol_{i,t}}{SO_{i,t}}\right) - \left(\frac{Vol_{m,t}}{SO_{m,t}}\right)\right]\right\}}{n} - \frac{\left\{\Sigma_{control\ period}\left[\left(\frac{Vol_{i,t}}{SO_{i,t}}\right) - \left(\frac{Vol_{m,t}}{SO_{m,t}}\right)\right]\right\}}{50} \quad (4)$$

Where $Vol_{i,t}$ ($Vol_{m,t}$) is the trading volume of firm i (market) in day t. $SO_{i,t}$ ($SO_{m,t}$) is the total shares outstanding of firm i (market) in day t. The market trading volume and shares outstanding are calculated using all the stocks traded on the NYSE, AMEX, and Nasdaq stock markets.

The first part of the right-hand side of equation (1) is the n-day abnormal trading volume of firm i. n is the number of days of the window period for each date of interests (e.g. negotiation start date, sign of confidential agreement date). This part capture the daily market adjust turnover of firm i.

We recognize that some firms are relatively liquid and have high turnover rate relative to other firms. To address this problem, we subtract the control period abnormal turnover which is calculated by using the targets' stock data in the window [-113, -63], where day 0 is the date that the private negotiation starts.

3.3.2 *Descriptive Statistics*

Table 3.1 reports the summary statistics of abnormal trading activities during the private negotiation period. Column (1) to (4) present the mean, median, and standard deviation of CARs while column (5) to (8) reports that of abnormal turnovers. On average, the abnormal return turned positive after the private negotiation starts. Specifically, the 3-day abnormal return around start date, confidential date, offer date and engage advisor date are 0.1%, 0.2%, 1.1%, and 1% respectively. Similarly, abnormal turnovers of the target firms become positive during each window period of

the private negotiation period. These results are consistent with the proposition that abnormal trading activities increased after the private negotiation starts.

[Insert Table 3.1 here]

Table 3.2 reports the summary statistics of target firm characteristics (Panel A) and deal characteristics (Panel B). Target firm characteristics are comparable to those of studies that use similar sample selection process (Cai and Sevilir, 2012). In addition, 438 deals of our sample have analyst coverage. We adopt two methods to measure the target firms' information asymmetry level before the negotiation starts. The first measure is *analyst forecast error*. Analyst forecast data are collected from Institutional Brokers Estimate System (IBES). Following Christie (1987), we calculate the analyst forecast error as the absolute difference between the forecast earnings and the actual earnings per share divided by the price per share at the beginning of the month. The second measure of information asymmetry level is *standard deviation of the analyst forecast*. It is the standard deviation of all the forecast mead by the analyst proceeding the year that the private negation starts. The two measures of information asymmetry are comparable to those of Krishnaswami and Subramaniam (1999). Institutional ownership data are collected from Thomson Reuters.

[Insert Table 3.2 here]

Panel B of Table 3.2 describes the deal characteristics. In our sample, 38% of the deals are initiated by target firms. Around 63% of our samples have more than one potential acquirers. Following Boone and Mulherin (2007), we define those deals as *Auction deals*. Other deals that the target firm only negotiate with one acquirer are

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defined as *Negotiation deals*. The average cash percentage of total payments is 51.57%. In our sample, 94% of the deals are completed eventually.

3.4   Results

In this section, we discuss how the targets stock trade before and during the merger negotiation period. First, we study when the abnormal trading activities start and the size of the stock run-ups of the target firms. Then we analyse whether the abnormal trading activities are affected by the negotiation process and firm characteristics. In the last part of this section, we evaluated two possible explanations for the abnormal trading activities.

3.4.1 Abnormal Trading Activities around the private negotiation period

Following Jarrell and Poulsen (1989), Meulbroek (1992), and Schwert (1996), there is a consensus on the existence of pre-merger announcement stock run-up and abnormal trading volume. However, no study has addressed the question that when the abnormal trading activities start. With 1,814 M&A deals, Schwert (1996) show that on average, target stock run-up starts from 42 days before the merger announcement. Following this study, literature uses 42 days as a cut-off date for the calculation of announcement CAR[16]. However, the calculation might not be precise because the negotiation processes for each deal are different. For example, some deals might start one year before the merger announcement while other deals might only take one month in the negotiation of deal terms[17]. Therefore, some targets might experience significant

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[16] For example Chatterjee, John, and Yan, (2011) and Hasan, Tong, and Yan (2017).
[17] In our sample, the average negotiation length is 286 days. On average, it takes 185 days between signing the first confidential agreement to the merger announcement, 178 days from the engagement of financial advisor to announcement and 136 days between receive first offer price to announcement.

stock run-ups but the effects cancel out by those targets that the negotiations haven't started or there is not significant improvement in the negotiation. In that case, the calculation of abnormal return and premium might be significantly underestimated for those targets whose stock run-ups start much earlier than 42 days.

In this section, we address this issues by using the information of private negotiation process. This information allows us to identify the exact date that the negotiation starts and how the negotiation moved. With this information, we can better capture the target firms' stock trading activities during the private negotiation period of the merger deals.

[Insert Table 3.3 here]

Table 3.3 presents the cumulative abnormal return (CAR) before and during the private negotiation period. The sample includes 748 Merger and Acquisition deals from the year 2002 to 2014. To calculate the CAR we calculated the market model by using the target firms' stock data from 253 trading days to 63 trading days before the start date of the private negotiation. This period is three months before the negotiation starts and are less likely to be contaminated by the merger activities. Panel A of Table 3.3 reports the targets' abnormal return one month and two months before the start date of the private negotiation. On average, the CARs of the target firms are significantly negative (1% and 1.8% for one-month and two-month respectively) before the merger negotiation starts. This result is consistent with the literature that firms with inefficient management team have a higher probability of being acquired (e.g. Palepu, 1986).

Panel B of Table 3.3 presents the CARs for each movement during the merger negotiation. The results show that there is no significant run-up right after the begin of the merger negotiation. These findings might be due to the high uncertainty at the beginning of the merger negotiation. However, the target firms' returns start to grow after progress has achieved the negotiation. Our results show that there are significantly positive returns around the confidential date, offer date, and the engage advisor date. On average, these dates are 4 to 6 months before the merger announcement (185 days for a confidential date, 178 days for engage advisor date and 136 days for Offer Date). These results indicate that the target firms stock run-up starts much earlier than the literature documented.

We also investigate the size of the total stock run-up. Panel C of Table 3.3 reports the total run-up from the start of the private negotiation to 1 day before the merger announcement date. The average CARs from the beginning of the merger negotiation to the merger announcement is 9.6%. The result is consistent with that of Hasan, Tong, and Yan (2017). More than 85% of the total run-up starts after the target firms receive their first offer price. Noticeable, the CARs started from 42 days before the merger announcement is only 4.9%. Therefore, when using the 42-day as the start date of the target stock run-up might underestimate the run-up size. In addition, using the stock data one year before the merger announcement date to estimate the market model might be inaccurate, because the stock run-up already exists during the estimation period.

Next, we focus on the target stock trading volume. We use the target stock turnover to measure the abnormal trading volume. Details of the model are discussed in Section 3. Table 3.4 shows the report of the abnormal turnover of the targets around

the private negotiation period. As shown in the Panel A of Table 3.4, the abnormal turnover is not significantly positive before the merger negotiation started. However, shortly after the negotiation starts, the abnormal turnover become significantly positive, which indicates an increase in the trading volume of the target stocks. Worth noticing, both the magnitude and the significant level of the abnormal trading volume increased with the progress of the negotiation process. These results also show confirm the existence of abnormal trading activities during the merger negotiation period.

Panel C of Table 3.4 reports the average abnormal turnover of the private negotiation period. Though the abnormal turnovers are significantly positive throughout the whole negotiation period, the magnitude and significance level are higher during the sample period [-42, -1]. These results are consistent with the proposition that abnormal trading activities become more pronounced as the merger probability increased.

[Insert Table 3.4 here]

3.4.2 Abnormal Trading Activities and private negotiation process

In this section, we are going to investigate whether the deals negotiation processes can affect the firms' abnormal trading activities. Specifically, we are going to focus on whether the deals are initiated by targets firms and whether the deals are auction deals or negotiation deals.

[Insert Table 3.5 here]

Table 3.5 reports the subsample results of abnormal trading activities before and during private negotiation period by how the deals are initiated. We define a deal as

target initiated deal if the target firms are the initiated party of the private negotiation process. Otherwise, we treat the deals as non-target initiated deals. Panel A and B of Table 3.5 presents the results of CARs and Panel C and D of Table 3.5 shows the results of abnormal turnovers. Column (1) and (2) of Panel A and column (1) to (3) of Panel B are results for target initiated deals. Column (4) and (6) of Panel A and column (6) to (10) of Panel B are results for non-target initiated deals. As suggested by Table 3.5, there is not much difference in abnormal trading activities between target initiated deals and acquire initiated deals.

In addition to the initiation party, we also studied whether the number of potential bidders involved in the negotiation process affects the abnormal trading activities. As suggested by the literature, there is no optimal selling process to all the deals. For example, Boone and Mulherin (2009) find that large firms might more likely to choose negotiation while small firms might select auction process to get a higher premium. Aktas et al (2010) find that the existence of latent competition can mitigate the lack of competition of negotiation deals. In this section, we studied how different selling process affects the abnormal trading activities.

Following Boone and Mulherin (2007), we define a deal as auction deal if it only involves one potential bidder and negotiation deal if it involves more than one potential bidders. Table 3.6 shows the subsample results of whether the deal is an auction deal or negotiation deals. Panel A and B of Table 3.6 presents the results of CARs and Panel C and D of Table 3.6 shows the results of abnormal turnovers. Column (1) and (2) of Panel A and column (1) to (5) of Panel B are results for auction deals while column (3) and (4) of Panel A and column (6) to (10) of Panel B are results for negotiation deals.

The results from Table 3.6 indicate that there are not many differences between negotiation deals and auction deals. However, auction deals do experience lower abnormal return before the negotiation starts. One possible explanation for this findings is that firms with weak performance are more likely to become a target (Palepu, 1986). In addition, abnormal turnovers around the start date are significantly higher for auction deals.

[Insert Table 3.6 here]

3.4.3 How firm and deal characteristics affect the abnormal trading activities

In this section, we focus on the firm and deal characteristics and we investigate how these characteristics affect the abnormal trading activities during the merger announcement.

Instead of focusing on the window period of each event dates of the negotiation process, we focus on the total stock run-ups from each event dates to the merger announcement in this section. Unlike other negotiation process characteristics, firm and deal characteristics that we focus in this section are not attributes that only work on each event dates. Those characteristics can affect the whole negotiation process and therefore we use the total run-ups instead of each event date window periods. We estimate the correlated of stock run-ups and abnormal turnovers using the following models:

$$Stock\ run\ ups\ (Average\ abnormal\ turnovers)_i$$

$$= \alpha_i + \beta_2 Controls_i + \theta_{year} + \theta_{FF5} + \varepsilon_i \qquad (5)$$

Where $Stock\ run\ ups\ (Average\ abnormal\ turnovers)_i$ stands for the total run ups from the event dates to merger announcement of deal i. $Controls_i$ stands for the firm and deal characteristics variables studies in this section.

[Insert Table 3.7 here]

Table 3.7 reposts the results that how the firm and deal characteristics affect the total abnormal returns and average abnormal turnovers from each event dates during the negotiation period to the merger announcement. Worth noticing, we find that the percentage of cash in the total payment is positively correlated with higher total run-ups from the start of the negotiation to merger announcement and from the first offer date to the merger announcement. These results are intuitive because cash payment is documented to be associated with higher premium (Ayers et al., 2003, 2007; Burch et al., 2012). The higher abnormal returns for cash deals indicate that the run-ups are results of the merger negotiation process. In addition, the abnormal return and turnovers are lower if the deal is incomplete, which indicates that the abnormal trading activities correlated with the probability of deal completion rate.

3.4.4 Cause of the Abnormal Trading Activities: information leakage or market anticipation?

Previous studies show that the abnormal trading activities before merger announcements are significantly positive. These results are consistent with the information hypothesis. According to the market anticipation explanation, the abnormal trading activities are less likely to correlate with the negotiation process.

First, we evaluate the information leakage and market anticipation by constructing a matched sample to our target sample firms. According to market anticipation, firms with similar fundamentals and firms characteristics should have

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similar probabilities of being acquired. Therefore, under market anticipation explanation, we are expected to find abnormal trading activities of those industry peer firms.

We construct the matching sample to our target firms by using the target firm industry and firm size. Then we rerun all of our model specifications. Table 3.8 shows the results of abnormal trading activities of industry peers. The results indicate that during the private negotiation period, the industry peer firms do not experience stock run-ups. Moreover, some of the abnormal returns of the peer firms are negative. These results are inconsistent with the market anticipation explanation.

[Insert Table 3.8 here]

Next, we examine whether the abnormal trading activities are affected by the engagement of new financial advisors. If the abnormal trading activities are results of market anticipations, it is unlikely that the introduction of financial advisors has impacts on the abnormal return and turnovers. However, if the abnormal trading activities are associated with information leakage, the introduction of the new related party might increase the size and significant level of the abnormal trading. Therefore in Table 3.9, we compare the abnormal returns and abnormal trading volumes before and after the contact of a financial advisor.

Numerous studies have documented that investment bank might be correlated with informed tradings (e.g. Bodnaruk, Massa, and Simonov, 2009; Jegadeesh and Tang, 2010; Kedia and Zhou, 2010; Tuch, 2014). For example, Bodnaruk, Massa, and Simonov (2009) find that acquirers' financial advisor might gain from trading on the target firms stock before the earnings announcement. In addition, Jegadeesh and Tang

(2010) also documented that funds with connections to target advisors conduct profitable net buy before the merger announcement. Though governments enforce regulations on investment banking, the misconduct cannot be fully deterred (Tuch, 2014).

[Insert Table 3.9 here]

Table 3.9 reports the abnormal returns and abnormal trading volumes before and after the contact of financial advisors. First, we collect the date that targets contact their financial advisors. In our sample, we have 197 deals that target firms approach new financial advisors after merger negotiation started. The rest of the target financial advisors are either long-term advisors (470 deals) to the target firms or contacted before the deal started (81 deals). The abnormal returns around start date are not significantly positive for both subsamples. However, abnormal returns for confidential date and offer date are more significant for those targets that introduce the financial advisor into the negotiation process. Furthermore, target turnovers are significantly positive if the target financial advisor is involved in the negotiation. The evidence from Table 3.9 indicates that the involvement of financial advisors in the negotiation have incremental effects on the magnitude of the abnormal trading activities. These results are inconsistent with the market anticipation explanation.

Next, we test the information environment of the target firms. Information asymmetry allows insiders to gain from using their private information (Aboody and Lev, 2000). In addition, some of the insider trades are results of the insiders' information advantage compare to the market (Huddart and Ke, 2007; Huddart, Ke, and Shi, 2007). Therefore, for target firms with opaque information environment,

parties with private information have more chances to fully exploit their advantage by trading with their private information. Consistent with the predictions of information leakage explanation, we find that targets in less transparent information environment are associated with higher level of abnormal turnovers, though the size of the stock run-ups is not affected.

Then we examine whether insider trading contributes to the abnormal trading activities. First, we construct a variable to measure the change of insider trading activities. We define the change of the net insider trading as the difference between the net insider trading volume during the negotiation period and the net insider trading volume one year before the negotiation starts. We scaled the insider trading volume by the negotiation length[18]. Then, we test the correlation between the difference of net insider trading volume and the level of abnormal trading activities. As suggested by Table 3.10, the volume of insider trading does not significantly correlated with the level of abnormal trading activities, which is inconsistent with the proposition that insider trading contributes to the abnormal trading activities.

[Insert Table 3.10 here]

In the last part of the study, we examine whether the level of institutional ownership affects the size of the abnormal trading activities. A large body of studies has shown that institutional investors are better informed than individual investors (Lev, 1988; Kim and Verrecchia, 1991; Utama and Cready, 1997). Compare to individual investors, institutional investor spends more resources in gather information (Lev, 1988) and can acquire information at lower cost (Lev,1988). In addition, Utama and Cready

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[18] For example, if a deal is negotiated for 1 year and a half, we scaled the insider trading volume by 1.5.

(1997) show that institution investors adjust their portfolios with their precision before public announcements. Following the information leakage explanation, institutional investors are more likely to acquire private information about the merger negotiation and targets with larger institutional ownership are expected to associate with more abnormal trading activities. However, if the abnormal trading activities are caused by market expectations, then there should be no difference in the abnormal trading activities between firms with high and low institutional ownership.

[Insert Table 3.11 here]

Table 11 presents the results of how the level of institutional holdings affects the abnormal trading activities during the merger negotiation period. We collected the institutional ownership data from Thomson Reuters database and measure the level of institutional ownership by using the percentage of institution shareholding to the total shares outstanding. Our results indicate that after negotiation start, the abnormal returns are significantly correlated with the level of institutional ownership. In addition, the abnormal turnover around the start date is positively correlated with the level of institutional ownership.

3.5   Conclusion

It is well known that information leakage can affect the market quality. For example, Brunnermeier (2005) shows that information leakage reduces the market informativeness in the long-run. Li and Heidle (2004) also documented that the information leakage might lead to opportunistic behavior which will affect the stock market. M&A is one of the major corporate decision and the announcement can affect the target and acquirer stock market. So it is natural for us to ask the question that

whether there are information leakages in M&As. Current evidence shows that there are abnormal trading activities before the merger announcement. For example, Schwert (1996) and Meulbroe (1992) document the existence of target stocks run-ups before takeover announcement. This pre-bid stock run-up not only exist in the U.S. market but can also be found in the Canadian stock market (King, 2009). However, whether these stock run-ups are evidence of information leakage is still unknown. Another explanation of the pre-bid run-ups is information leakage. Under this explanations, informed trading is the cause of the pre-bid run-ups. Specifically, Zhou and Kedia (2014) find that before the announcement, the target bond price is correlated with the acquirer firms' characteristics. These findings support the idea that the trading is informed and associated with the merger deals that were negotiated.

In this paper, we evaluate these two explanations by testing whether the abnormal trading activities correlated with the private negotiation process. Under the market anticipation explanation, the stock price movement should not correlate with the negotiation process. Our results show that the stock price movement is correlated with the private negotiation process. This evidence suggests that information leakage, rather than market anticipation contribute to the abnormal trading activities. In addition, evidence indicates that financial advisor and institutional investors might contribute to the abnormal trading activities. Moreover, we find the abnormal trading activities of the target stock exist after the start date of merger negotiation and the size of the target stock run-ups are larger than documented in the literature.

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Appendices

Table 1.1- Descriptive statistics: Target CEO Experience with M&A's

This table reports sample mean and standard deviation of target CEO past M&A experience in a sample of 932 (756) attempted M&A deals received by publicly traded targets (with CEO's M&A experience) from publicly traded bidders between January 1, 2000 and December 31, 2014. In 101 cases of the 756 deals where target CEOs have M&A experience, the CEO experienced all of the past M&A deals while employed in a non-listed company.

	N	Mean	Std
Target CEO Experience	932	0.81	0.39
Target CEO Experience – Number of Deals	932	6.38	11.36
Only Inside Experience	756	0.35	0.48
Only Outside Experience	756	0.23	0.42
Inside & Outside Experience	756	0.42	0.49
Poor Experience – Average Experience CAR Below Median	655	0.50	0.50
Poor Experience – Average Experience CAR Bottom 25%	655	0.25	0.43
Poor Experience – Average Experience CAR Negative	655	0.40	0.49
M&A Experience as Target	756	0.42	0.49
M&A Experience in All Public Firm Deals	756	0.53	0.50
M&A Experience as CEO or CFO	756	0.80	0.40

Table 1.2 – Descriptive statistics: target CEO, target and bidder firm, and deal characteristics

This table reports sample mean and standard deviation of target CEO, target and bidder firm, and deal characteristics. Columns (1-2) report sample statistics for the full sample (932 attempted deals, 912 takeover contests), columns (3-4) for the sample where the target CEO has prior M&A experience (756 target-bidder offers, 737 target contests), and columns (5-6) for the sample where the target CEO has no prior M&A experience (176 target-bidder offers, 175 target contests). Column (7) reports t-statistics for the difference in means reported in columns (3) and (5), where ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively. Panels A, B, and C report sample statistics at the target-bidder offer level, while Panels D at the target contest level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Full Sample		*Experience*		*No Experience*		*Diff.*
	N		N		N		
	Deals=932		Deals=756		Deals=176		
	N		N		N		*Means*
	Contests=912		Contests=737		Contests=175		
	Mean	STD	Mean	STD	Mean	STD	*T-test*
Panel A: Other Target CEO Characteristics							
Age	55.06	7.79	55.30	7.87	55.06	7.44	*0.37*
Male	0.97	0.18	0.96	0.18	0.98	0.15	*-0.78*
Foreign	0.50	0.50	0.48	0.50	0.61	0.49	*-3.19****
Current Tenure as CEO	10.23	7.96	10.54	8.01	8.87	7.62	*2.52***
CFO Experience	0.13	0.33	0.14	0.35	0.07	0.25	*2.63****
Finance Industry Experience	0.17	0.37	0.17	0.37	0.17	0.38	*-0.08*
MBA Degree	0.31	0.46	0.32	0.47	0.29	0.45	*0.78*
Top 50 University Degree	0.29	0.45	0.31	0.46	0.19	0.40	*3.14****
Panel B: Bidder and Target Firm Characteristics							
Target Ln(MVE, mil)	6.06	1.77	6.20	1.74	5.49	1.75	*4.97****
Bidder Ln(MVE, mil)	8.32	2.06	8.47	2.02	7.72	2.10	*4.41****
Target Mkt. Adj. Return, %	1.17	43.76	0.01	42.51	6.20	48.61	*-1.69**
Bidder Mkt. Adj. Return, %	8.96	36.40	8.92	36.62	9.11	35.58	*-0.06*
Target Return Volatility	2.63	2.87	2.73	2.95	2.19	2.41	*2.30***
Bidder Return Volatility	4.21	5.17	4.35	5.32	3.57	4.42	*1.82**
Target Tobin's Q	1.79	1.20	1.79	1.14	1.79	1.43	*0.08*
Bidder Tobin's Q	1.96	1.28	1.99	1.27	1.80	1.33	*1.83**
Target Leverage	0.54	0.27	0.52	0.27	0.62	0.29	*-4.40****
Bidder Leverage	0.58	0.25	0.57	0.24	0.66	0.26	*-4.34****
Target ROA	4.76	15.70	5.37	15.27	2.15	17.22	*2.45****
Bidder ROA	10.78	10.12	11.55	9.80	7.47	10.87	*4.87****
Target Past M&A	0.78	0.41	0.87	0.33	0.38	0.49	*16.33****
Target Past M&A Number	4.97	9.33	5.72	10.01	1.74	4.13	*5.17****

Table 1.2 - continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Full Sample		*Experience*		*No Experience*		
	N		N		N		*Diff.*
	Deals=932		Deals=756		Deals=176		
	N		N		N		*Means*
	Contests=912		Contests=737		Contests=175		
	Mean	STD	Mean	STD	Mean	STD	*T-test*
Panel C: Offer-level Characteristics							
Ln(Transaction Value, mil)	6.48	1.73	6.64	1.70	5.83	1.70	*5.68***
Initial Offer Premium	40.74	57.92	42.74	62.08	32.57	33.66	*2.40***
Final Offer Premium	40.05	35.56	41.90	35.06	32.10	36.67	*3.31***
(Last-First)/First Offer Price	1.06	5.72	1.37	5.93	-0.26	4.50	*3.40***
All Cash	0.47	0.50	0.51	0.50	0.30	0.46	*4.95***
Fraction Cash	0.57	0.43	0.60	0.43	0.43	0.42	*4.75***
All Equity	0.22	0.41	0.19	0.40	0.31	0.46	*-3.30***
Tender Offer	0.18	0.38	0.19	0.39	0.13	0.33	*2.15***
Target Termination Fee	0.85	0.36	0.85	0.35	0.82	0.39	*1.16*
Bidder Termination Fee	0.23	0.42	0.23	0.42	0.22	0.41	*0.53*
Target Mkt. Adj Return [-1, 1]	26.65	26.43	27.74	27.00	22.00	23.32	*2.60***
Bidder Mkt. Adj Return [-1, 1]	-1.26	7.15	-1.10	7.36	-1.98	6.09	*1.47*
Comb. Mkt. Adj Return [-1, 1]	2.38	7.20	2.65	7.47	1.20	5.74	*2.42***
Panel D: Contest-level Characteristics							
First Offer Premium	39.58	34.88	41.43	34.60	31.7	35.08	*3.34***
(Last-First)/First Offer Price	0.92	5.44	1.19	5.61	-0.03	4.51	*3.19***
Multiple Bidders	0.07	0.25	0.08	0.26	0.04	0.20	*1.67**
Number of Bidders	1.08	0.32	1.09	0.33	1.05	0.27	*1.34*
Non-Friendly First Bidder	0.06	0.23	0.06	0.24	0.04	0.20	*1.00*
Completion Rate	0.92	0.27	0.92	0.27	0.91	0.28	*0.38*
Completion Lag	4.70	0.69	4.67	0.70	4.84	0.55	*-3.03***

Table 1.3 – Relation between M&A offer premiums and target CEO M&A experience

This table reports OLS estimates for the relation between M&A offer premiums and target CEO M&A experience. The sample consists of 932 M&A deals between 2000 and 2014. Panel A reports the full sample estimates. Panels B and C report estimates for restricted samples. *Restricted Sample 1* excludes target firms whose CEO M&A experience is exclusively due to current target M&A activity in the two years prior the current takeover contest. *Restricted Sample 2* excludes targets that appointed the current CEO with prior M&A experience within 3 years of the current takeover contest. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
Panel A: Full Sample			
Target CEO Experience	7.85***	9.90***	12.84***
	(8.11)	(3.35)	(3.60)
Target Firm Experience			-6.57***
			(-3.85)
Adj. R²	0.094	0.199	0.203
N	932	932	932
Panel B: Restricted Sample 1			
Target CEO Experience	7.63***	10.13***	12.92***
	(11.86)	(3.63)	(3.82)
Target Firm Experience			-6.37***
			(-3.34)
Adj. R²	0.094	0.202	0.206
N	901	901	901
Panel C: Restricted Sample 2			
Target CEO Experience	7.33***	9.03**	12.29***
	(4.17)	(2.40)	(3.49)
Target Firm Experience			-7.03**
			(-2.33)
Adj. R²	0.104	0.192	0.197
N	805	805	805
All Panels			
Target Firm Characteristics	No	Yes	Yes
Bidder Firm Characteristics	No	Yes	Yes
Target CEO Characteristics	No	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes

Table 1.4 – Does target CEO inside or outside M&A experience matter more?

This table reports OLS estimates for the relation between M&A offer premiums and CEO M&A experience inside and outside the current target firm. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)
Inside Experience Only	11.45***	10.48***
	(3.11)	(2.80)
Inside & Outside Experience	9.60**	9.26**
	(2.33)	(2.33)
Outside Experience Only	15.17***	15.52***
	(3.58)	(3.68)
Tenure		0.14
		(0.93)
Target Firm Characteristics	Yes	Yes
Bidder Firm Characteristics	Yes	Yes
Target CEO Characteristics	Yes	Yes
Year F.E.	Yes	Yes
Industry F.E.	Yes	Yes
N	932	932
Adj. R^2	0.205	0.206
Wald test	Null Hp: b(inside)=b(outside)=b(both)	
(Prob>F)	0.131	0.234

Table 1.5 – Does bidder selection of target CEOs explain the experience premium?

This table reports estimates for the relation between target CEO M&A experience and offer premiums, accounting for variation in CEO M&A experiences across comparable potential targets. *Matching Non-Target CEO Experience* (*MNTCE*) is an indicator variable that equals 1 if the matching-CEO has M&A experience. The matching-CEO is appointed at the firm a) in the target Fama-French 48 industry, b) not involved in any M&A in the year prior and following the current takeover contest, and c) with asset book value closest to the current target. Column (1) reports OLS estimates of the augmented baseline model, whereas columns (2) and (3) report limited-information maximum likelihood estimates of the following mixed-process system of equations (Angrist, 2001):

$$\text{Offer Premium} = \alpha_{PR} + \beta_{PR1} \times TCE + \gamma_{PR} \times X + \delta_{PR} + \lambda_{PR} + \varepsilon_{PR},$$

$$TCE^* = \alpha_{TCE} + \beta_{TCE} \times MNTCE + \gamma_{TCE} \times X + \delta_{TCE} + \lambda_{TCE} + \varepsilon_{TCE},$$

$$\textit{where } TCE = \{1, \textit{ if } TCE^* > 0; 0, \text{ otherwise}\}$$

Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively. Corresponding t-statistics are in parentheses.

	(1)	(2)	(3)
	Single-equation OLS	Simultaneous-equations LIML	
Dependent Variable	*Premium*	*Target CEO Experience*	*Premium*
Target CEO Experience (TCE)	13.08***		17.27**
	(2.92)		(2.39)
Matching Non-Target CEO Experience (MNTCE)		0.28**	
		(2.20)	
TCE *minus* MNTCE	-0.27		
	(-0.11)		
Target Firm Characteristics	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
N	932	932	932
Adj. R^2	0.203	NA	NA

Table 1.6 – Do bidder motives vary with target CEO M&A experience?

Panel A reports OLS estimates for the relation between target CEO M&A experience and target, acquirer, or combined three-day cumulative market adjusted daily returns around announcements of M&A offers. Market adjusted daily returns are calculated using the value-weighted CRSP portfolio returns. Following Berkovitch and Narayanan (1993), Panel B reports OLS estimates for the relation between merger announcement target shareholder dollar wealth gains and bidder gains in columns (1-3) or total gains in columns (4-6), across various subsamples. Detailed definitions of all variables are in Appendix B. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A – Target CEO M&A experience and merger announcement returns

| Dependent Variable | (1) | (2) | (3) | (4) | (5) | (6) |
	Target Mkt Adj Return [-1, 1]		Bidder Mkt Adj Return [-1,1]		Combined Mkt Adj Return [-1,1]	
Target CEO Experience	6.36**	5.97**	0.43	-0.10	0.92	0.42
	(2.10)	(2.15)	(0.54)	(-0.21)	(1.45)	(0.65)
Deal Controls	No	Yes	No	Yes	No	Yes
Target Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	932	932	932	932	932	932
Adj. R^2	0.224	0.237	0.142	0.190	0.212	0.273

Panel B – Estimates of Berkovitch' and Narayanan's (1993) models by target CEO experience

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent Variable		*Target Wealth Gains*			*Target Wealth Gains*		
Independent Variable		*Total Wealth Gains*			*Bidder Wealth Gains*		
Reference Sample	N	α	β	Adj. R^2	α	β	Adj. R^2
A - Full sample	932	321.14*** (4.96)	-0.06 (-0.98)	0.055	176.17*** (7.58)	-0.25*** (-6.97)	0.283
- Subsamples by Sign of Total Gains							
B - Positive Total Gains	598	80.90** (2.12)	0.32** (2.48)	0.368	391.40*** (4.91)	-0.03 (-0.38)	0.08
C - Negative Total Gains	334	-574.65*** (-4.94)	-0.33*** (-5.95)	0.360	-673.76*** (-9.92)	-0.35*** (-6.35)	0.588
- Subsamples by Target CEO M&A Experience							
D - CEO with Experience	756	384.14*** (8.57)	-0.05 (-0.75)	0.05	284.37*** (5.36)	-0.24*** (-6.94)	0.272
E - CEO with No Experience	176	-555.18 (1.35)	-0.28 (-1.13)	0.325	-678.75*** (-5.83)	-0.35** (-2.13)	0.561
- Subsamples by Target CEO M&A Experience and Sign of Total Gains							
F - Exp. & Pos. Total Gains	494	33.16 (1.48)	0.32** (2.24)	0.380	364.44*** (5.05)	-0.02 (-0.28)	0.09
G - No Exp. & Pos. Total Gains	104	238.59*** (2.46)	0.22* (1.67)	0.424	212.14* (1.78)	-0.06 (-0.90)	0.103
H - Exp. & Neg. Total Gains	262	-389.35*** (-4.51)	-0.32*** (-5.69)	0.277	-541.20*** (-3.65)	-0.35*** (-5.92)	0.580
I - No Exp. & Neg. Total Gains	72	-1206.50* (-1.88)	-0.42 (-1.61)	0.556	-1154.05*** (-8.59)	-0.41** (-2.49)	0.736

Table 1.7 – Learning or innate skill? Extent of target CEO M&A experience and premiums

This table reports OLS estimates for the relation between M&A offer premiums and the extent of target CEO M&A experience. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)
Target CEO Experience Tercile	12.63***	
	(5.28)	
(Target CEO Experience Tercile)^2	-3.26***	
	(-2.85)	
Target CEO Experience		14.28***
		(5.33)
Target CEO Experience in 2nd or 3rd Tercile		1.80
		(0.63)
Target CEO Experience in 3rd Tercile		-3.69
		(-0.99)
Target Firm Characteristics	Yes	Yes
Bidder Firm Characteristics	Yes	Yes
Target CEO Characteristics	Yes	Yes
Year F.E.	Yes	Yes
Industry F.E.	Yes	Yes
N	932	932
Adj. R^2	0.199	0.204

Table 1.8 – Learning or innate skill? Type of target CEO M&A experience and premiums

This table reports OLS estimates for the relation between M&A offer premiums and different types of target CEO M&A experience. In columns (1-3), the final sample includes 655 deals for which the CEO's performance in past deals can be measured and 176 deals for which the CEO has no M&A experience. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are adjusted for industry and year clustering. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Target CEO Experience	8.52*	9.87**	9.25*	11.88***	13.70***	14.87***
	(1.75)	(2.18)	(1.89)	(3.58)	(4.51)	(5.50)
M&A Experience CAR Below Median	1.99					
	(0.65)					
M&A Experience CAR Bottom 25%		-1.29				
		(-0.44)				
M&A Experience CAR Negative			0.66			
			(0.20)			
M&A Experience as Target				2.30**		
				(1.98)		
M&A Experience All Public Firm Deals					-1.62	
					(-0.67)	
M&A Experience as CEO or CFO						-2.96
						(-1.59)
Target Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	831	831	831	932	932	932
Adj. R^2	0.196	0.196	0.195	0.204	0.203	0.204

Table 1.9 – Learning-by-doing? M&A experience premiums by education and work experience

This table reports OLS estimates for the relation between M&A offer premiums and target CEO M&A experience, conditional on CEO professional and educational background. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Target CEO Experience (TCE)	11.32***	11.02***	8.58*	11.99***
	(2.67)	(2.82)	(1.88)	(3.20)
Professional Experience as CFO	-16.47			
	(-1.40)			
TCE* Experience as CFO	18.68			
	(1.62)			
Professional Experience in Finance Industry		0.24		
		(0.04)		
TCE* Experience in Finance Industry		6.46		
		(1.15)		
Holds MBA Degree			-10.35**	
			(-2.41)	
TCE*MBA Degree			13.76***	
			(2.74)	
Holds Top University Degree				0.08
				(0.01)
TCE*Top University Degree				2.71
				(0.24)
Target Firm Characteristics	Yes	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
N	932	932	932	932
Adj. R²	0.206	0.206	0.208	0.204

Table 1.10 – Learning to haggle? Target CEO M&A experience and offer price revisions

This table reports OLS estimates for the relation between target CEO M&A experience and changes in initial offer premiums. Changes in offer premiums are computed at the target-bidder level and target-contest level in columns (1-3) and (4-6), respectively. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
		Offer Level			Contest Level	
Target CEO Experience (TCE)	1.76***	1.81***	3.56***	1.36***	1.82***	3.58***
	(5.26)	(4.60)	(4.97)	(2.88)	(3.65)	(5.21)
Initial Premium		-0.01	0.04		-0.04***	0.003
		(-0.70)	(1.61)		(-3.16)	(0.15)
TCE*Initial Premium			-0.05***			-0.05***
			(-2.62)			(-2.65)
Target Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes	No	No	No
Target CEO Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	932	932	932	912	912	912
Adj. R^2	0.097	0.098	0.109	0.089	0.113	0.119

Table 1.11 – Learning to negotiate? Target CEO M&A experience and other offer characteristics

This table reports estimates for the relation between target CEO M&A experience and other offer characteristics. Each model is specified as follows:

$$Y^* = \alpha + \beta \times TCE + \gamma \times X + \delta + \lambda + \varepsilon \,,$$

where Y^* is the latent offer characteristic, X is the matrix of firm and CEO characteristics, and δ and λ are time and industry fixed effects, respectively. In column (1), the observed offer characteristic Y is the fraction of cash in the offer consideration and it is equal to: Y^*, if $1 > Y^* > 0$; 1, if $Y^* \geq 1$; and 0, otherwise. In columns (2), (3), and (4), Y is an indicator for all cash offers, tender offers, and target termination fees, respectively, equal to: 1, if $Y^* > 0$; and 0, otherwise. In column (4), the sample is restricted to 713 negotiated deals, which drops unsolicited and non-friendly offers. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Dependent Variable	(1) Fraction Cash	(2) All Cash	(3) Tender Offer	(4) Target Term. Fee
Target CEO Experience	0.08***	0.62***	0.32	0.35
	(3.54)	(3.16)	(1.02)	(1.34)
Target Firm Characteristics	Yes	Yes	Yes	Yes
Bidder Firm Characteristics	Yes	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
N	932	932	932	713
Pseudo R^2	0.430	0.379	0.193	0.203

Table 1.12 – Learning to negotiate? Joint determination of offer premiums and other terms

This table reports mixed-process limited-information maximum likelihood estimates for the relation between target CEO M&A experience and offer premiums, conditional on other jointly determined offer terms. Each system is specified as follows (Angrist, 2001):

$$\text{Offer Premium} = \alpha_{PR} + \beta_{PR1} \times TCE + \beta_{PR2} \times Y + \beta_{PR3} \times TCE \times Y + \gamma_{PR} \times \mathbf{X} + \boldsymbol{\delta_{PR}} + \boldsymbol{\lambda_{PR}} + \varepsilon_{PR},$$

$$Y^* = \alpha_Y + \beta_{Y1} \times TCE + \beta_{Y2} \times Z + \gamma_Y \times \mathbf{X} + \boldsymbol{\delta_Y} + \boldsymbol{\lambda_Y} + \varepsilon_Y,$$

where Y^* is the latent offer characteristic, Z is the corresponding instrumental variable, $\mathbf{X}$ is the matrix of firm and CEO characteristics, and $\boldsymbol{\delta}$ and $\boldsymbol{\lambda}$ are time and industry fixed effects, respectively. In column (1), the observed offer characteristic Y is the fraction of cash in the offer consideration and it is equal to: Y^*, if $1 > Y^* > 0$; 1, if $Y^* \geq 1$; and 0, otherwise. In columns (3), (5), and (6), Y is an indicator for all cash offers, tender offers, and target termination fees, respectively, equal to: 1, if $Y^* > 0$; and 0, otherwise. The sample in columns (7-8) excludes unsolicited or non-friendly offers. All models include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10% level, respectively.

Dependent Variable	(1) System with Fraction Cash — Cash	(2) System with Fraction Cash — Premium	(3) System with All Cash — Cash	(4) System with All Cash — Premium	(5) System with Tender Offer — Tender	(6) System with Tender Offer — Premium	(7) System with Target Term Fee — Fee	(8) System with Target Term Fee — Premium
Target CEO Experience (TCE)	0.09*** (2.89)	18.10*** (3.95)	0.40*** (2.59)	17.41*** (4.64)	0.19 (1.04)	15.10*** (4.59)	0.20 (1.17)	20.38** (2.38)
Fraction Cash		18.98* (1.66)						
TCE*Fraction Cash		-13.35* (-1.86)						
Bidder Cash Holdings	0.06*** (5.82)							
All Cash				8.92 (0.77)				
TCE*All Cash				-13.08** (-2.00)				
Bidder Cash Holdings			0.62*** (3.51)					
Tender Offer						28.80** (2.26)		
TCE*Tender Offer						-17.44 (-1.58)		
Target Ind. M&A Activity					9.13** (2.29)			
Target Term. Fee								6.29 (0.57)
TCE*Target Term. Fee								-9.18 (-1.03)
Bidder Term. Fee							1.36*** (6.50)	
Target CEO, Bidder and Target Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	932	932	932	932	932	932	713	713

Table 1.13 – Does CEO M&A experience affect contest hostility? Effect on contest attitude and competition

This table reports regression estimates for the relation between target CEO M&A experience and takeover contest attitude and competition. Each model is specified as follows:

$$Y^* = \alpha + \beta \times TCE + \gamma \times X + \delta + \lambda + \varepsilon,$$

where Y^* is the latent outcome variable, $\mathbf{X}$ is the matrix of firm and CEO characteristics, and δ and λ are time and industry fixed effects, respectively. The observed outcome variable Y is an indicator for takeover contests that are initiated as unsolicited or non-friendly in column (1) and that involve multiple public bids in column (2), equal to: 1, if $Y^*>0$; and 0, otherwise. In column (3), Y is the number of unique bidders involved in the contest equal to: Y^*, if $Y^*>1$; 1, otherwise. Columns (1) and (2) report probit estimates, and column (3) tobit estimates. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Dependent Variable	(1) Non-Friendly First Bidder	(2) Multiple Bidder Contest	(3) Number of Bidders in Contest
Target CEO Experience	-0.04	0.64**	0.03
	(-0.15)	(2.50)	(1.45)
Target Firm Characteristics	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	912	912	912
Adj. R^2	0.190	0.099	0.053

Table 1.14 – Does CEO M&A experience hamper successful takeovers? Effects on completion rates and speed

This table reports regression estimates for the relation between target CEO experience and takeover contest completion rates and speed. Each model is specified as follows:

$$Y^* = \alpha + \beta \times TCE + \gamma \times X + \delta + \lambda + \varepsilon ,$$

where Y^* is the latent outcome variable, X is the matrix of firm and CEO characteristics, and δ and λ are time and industry fixed effects, respectively. The observed outcome variable Y is an indicator for deal or contest successful completion in columns (1) and (3), equal to: 1, if $Y^*>0$; and 0, otherwise. In column (2) and (4), Y is the log of one plus the number of days between the deal or contest initiation and its successful completion, equal to: Y^*, if $Y^*>0$; 0, otherwise. Columns (1) and (3) report probit estimates, and columns (2) and (4) tobit estimates. *Friendly Contests* in columns (3) and (4) exclude contests initiated by unsolicited or non-friendly bids. Detailed definitions of all variables are in Appendix B. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are clustered by industry and year. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
	All Contests		Friendly Contests	
Dependent Variable	*Completion Rate*	*Completion Lag*	*Completion Rate*	*Completion Lag*
Target CEO Experience	0.16	-0.21***	0.02	-0.18***
	(1.13)	(-3.01)	(0.02)	(-3.75)
Target Firm Characteristics	Yes	Yes	Yes	Yes
Target CEO Characteristics	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
N	912	826	702	662
Adj. R²	0.112	0.265	0.121	0.244

Table 2.1 Summary Statistics: Board Connections

This table reports sample mean, median and standard deviation of board connections in a sample of 848 attempted M&A deals with publicly traded targets and bidders between January 1, 2002 and December 31, 2014. Detailed definitions of all variables are in Appendix D.

	(1) N	(2) Mean	(3) Median	(3) STD
Panel A: Connection Size				
Target Connections	848	2485.06	1782.00	2581.02
Target Work Connections	848	1420.21	957.00	1569.31
Target Social Connections	848	221.51	22.50	428.88
Target Education Connections	848	843.33	517.50	999.92
Target Connections of Experienced Directors	848	585.41	44.50	1046.01
Target Connections of Less Experienced Directors	848	1899.65	1358	2081.38
Target Connections of Directors with Top School Education	848	269.11	0.00	562.89
Target Connections of Directors without Top School Education	848	2215.95	1555.50	2306.37
Target Connections 2 Years Before the Merger Announcement	848	1845.19	1279	1971.30
Panel B: Standardized Connections				
Target Connections	848	0.14	-0.14	1.03
Target Work Connections	848	0.13	-0.17	1.03
Target Social Connections	848	0.07	-0.42	1.06
Target Education Connections	848	0.13	-0.21	1.05
Target Connections of Experienced Directors	848	0.09	-0.46	1.06
Target Connections of Less Experienced Directors	848	0.13	-0.14	1.04
Target Connections of Directors with Top School Education	848	0.07	-0.44	1.07
Target Connections of Directors without Top School Education	848	0.14	-0.15	1.03
Target Connections 2 Years Before the Merger Announcement	848	0.14	-0.15	1.03

Table 2.2 Summary Statistics: Firm and Deal Characteristics

This table reports sample mean, median and standard deviation of firm and deal characteristics. Panels A reports the summary statistics of firm control variables while Panel B and C report sample statistics of deal process and deal outcomes, respectively. Detailed definitions of all variables are in Appendix D.

	(1)	(2)	(3)	(3)
	N	Mean	Median	STD
Panel A: Firm Characteristics				
Acquirer Size, Ln (Market Value of Equity)	848	7.93	7.78	2.04
Target size, Ln (Market Value of Equity)	848	5.65	5.51	1.81
Acquirer Tobin's Q	848	1.80	1.40	1.09
Target Tobin's Q	848	1.71	1.29	1.13
Acquirer ROA	848	0.11	0.10	0.13
Target ROA	848	0.05	0.05	0.18
Panel B: Deal Process				
Acquirer Initiate Deal	848	0.51	1.00	0.50
Total Number of Acquirers Contacted	838	11.78	3.00	24.70
Acquirer-Target Connection	848	0.32	0.00	0.47
Use of Financial Advisor in Searching for Potential Acquirers	848	0.43	0.00	0.50
Announced Acquirer is Introduced by Financial Advisor	848	0.27	0.00	0.44
Panel C: Deal Outcomes				
Deal Premiums	843	37.69	30.72	35.30
Target CAR (-1, 1)	843	24.65	20.17	23.10
Target CAR(-21, 1)	843	27.73	24.18	25.99
Acquirer CAR (-1, 1)	843	-1.06	-0.66	6.33
Acquirer CAR(-21, 1)	843	-1.21	-1.15	10.13
Combined CAR (-1, 1)	843	2.87	1.47	6.94
Combined CAR(-21, 1)	843	2.90	2.03	9.84
Target Advisor Fees	598	10.02	9.49	7.38

Table 2.3 Board connections and merger likelihood

This table reports Logit regression estimates for the relation between board connections and probability of conducting M&A deals. The sample includes 48878 firm-year data points for which the board's connection size can be measured. The observed outcome variable Y of column (1) to (2) are indicators for merger probabilities. Specifically, the dependent variable Y of column (1) and column (2) equals to 1 if the firm has been a takeover target or acquirer in the specific year. Firm connections are calculated as the total number of all the connections of its directors. We remove duplicated connections and standardize the connections by the sample mean and sample standard deviation. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 12 Industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1) Target	(2) Acquirer
Connections	0.121**	0.104**
	(2.28)	(2.25)
Firm Size	-0.152***	0.247***
	(-3.85)	(6.11)
Tobin's Q	-0.117***	-0.049*
	(-6.26)	(-1.80)
ROA	0.302*	0.914***
	(1.87)	(2.99)
Constant	-0.334	-6.449***
	(-0.44)	(-8.38)
Year F.E.	Yes	Yes
Industry F.E.	Yes	Yes
N	48878	48878
Pseudo R²	0.0209	0.0735

Table 2.4 Board connections and merger process

This table reports estimates for the relation between board connections and M&A process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. The dependent variable of column (1) equals to 1 if the deal was initiated by the acquirer and 0 Otherwise. The dependent variable of column (2) is the total number of potential acquirers contacted in the merger negotiation period. The dependent variable of column (3) is an indicator of the acquirer-target connections ties. It equals to 1 if the acquirer and target are connected before the merger negotiation starts. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
	Acquirer Initiate Deal	Total Number of Acquirers Contacted	Acquirer-Target Connection
Target Connections	0.268***	0.968*	0.143***
	(3.29)	(1.83)	(5.82)
Target Size	0.070***	-3.157***	0.017**
	(4.31)	(-4.71)	(2.44)
Target Tobin's Q	0.012	-1.085	0.010
	(0.17)	(-1.44)	(0.64)
Target ROA	1.288***	-1.642	-0.087
	(7.32)	(-0.22)	(-1.30)
Constant	0.732***	27.863***	0.169***
	(4.70)	(7.61)	(3.30)
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	838	848
R^2/Pseudo R^2	0.083	0.081	0.214

Table 2.5 Board Connections and the Use of Financial Advisors to Search for Potential Acquirers

This table reports estimates for the relation between board connections and the use of financial advisors. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. Panel A of Table 5 reports the correlation between board connections and the use of financial advisor in the process of searching for potential acquirers. Panel B of Table 5 reports the deal outcomes depends on the use of financial advisors to contact announced acquirers. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Use of Financial Advisor to Search for Potential Acquirers			
	(1) Use of Financial Advisor to Search for Potential Acquirers	(2) Announced Acquirer was First Contacted by Financial Advisor	(3) Announced Acquirer was First Contacted by Financial Advisor
	Full Sample		Deals That Use of Financial Advisor to Search for potential acquirers
Target Connections	-0.161*	-0.230***	-0.376**
	(-1.95)	(-4.39)	(-2.24)
Target Size	-0.225**	-0.183***	0.033
	(-2.47)	(-3.02)	(0.35)
Target Tobin's Q	-0.054	-0.233***	-0.162***
	(-1.21)	(-3.96)	(-3.72)
Target ROA	-0.044	-0.788**	-1.555**
	(-0.13)	(-2.41)	(-2.29)
Constant	0.227	-0.722*	-0.679*
	(0.33)	(-1.66)	(-1.74)
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	848	363
R^2/pseudo R^2	0.066	0.094	0.121

Panel B: Deal Outcomes and the Use of Financial Advisor to First Contact Announced Acquirer							
	Full Sample				Sub Sample		
	(1) Target Advisor Fee	(2) Premium	(3) Target CAR (-1, 1)	(4) Target CAR (-21, 1)	(5) Premium	(6) Target CAR (-1, 1)	(7) Target CAR (-21, 1)
Announced Acquirer was First Contacted by Financial Advisor	1.062***	-6.017**	-2.732**	-2.671***	-10.576***	-4.289***	-5.269***
	(7.77)	(-3.61)	(-2.60)	(-2.68)	(-3.03)	(-3.36)	(-7.12)
Top Advisor Dummy	3.298***						
	(2.92)						
Cash Deal		0.793	3.126***	2.939*	8.568*	3.803	4.094*
		(0.42)	(11.73)	(1.69)	(1.80)	(1.30)	(1.90)
Tender Offer		19.181**	2.822	4.317	18.630*	3.348	11.170*
		(2.53)	(0.46)	(0.52)	(1.79)	(0.68)	(1.94)

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Acquirer Size	0.306	2.617**	3.039***	3.428***	2.211**	2.200**	2.809***
	(1.46)	(2.51)	(4.82)	(2.93)	(2.57)	(2.20)	(2.80)
Target Size	-2.759***	-8.197***	-6.130***	-7.184***	-8.861***	-6.134***	-7.790***
	(-5.23)	(-7.57)	(-12.20)	(-4.84)	(-4.67)	(-8.60)	(-5.74)
Acquirer Tobin's Q	-0.137	0.007	1.244*	0.817*	2.239**	2.554**	0.969
	(-0.62)	(0.01)	(1.74)	(1.77)	(2.27)	(2.21)	(1.04)
Target Tobin's Q	0.326	-2.546**	-1.093***	-2.065***	-1.550	-0.992	-1.519
	(1.13)	(-2.08)	(-6.66)	(-2.91)	(-0.62)	(-1.27)	(-1.16)
Acquirer ROA	1.057	29.132**	7.472**	16.356**	33.242***	20.613***	37.968***
	(0.47)	(2.27)	(2.20)	(2.09)	(5.53)	(3.68)	(2.74)
Target ROA	-7.123**	-5.203**	-1.568	-2.501	-17.488***	-6.555	-11.120***
	(-2.54)	(-2.16)	(-1.65)	(-0.47)	(-2.63)	(-1.12)	(-2.86)
Constant	19.707***	70.074***	30.353***	40.560***	60.772***	37.035***	43.714***
	(11.68)	(8.02)	(6.12)	(6.65)	(12.87)	(3.64)	(6.52)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	598	843	843	843	381	382	382
R^2/Pseudo R^2	0.404	0.216	0.208	0.227	0.260	0.252	0.273

Table 2.6 Board Connections and Deal Outcomes

This table reports OLS estimates for the relation between board connections and the deal outcomes. The sample includes 843 M&A deals which the market reaction of target and acquirer can be measured. The dependent variables of column (1- 6) are the target, acquirer, and combined 3-day (-1, 1) and 23-day (-21, 1) cumulative abnormal returns, respectively. Column (7) represents the association between target board connections and deal premiums, which measure as the offer price divided by target stock price as of 4 weeks before the announcement date. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Target CAR		Acquirer CAR		Combined CAR		Premiums
	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	
Target Connections	1.977**	3.649***	0.162	0.324	0.528***	0.603**	4.238***
	(2.03)	(3.69)	(0.89)	(1.26)	(3.52)	(2.42)	(6.12)
Cash Deal	2.853***	2.588	1.820***	1.652**	0.441	0.282	0.872
	(6.64)	(1.43)	(3.72)	(2.08)	(0.83)	(0.58)	(0.51)
Tender Offer	2.569	3.636	0.890	2.605*	0.823	1.778	18.502**
	(0.40)	(0.41)	(1.16)	(1.89)	(0.57)	(0.71)	(2.18)
Acquirer Size	3.027***	3.433***	0.323***	0.109	-0.900***	-1.098***	2.618***
	(4.60)	(2.99)	(2.89)	(0.42)	(-4.42)	(-3.99)	(2.83)
Target Size	-6.633***	-8.237***	-0.524**	-0.530	0.213	0.237	-9.374***
	(-9.85)	(-5.05)	(-2.07)	(-0.82)	(0.65)	(0.39)	(-9.61)
Acquirer Tobin's Q	1.220*	0.713	-0.347	-0.487	0.887***	0.794***	-0.047
	(1.73)	(1.64)	(-1.15)	(-1.24)	(2.67)	(3.84)	(-0.07)
Target Tobin's Q	-0.936***	-1.833***	-0.529	-0.320	-1.252***	-1.124***	-1.985*
	(-10.17)	(-3.00)	(-1.63)	(-1.01)	(-6.17)	(-3.64)	(-1.91)
Acquirer ROA	7.656**	16.556**	6.782	15.142***	4.568	10.777***	30.281**
	(2.31)	(2.22)	(1.42)	(3.43)	(1.59)	(3.73)	(2.37)
Target ROA	-0.157	-0.188	-1.279	-6.758**	-0.282	-5.154***	-0.591
	(-0.12)	(-0.04)	(-0.99)	(-2.57)	(-0.43)	(-2.78)	(-0.10)
Constant	32.975***	46.338***	0.451	1.132	10.779***	11.987***	75.183***
	(6.97)	(5.79)	(0.37)	(0.39)	(13.32)	(4.22)	(8.52)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	843	843	843	843	843	843	843
R^2/Pseudo R^2	0.210	0.238	0.129	0.087	0.168	0.130	0.219

Table 2.7 Types of Connections and Deal Initiation

This table reports estimates for the relationship between different types of board connections and M&A process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. The main independent variables of Panel A, Panel B, and Panel C are target firm's work connections, social connections, and education connections, respectively. The dependent variable of column (1) equals to 1 if the deal was initiated by the acquirer and 0 Otherwise. Column (2) reports the association of types of board connections and the total number of potential acquirers contacted in the merger negotiation period. The dependent variable of column (3) is an indicator of the acquirer-target connections ties. It equals to 1 if the acquirer and target are connected before the merger negotiation starts and 0 Otherwise. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1) Acquirer Initiated Deal	(2) Total Number of Acquirers Contacted	(3) Acquirer-Target Connection
	Panel A: Work Connections		
Target Work Connections	0.217***	1.573***	0.139***
	(3.42)	(3.61)	(5.85)
R^2/Pseudo R^2	0.081	0.083	0.212
	Panel B: Social Connections		
Target Social Connections	0.196**	-0.359	0.029
	(1.97)	(-0.79)	(1.51)
R^2/Pseudo R^2	0.081	0.080	0.159
	Panel C: Education Connections		
Target Education Connections	0.168**	0.155***	0.103***
	(2.04)	(3.48)	(5.13)
R^2/Pseudo R^2	0.079	0.080	0.194
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	838	848

Table 2.8 Types of Board Connections and the Use of Financial Advisors to Search for Potential Acquirers

This table reports Logit regression estimates for the relationship between different types of board connections and financial advisor. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
	Use of Financial Advisor in Searching for Potential Acquirers	Announced Acquirer is Introduced by Financial Advisor	Announced Acquirer is Introduced by Financial Advisor
	Full Sample		Deals That Use of Financial Advisor in Searching process
Panel A: Work Connections			
Target Work Connections	-0.129	-0.120**	-0.144
	(-1.26)	(-2.22)	(-0.89)
R^2/pseudo R^2	0.065	0.091	0.114
Panel B: Social Connections			
Target Social Connections	-0.045	-0.074	-0.178*
	(-0.54)	(-1.31)	(-1.65)
R^2/pseudo R^2	0.064	0.097	0.128
Panel C: Education Connections			
Target Education Connections	-0.144*	-0.292***	-0.424**
	(-1.78)	(-5.12)	(-2.49)
R^2/pseudo R^2	0.066	0.1030	0.1484
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	848	363

Table 2.9 Types of Board Connections and Deal Outcomes

This table reports OLS estimates for the relation between types of board connections and the deal outcomes. The sample includes 843 M&A deals which the market reaction of target and acquirer can be measured. The dependent variables of column (1- 6) are the target, acquirer, and combined 3-day (-1, 1) and 23-day (-21, 1) cumulative abnormal returns, respectively. Column (7) represents the association between target board connections and deal premiums, which measure as the offer price divided by target stock price as of 4 weeks before the announcement date. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Target CAR		Acquirer CAR		Combined CAR		Premiums
	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	
Panel A: Work Connections							
Target Work Connections	1.531*	3.448***	0.081	0.238	0.531***	0.660***	0.126
	(1.66)	(2.77)	(0.80)	(0.71)	(13.39)	(4.37)	(0.35)
R^2/Pseudo R^2	0.208	0.237	0.129	0.087	0.169	0.131	0.128
Panel B: Social Connections							
Target Social Connections	1.361*	1.401**	0.429***	0.507	0.600**	0.532	2.200**
	(1.73)	(2.20)	(2.70)	(1.54)	(2.37)	(1.56)	(2.40)
R^2/Pseudo R^2	0.209	0.228	0.133	0.089	0.172	0.131	0.214
Panel C: Education Connections							
Target Education Connections	1.444***	2.423***	0.013	0.116	0.102	0.126	2.671*
	(2.61)	(3.03)	(0.06)	(0.38)	(0.47)	(0.35)	(1.94)
R^2/Pseudo R^2	0.209	0.232	0.128	0.086	0.165	0.128	0.215
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	843	843	843	843	843	843	843

Table 2.10 Connections or Experience? Directors' Experience and Deal Process

This table reports estimates for the relation between connections of different directors' experience and M&A process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. The main independent variables of Panel A and Panel B are targets board connections of experienced and inexperienced directors. The dependent variable of column (1) equals to 1 if the deal was initiated by the acquirer and 0 Otherwise. Column (2) reports the association of types of board connections and the total number of potential acquirers contacted in the merger negotiation period. The dependent variable of column (3) is an indicator of the acquirer-target connections ties. It equals to 1 if the acquirer and target are connected before the merger negotiation starts and 0 Otherwise. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1) Acquirer Initiated Deal	(2) Total Number of Acquirers Contacted	(3) Acquirer-Target Connection
Panel A: Connections of Experienced Directors			
Target Connections of Experienced Directors	0.118**	0.216	0.063*
	(2.52)	(0.53)	(1.82)
R^2/Pseudo R^2	0.083	0.096	0.187
Panel B: Connections of Less Experienced Directors			
Target Connections of Less Experienced Directors	0.227**	0.987	0.127***
	(2.34)	(1.53)	(9.30)
R^2/Pseudo R^2	0.087	0.097	0.222
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	838	848

Table 2.11 Connections or Experience? Directors' Experience and the Use of Financial Advisors to Search for Potential Acquirers

This table reports Logit regression estimates for the relation between connections of different directors' experience and the use of financial advisor in the searching process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
	Use of Financial Advisor in Searching for Potential Acquirers	Announced Acquirer is Introduced by Financial Advisor	Announced Acquirer is Introduced by Financial Advisor
	Full Sample		Deals That Use of Financial Advisor in Searching process
Panel A: Connections of Experienced Directors			
Target Connections of Experienced Directors	-0.023	-0.153**	-0.127
	(-0.25)	(-2.20)	(-1.44)
R^2/pseudo R^2	0.076	0.099	0.135
Panel B: Connections of Less Experienced Directors			
Target Connections of Less Experienced Directors	-0.168*	-0.166**	-0.353*
	(-1.82)	(-2.38)	(-1.70)
R^2/pseudo R^2	0.079	0.099	0.142
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	848	363

Table 2.12 Connections or Experience? Directors' Experience and Deal Outcomes

This table reports OLS estimates for the relation between connections of different directors' experience and the deal outcomes. The sample includes 843 M&A deals which the market reaction of target and acquirer can be measured. The dependent variables of column (1- 6) are the target, acquirer, and combined 3-day (-1, 1) and 23-day (-21, 1) cumulative abnormal returns, respectively. Column (7) represents the association between target board connections and deal premiums, which measure as the offer price divided by target stock price as of 4 weeks before the announcement date. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Target CAR		Acquirer CAR		Combined CAR		Premiums
	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	
Panel A: Connections of Experienced Directors							
Target Connections of Experienced Directors	1.626^{***}	2.042^{***}	0.225	0.586	0.398^{***}	0.533^{**}	2.949^{**}
	(3.38)	(3.51)	(1.31)	(1.62)	(3.47)	(2.12)	(2.12)
R^2/pseudo R^2	0.210	0.231	0.129	0.089	0.168	0.130	0.216
Panel B: Connections of Less Experienced Directors							
Target Connections of Less Experienced Directors	1.281	2.950^{***}	0.049	0.020	0.364^{**}	0.368^{*}	3.061^{***}
	(1.42)	(4.04)	(0.20)	(0.06)	(2.29)	(1.65)	(3.75)
R^2/pseudo R^2	0.208	0.234	0.049	0.086	0.167	0.129	0.215
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	843	843	843	843	843	843	843

Table 2.13 Connections or Skill? Directors' Education Backgrounds and Deal Process

This table reports estimates for the relation between connections of different directors' education background and M&A process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. The main independent variables of Panel A and Panel B are targets board connections of directors with or without education backgrounds. The dependent variable of column (1) equals to 1 if the deal was initiated by the acquirer and 0 Otherwise. Column (2) reports the association of types of board connections and the total number of potential acquirers contacted in the merger negotiation period. The dependent variable of column (3) is an indicator of the acquirer-target connections ties. It equals to 1 if the acquirer and target are connected before the merger negotiation starts and 0 Otherwise. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1) Acquirer Initiated Deal	(2) Total Number of Acquirers Contacted	(3) Acquirer- Target Connection
Panel A: Connections of Experienced Directors			
Connections of Directors with Top School Education	0.188***	-0.531	0.049**
	(2.79)	(-0.64)	(2.53)
R^2/Pseudo R^2	0.080	0.080	0.166
Panel B: Connections of Less Experienced Directors			
Connections of Directors without Top School Education	0.225***	1.203***	0.135***
	(3.03)	(2.80)	(5.62)
R^2/Pseudo R^2	0.0862	0.097	0.227
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	838	848

Table 2.14 Connections or Skill? Directors' Education Backgrounds and the Use of Financial Advisors to Search for Potential Acquirers

This table reports Logit regression estimates for the relation between connections of different directors' education background and the use of financial advisor in the searching process. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
	Use of Financial Advisor in Searching for Potential Acquirers	Announced Acquirer is Introduced by Financial Advisor	Announced Acquirer is Introduced by Financial Advisor
	Full Sample		Deals That Use of Financial Advisor in Searching process
Panel A: Connections of Experienced Directors			
Connections of Directors with Top School Education	-0.194***	-0.309***	-0.399***
	(-9.60)	(-2.72)	(-2.68)
R^2/pseudo R^2	0.081	0.102	0.143
Panel B: Connections of Less Experienced Directors			
Connections of Directors without Top School Education	-0.112	-0.167***	-0.287**
	(-1.36)	(-7.17)	(-2.01)
R^2/pseudo R^2	0.077	0.099	0.139
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	848	363

Table 2.15 Connections or Skill? Directors' Education Backgrounds and Deal Outcomes

This table reports OLS estimates for the relation between connections of directors with different educational backgrounds and the deal outcomes. The sample includes 843 M&A deals which the market reaction of target and acquirer can be measured. The dependent variables of column (1- 6) are the target, acquirer, and combined 3-day (-1, 1) and 23-day (-21, 1) cumulative abnormal returns, respectively. Column (7) represents the association between target board connections and deal premiums, which measure as the offer price divided by target stock price as of 4 weeks before the announcement date. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Target CAR		Acquirer CAR		Combined CAR		Premiums
	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	(-1, 1)	(-21, 1)	
Panel A: Connections of Experienced Directors							
Connections of Directors with Top School Education	1.294*	1.507*	0.344**	0.371***	0.422***	0.544***	0.809
	(1.90)	(1.65)	(2.17)	(3.15)	(3.30)	(5.13)	(0.76)
R^2/pseudo R^2	0.208	0.228	0.131	0.087	0.168	0.131	0.211
Panel B: Connections of Less Experienced Directors							
Connections of Directors without Top School Education	1.669*	3.365***	0.060	0.227	0.421***	0.460**	4.219***
	(1.79)	(3.71)	(0.33)	(0.97)	(3.44)	(2.44)	(3.78)
R^2/pseudo R^2	0.209	0.236	0.128	0.087	0.167	0.129	0.220
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	843	843	843	843	843	843	843

Table 2.16 Build-up Connections? Board Connections 2 Years Before the Merger Announcement

This table whether targets buildup their connections before the merger negotiation starts. The sample includes 848 M&A deals which the merger process information can be acquired from SEC filings. Panel A, B, and C report the correlation between target deal connections 2 years before the merger announcement and the deal process, use of financial advisor in the searching process, and deal outcomes, respectively. Detailed definitions of all variables are in Appendix D. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Board Connection 2 Years Before the Merger Announcement and Merger Process

	(1) Acquirer Initiate Deal	(2) Total Number of Acquirers Contacted	(3) Acquirer-Target Connection
Target Connections 2 Years Before the	0.165*	0.671	0.133***
Merger Announcement	(1.65)	(1.62)	(5.70)
R^2/pseudo R^2	0.079	0.080	0.209
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	848	838	848

Panel B: Board Connections 2 Years Before the Merger Announcement and the Use of Financial Advisors to Search for Potential Acquirers

	(1) Use of Financial Advisor in Searching for Potential Acquirers	(2) Announced Acquirer is Introduced by Financial Advisor	(3) Announced Acquirer is Introduced by Financial Advisor
	Full Sample		Deals That Use of Financial Advisor in Searching
Target Connections 2 Years Before the	-0.089	-0.123**	-0.232
Merger Announcement	(-1.40)	(-2.03)	(-1.34)
R^2/pseudo R^2	0.064	0.091	0.117
Controls	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes
N	838	848	363

Panel C: Board Connections 2 Year Before the Merger Announcement and Deal Outcomes

	(1) Target (-1, 1)	(2) Target (-21, 1)	(3) Acquirer (-1, 1)	(4) Acquirer (-21, 1)	(5) Combined (-1, 1)	(6) Combined (-21, 1)	(7) Premium
Target Connections 2 Years Before	1.958*	3.032**	0.359*	0.617**	0.699***	0.809***	2.970**
the Merger Announcement	(1.90)	(2.60)	(1.81)	(2.14)	(3.09)	(2.95)	(2.28)
R^2/pseudo R^2	0.210	0.234	0.131	0.089	0.172	0.132	0.215
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	843	843	843	843	843	843	843

Table 3.1 Summary statistics: abnormal trading activities

This table reports sample mean, median and standard deviation of all the variables in our study. Our sample includes 748 attempted M&A deals with private negotiation information between January 1, 2002 and December 31, 2014. Column (1) to (4) present the mean, median, and standard deviation of CARs while column (5) to (8) reports those of abnormal turnovers.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	N	Mean	Median	STD	N	Mean	Median	STD
	Cumulative abnormal return				Abnormal turnover			
One month before the start date	748	-1.038	-0.545	16.217	748	0.034	0.003	0.760
Two month before the start date	748	-1.833	-0.849	21.699	748	0.012	0.010	0.597
Start date [-1,1]	748	0.127	-0.013	5.783	748	0.078	-0.025	1.166
Start date [-1,2]	748	0.002	-0.057	6.223	748	0.060	-0.021	0.983
Start date [-1,5]	748	0.079	0.001	7.883	748	0.099	-0.022	1.350
Start date [-1,10]	748	0.217	0.061	11.372	748	0.052	-0.023	1.028
Start date [-1,21]	748	0.807	0.117	16.535	748	0.106	0.205	0.716
Confidential date [-1,1]	702	0.235	-0.159	6.594	702	0.097	-0.031	1.262
Confidential date [-1,2]	702	0.409	-0.098	7.689	702	0.099	-0.023	1.110
Confidential date [-1,5]	702	0.882	0.422	9.689	702	0.126	-0.011	0.999
Confidential date [-1,10]	702	1.108	0.150	12.024	702	0.144	-0.003	0.992
Confidential date [-1,21]	702	4.519	1.796	19.412	702	0.157	0.236	0.690
Offer date [-1,1]	727	1.133	0.267	8.767	727	0.163	-0.002	1.177
Offer date [-1,2]	727	1.213	0.037	9.606	727	0.172	0.014	1.222
Offer date [-1,5]	727	1.949	0.340	10.855	727	0.196	0.020	1.221
Offer date [-1,10]	727	2.409	0.617	13.402	727	0.210	0.027	1.178
Offer date [-1,21]	727	6.144	3.115	22.018	727	0.188	0.235	0.772
Engage advisor date [-1,1]	594	0.961	0.068	7.364	594	0.109	-0.008	1.079
Engage advisor date [-1,2]	594	1.520	0.318	8.762	594	0.113	0.001	1.044
Engage advisor date [-1,5]	594	1.938	0.635	10.689	594	0.145	0.008	0.993
Engage advisor date [-1,10]	594	2.610	1.103	13.224	594	0.176	0.021	0.971
Engage advisor date [-1,21]	594	5.796	3.144	18.178	594	0.181	0.242	0.738
From start date to announcement	738	9.876	3.818	77.609	723	0.051	0.019	0.665
From confidential date to announcement	677	6.692	2.416	54.322	670	0.077	0.022	0.790
From offer date to announcement	699	8.025	2.277	44.364	689	0.068	0.032	0.737
From Engage advisor date to announcement	573	9.833	4.405	52.466	569	0.082	0.038	0.723

Table 3.2 Summary statistics: firm and deal characteristics

This table reports sample mean, median and standard deviation of target firms and deal characteristics in our study. Our sample includes 748 attempted M&A deals with private negotiation information between January 1, 2002 and December 31, 2014.

	(1)	(2)	(3)	(3)
	N	Mean	Median	STD
Panel A: Firm Characteristics				
Target Size, Ln (Target assets)	684	6.187	6.221	1.820
Target Tobin's Q	684	1.949	1.292	5.102
Target ROA	684	0.047	0.045	0.210
Analyst Forecast Error	438	0.046	0.006	0.225
Analyst Forecast Standard Deviation	429	0.215	0.105	0.468
Institutional Ownership	675	0.489	0.465	0.001
Panel B: Deal Process				
Target Initiate Deal	748	0.382	0.000	0.486
Auction Dummy	748	0.631	1.000	0.483
Cash Percentage (%)	684	51.572	49.970	42.484
Complete Deal (dummy)	684	0.940	1.000	0.238

Table 3.3 Cumulative abnormal return before and during private negotiation period

This table reports the cumulative abnormal return (CAR) before and during private negotiation period. The sample includes 748 Merger and Acquisition deals from year 2002 to 2014. To calculate the CAR we calculated the market model by using the target firms' stock data from 253 trading days to 63 trading days before the start date of the private negotiation. Panel A of Table 3.3 presents the targets' abnormal return 2 month before the start date of the private negotiation while Panel B of table 3.3 presents the targets' abnormal return during the private negotiation period. Panel C of the table reports the total run-up from the start of the private negotiation to 1 day before the merger announcement date. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Before the private negotiation start					
	1 month			2 month	
Before the start date	-1.038*			-1.833**	
	(-1.75)			(-2.31)	
N	748			748	
Panel B: Cumulative abnormal return during private negotiation period					
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.127	0.002	0.079	0.217	0.807
	(0.60)	(0.01)	(0.27)	(0.52)	(1.33)
N	748	748	748	748	748
Confidential Date	0.235	0.409	0.882**	1.108**	4.519***
	(0.94)	(1.41)	(2.41)	(2.44)	(6.17)
N	702	702	702	702	702
Offer Date	1.133***	1.213***	1.949***	2.409***	6.144***
	(3.49)	(3.41)	(4.84)	(4.85)	(7.52)
N	727	727	727	727	727
Engage Advisor Date	0.961***	1.520***	1.938***	2.610***	5.796***
	(3.18)	(4.23)	(4.42)	(4.81)	(7.77)
N	594	594	594	594	594
Panel C: Size of stock run-up during private negotiation period					
Start Date to Merger Announcement			9.876***		
			(3.46)		
N			738		
Confidential Date to Merger Announcement			6.692***		
			(3.21)		
N			677		
Offer Date to Merger Announcement			8.025***		
			(4.78)		
N			699		
Engage Advisor Date to Merger Announcement			9.833***		
			(4.49)		
N			573		
42-day before Merger Announcement			4.676***		
			(5.30)		
N			526		

Table 3.4 Abnormal turnover before and during private negotiation period

This table reports the abnormal turnover before and during private negotiation period. The sample includes 748 Merger and Acquisition deals from year 2002 to 2014. We calculated the targets' turnover by using the model below:

$$\text{MTO} = \frac{\left\{\sum_t \left[\left(\frac{Vol_{i,t}}{SO_{i,t}}\right) - \left(\frac{Vol_{m,t}}{SO_{m,t}}\right)\right]\right\}}{n} - \frac{\left\{\sum_{control\ period}\left[\left(\frac{Vol_{i,t}}{SO_{i,t}}\right) - \left(\frac{Vol_{m,t}}{SO_{m,t}}\right)\right]\right\}}{50}$$

Panel A of Table 3.4 presents the targets' abnormal turnover 2 month before the start date of the private negotiation. Panel B of table 3.4 reports the targets' abnormal turnover during the private negotiation period. Specifically, we document the abnormal turnover around start date, offer date, confidential date, and engage advisor date. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Abnormal turnover before the private negotiation start		
	1 month	2 month
Before the start date	0.034	0.012
	(1.21)	(0.56)
N	748	748

Panel B: Abnormal turnover during private negotiation period					
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.078*	0.060*	0.099**	0.052	0.106***
	(1.83)	(1.66)	(2.01)	(1.39)	(4.05)
N	748	748	748	748	748
Confidential Date	0.097**	0.099**	0.126***	0.144***	0.157***
	(2.03)	(2.36)	(3.33)	(3.85)	(6.03)
N	702	702	702	702	702
Offer Date	0.163***	0.172***	0.196***	0.210***	0.188***
	(3.74)	(3.79)	(4.33)	(4.80)	(6.56)
N	727	727	727	727	727
Engage Advisor Date	0.109***	0.113***	0.145***	0.176***	0.181***
	(2.46)	(2.64)	(3.55)	(4.41)	(5.99)
N	594	594	594	594	594

Panel C: Average abnormal turnover during private negotiation period	
Start Date to Merger Announcement	0.051**
	(2.06)
N	723
Confidential Date to Merger Announcement	0.077**
	(2.52)
N	670
Offer Date to Merger Announcement	0.068**
	(2.41)
N	689
Engage Advisor Date to Merger Announcement	0.082***
	(2.71)
N	569
42-day before Merger Announcement	0.066**
	(1.96)
N	519

Table 3.5 Private negotiation process and abnormal trading activities: who initiated the deal

This table reports the cumulative abnormal return (CAR) and abnormal trading volume before and during private negotiation period. The sample includes 748 Merger and Acquisition deals from year 2002 to 2014. Details of the calculation of CAR and stock turnover can be found in Section 3. Panel A of Table 3.5 presents the targets' abnormal return 2 month before the start date of the private negotiation and Panel B of table 3.5 presents the targets' abnormal return during the private negotiation period. Column (1) and (2) of Panel A and column (1) to (3) of Panel B are results for target initiated deals. Column (3) and (4) of Panel A and column (4) to (6) of Panel B are results for non-target initiated deals. Column (5) and (6) of Panel A and (7) to (9) of Panel B reports the difference between the results of target initiated deals and non-target initiated deals. Panel C and D reports the abnormal turnover before and during the private negotiation period respectively. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A Cumulative abnormal return before private negotiation period						
	Target initiated		Non-target initiated		Difference	
	1 month before	2 month before	1 month before	2 month before	1 month before	2 month before
Before the start date	-2.317**	-1.773	-0.241	-1.870*	-2.076*	0.097
	(-2.14)	(-1.30)	(-0.35)	(-1.93)	(-1.71)	(0.06)
N	287	287	461	461	174	174

Panel B Cumulative abnormal return before private negotiation period									
	Target initiated			Non-target initiated			Difference		
	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]
Start Date	-0.073	-0.349	0.366	0.251	0.345	0.125	-0.324	-0.694	-0.242
	(-0.19)	(-0.77)	(0.49)	(1.02)	(0.93)	(0.25)	(-0.74)	(-1.17)	(-0.28)
N	287	287	287	461	461	461	174	174	174
Confidential Date	-0.401	0.446	0.795	0.623*	1.148**	1.299**	-1.024**	-0.703	-0.502
	(-1.18)	(0.94)	(1.19)	(1.82)	(2.24)	(2.14)	(-2.00)	(-0.93)	(-0.54)
N	266	266	266	436	436	436	170	170	170
Offer Date	0.820	1.559**	1.769**	1.321***	2.182***	2.791***	-0.513	-0.572	-0.736
	(1.46)	(2.50)	(2.54)	(3.34)	(4.16)	(4.13)	(-0.77)	(-0.69)	(-0.70)
N	272	272	272	455	455	455	183	183	183
Engage Advisor Date	0.572	0.487	1.054	1.229***	2.937***	3.680***	-0.657	-2.450***	-2.626**
	(1.38)	(0.74)	(1.23)	(2.91)	(5.06)	(5.28)	(-1.07)	(-2.76)	(-2.39)
N	242	242	242	352	352	352	110	110	110

Table 3.5 (Continue)

Panel C Abnormal turnover before private negotiation period						
	Target initiated		Non-target initiated		Difference	
	1 month before	2 month before	1 month before	2 month before	1 month before	2 month before
Before the start date	0.034	0.011	0.033	0.013	0.001	-0.002
	(0.61)	(0.26)	(1.15)	(0.55)	(0.02)	(-0.06)
N	287	287	461	461	174	174

Panel D Abnormal turnover before private negotiation period									
	Target initiated			Non-target initiated			Difference		
	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]
Start Date	0.092	0.058	-0.003	0.069	0.125*	0.086	0.023	-0.067	-0.089
	(1.58)	(1.12)	(-0.06)	(1.18)	(1.70)	(1.60)	(0.26)	(-0.66)	(-1.15)
N	287	287	287	461	461	461	174	174	174
Confidential Date	-0.004	0.058	0.089**	0.158**	0.167***	0.178***	-0.163*	-0.109	-0.091
	(-0.09)	(1.41)	(2.00)	(2.21)	(3.02)	(3.31)	(-1.67)	(-1.41)	(-1.17)
N	266	266	266	436	436	436	170	170	170
Offer Date	0.087	0.078	0.124**	0.209***	0.266***	0.261***	-0.109	-0.187**	-0.132
	(1.48)	(1.46)	(2.05)	(3.47)	(4.12)	(4.37)	(-1.21)	(-2.01)	(-1.47)
N	272	272	272	455	455	455	183	183	183
Engage Advisor Date	0.100	0.093	0.109*	0.116**	0.181***	0.222***	-0.016	-0.088	-0.114
	(1.36)	(1.47)	(1.90)	(2.10)	(3.38)	(4.07)	(-0.18)	(-1.06)	(-1.40)
N	242	242	242	352	352	352	110	110	110

Table 3.6 Private negotiation process and abnormal trading activities: auction or negotiation?

This table reports the cumulative abnormal return (CAR) and abnormal trading volume before and during private negotiation period. The sample includes 748 Merger and Acquisition deals from year 2002 to 2014. Details of the calculation of CAR and stock turnover can be found in Section 3. Panel A of Table 3.6 presents the targets' abnormal return 2 month before the start date of the private negotiation and Panel B of table 3.6 presents the targets' abnormal return during the private negotiation period. Column (1) and (2) of Panel A and column (1) to (5) of Panel B are results for auction deals. Column (3) and (4) of Panel A and column (6) to (10) of Panel B are results for negotiation deals. Panel C and D reports the abnormal turnover before and during the private negotiation period respectively. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A Cumulative abnormal return before private negotiation period									
	Auction deals					Negotiation deals			
	1 month before		2 month before			1 month before		2 month before		
Before the start date	-0.015**		-0.017*			-0.002		-0.021		
	(-2.16)		(-1.71)			(-0.16)		(-1.56)		
	473		473			275		275		

Panel B Cumulative abnormal return before private negotiation period										
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.003	0.003	0.002	0.000	0.006	-0.002	-0.005	-0.001	0.007	0.011
	(1.04)	(1.06)	(0.51)	(-0.09)	(0.84)	(-0.50)	(-1.61)	(-0.24)	(0.95)	(1.08)
N	473	473	473	473	473	275	275	275	275	275
Confidential Date	0.000	0.001	0.006*	0.010**	0.041***	0.007	0.009	0.014*	0.012	0.053***
	(-0.04)	(0.46)	(1.67)	(2.08)	(4.98)	(1.26)	(1.52)	(1.75)	(1.37)	(3.71)
N	454	454	454	454	454	248	248	248	248	248
Offer Date	0.012***	0.012***	0.021***	0.023***	0.067***	0.011**	0.012***	0.017***	0.027***	0.052***
	(2.65)	(2.66)	(3.97)	(3.72)	(6.42)	(2.33)	(2.13)	(2.76)	(3.10)	(3.98)
N	456	456	456	456	456	271	271	271	271	271
Engage Advisor Date	0.009***	0.014***	0.017***	0.018***	0.047***	0.011*	0.018***	0.024***	0.042***	0.080***
	(2.71)	(3.24)	(3.23)	(2.96)	(5.42)	(1.76)	(2.71)	(3.06)	(3.92)	(5.66)
N	394	394	394	394	394	200	200	200	200	200

Table 3.6 Private negotiation process and abnormal trading activities: auction or negotiation? (Continue)

Panel C Abnormal turnover before private negotiation period									
	Auction deals					Negotiation deals			
	1 month before		2 month before			1 month before		2 month before	
Before the start date	0.000		0.000			0.000		0.000	
	(0.92)		(0.66)			(0.79)		(0.06)	
	473		473			275		275	
Panel D Abnormal turnover during private negotiation period									
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.001*	0.001*	0.002**	0.001	0.001***	0.000	0.000	0.000	0.000	0.000
	(1.83)	(1.75)	(2.06)	(1.42)	(4.09)	(0.39)	(0.19)	(0.23)	(0.25)	(1.14)
N	473	473	473	473	473	275	275	275	275	275
Confidential Date	0.000	0.001	0.001**	0.001***	0.002***	0.002*	0.002*	0.002**	0.002**	0.001**
	(0.92)	(1.37)	(2.31)	(2.90)	(5.99)	(1.82)	(1.93)	(2.42)	(2.55)	(2.49)
N	454	454	454	454	454	248	248	248	248	248
Offer Date	0.001***	0.001**	0.001***	0.001***	0.002***	0.002***	0.003***	0.003***	0.003***	0.002***
	(2.59)	(2.46)	(2.85)	(2.97)	(5.55)	(2.70)	(2.89)	(3.28)	(3.78)	(3.79)
N	456	456	456	456	456	271	271	271	271	271
Engage Advisor Date	0.001**	0.001**	0.001***	0.002***	0.002***	0.001	0.001	0.001**	0.002***	0.001***
	(2.10)	(2.07)	(2.83)	(3.52)	(5.67)	(1.29)	(1.63)	(2.15)	(2.66)	(2.56)
N	394	394	394	394	394	200	200	200	200	200

Table 3.7 Target firm and deal characteristics and abnormal trading activities

This table reports the relation between target firm and deal characteristics and M&A process and abnormal trading activities during the private negotiation period. The sample includes 676 M&A deals which the merger process information can be acquired from SEC filings. Panel A of Table 3.7 reports the results of CARs from each dates of interests to the merger announcement while Panel B presents that of abnormal trading activities. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Panel A: Cumulative abnormal returns				
	Start Date to Announcement	Confidential Date to Announcement	Offer Date to Announcement	Engage Advisor Date to Announcement
Cash Percentage	0.001**	0.001	0.001*	0.001
	(2.29)	(1.22)	(1.90)	(1.12)
Complete Deal (Dummy)	-0.532***	-0.377	-0.474	-0.362*
	(-2.78)	(-1.64)	(-1.46)	(-1.70)
Target Firm Size	-0.044	-0.027	-0.015	-0.024
	(-0.88)	(-0.74)	(-0.54)	(-0.61)
Target Tobin's Q	-0.106***	-0.097***	-0.058***	-0.085***
	(-5.30)	(-6.41)	(-3.28)	(-3.91)
Target ROA	0.113	0.108	-0.147	0.043
	(0.76)	(0.73)	(-1.40)	(0.24)
N	691	667	665	677
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R^2	0.079	0.080	0.209	0.082
Panel B: Abnormal trading activities				
Cash Percentage	-0.000	0.000	-0.000	0.000
	(-0.34)	(0.28)	(-0.30)	(0.22)
Complete Deal (Dummy)	-0.002**	-0.002*	-0.003**	-0.004***
	(-2.04)	(-1.65)	(-2.09)	(-8.26)
Target Firm Size	0.001***	0.001***	0.001***	0.001***
	(3.51)	(3.77)	(5.35)	(3.11)
Target Tobin's Q	0.001***	0.000	0.000**	0.000***
	(5.95)	(1.00)	(2.18)	(34.13)
Target ROA	-0.005	-0.004	-0.005	-0.005
	(-1.32)	(-1.33)	(-1.59)	(-1.54)
N	678	660	655	666
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R^2	0.068	0.053	0.084	0.075

Table 3.8 Cause of the abnormal trading activities? Industry peers' stock trading activities

This table reports the stock trading activities before and during private negotiation period of the peer firms. The tests include 701 peer firms to our sample. Peer firms are constructed by using the target firms industry and firm size. We require that the peer firm to be in the same industry of the target firm. We drop those peer firms that have conduct M&A during the target firms negotiation period. Then we keep the firms that have smallest size difference to our target firms. Panel A of Table 3.8 presents the targets' abnormal return 2 month before the start date of the private negotiation while Panel B of Table 3.8 presents the targets' abnormal return during the private negotiation period. Panel C of the table reports the total run-up from the start of the private negotiation to 1 day before the merger announcement date. Panel D to Panel F of Table 3.8 presents the targets' abnormal turnovers of the peer firms. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Before the private negotiation start		
	1 month	2 month
Before the start date	0.301	0.392
	(0.54)	(0.46)
N	701	701

Panel B: Cumulative abnormal return during private negotiation period					
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.118	-0.055	0.114	0.269	0.825
	(0.55)	(-0.24)	(0.39)	(0.63)	(1.31)
N	701	701	701	701	701
Confidential Date	0.070	-0.058	-0.282	-0.242	-1.132**
	(0.31)	(-0.22)	(-0.92)	(-0.63)	(-2.08)
N	644	644	644	643	643
Offer Date	-0.444**	-0.299	-0.509*	-0.606*	-1.162**
	(-2.22)	(-1.40)	(-1.84)	(-1.68)	(-2.14)
N	662	662	662	662	662
Engage Advisor Date	-0.094	-0.217	-0.285	-0.379	-0.733
	(-0.38)	(-0.76)	(-0.85)	(-0.85)	(-1.05)
N	541	541	541	541	541

Panel C: Size of stock run-up during private negotiation period	
Start Date to Merger Announcement	-9.767***
	(-3.62)
N	688
Confidential Date to Merger Announcement	-8.087***
	(-3.68)
N	620
Offer Date to Merger Announcement	-4.583***
	(-2.89)
N	639
Engage Advisor Date to Merger Announcement	-8.189***
	(-3.92)
N	524
42-day before Merger Announcement	-1.631**
	(-1.99)
N	557

Table 3.8 Cause of the abnormal trading activities? Industry peers' stock trading activities (Continue)

Panel A: Abnormal turnover before the private negotiation start		
	1 month	2 month
Before the start date	-0.017	0.004
	(-0.75)	(0.15)
N	701	701

Panel B: Abnormal turnover during private negotiation period					
	[-1, 1]	[-1, 2]	[-1, 5]	[-1, 10]	[-1, 21]
Start Date	0.040	0.045	0.041	0.028	0.081***
	(1.04)	(1.12)	(1.16)	(0.93)	(2.97)
N	700	700	700	698	694
Confidential Date	0.011	0.017	0.020	0.003	0.061**
	(0.28)	(0.46)	(0.58)	(0.10)	(2.04)
N	644	644	644	643	643
Offer Date	-0.012	-0.018	0.013	0.001	0.060*
	(-0.30)	(-0.49)	(0.29)	(0.01)	(1.83)
N	674	674	674	674	674
Engage Advisor Date	-0.071*	-0.066*	-0.061*	-0.044	0.029
	(-1.77)	(-1.67)	(-1.65)	(-1.14)	(0.81)
N	546	546	546	546	546

Panel C: Average abnormal turnover during private negotiation period	
Start Date to Merger Announcement	0.007
	(-0.23)
N	654
Confidential Date to Merger Announcement	0.060**
	(2.04)
N	643
Offer Date to Merger Announcement	-0.022
	(-0.55)
N	625
Engage Advisor Date to Merger Announcement	0.029
	(0.80)
N	543
42-day before Merger Announcement	0.008
	(0.19)
N	469

Table 3.9 Cause of the abnormal trading activities? contact of financial advisors

This table reports the cumulative abnormal returns (CARs) and abnormal turnovers before and during the private negotiation period. The sample includes 748 Merger and Acquisition deals from the year 2002 to 2014. Details of the calculate of CAR and stock turnover can be found in Section 3. Column (1) to (5) report the CARs and abnormal turnovers before target firms contact financial advisors. Column (6) to (10) presents CARs and abnormal turnovers after target firms contact financial advisors. Panel A of Table 3.9 presents the targets' abnormal return 2 month before the start date of the private negotiation and Panel B of Table 3.9 presents the targets' abnormal return during the private negotiation period. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

	Before hire financial advisor			After hire new financial advisor			Long-term financial advisor		
Panel A: CARs									
	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]
Start Date	-0.146	0.357	0.655	0.874	0.378	-0.190	0.113	-0.089	0.104
	(-0.41)	(0.77)	(0.90)	(1.20)	(0.44)	(-0.20)	(0.41)	(-0.23)	(0.18)
N	197	197	197	81	81	81	470	470	470
Confidential Date	0.061	-0.355	0.243	0.651	1.848**	1.340	0.106	0.763*	1.201**
	(0.13)	(-0.51)	(0.21)	(1.06)	(2.06)	(1.36)	(0.35)	(1.72)	(2.12)
N	94	94	94	175	175	175	434	434	434
Offer Date	1.195**	1.271*	0.716	1.013*	1.268*	1.933**	1.166***	2.386***	3.063***
	(2.49)	(1.67)	(0.52)	(1.65)	(1.71)	(2.00)	(2.67)	(4.40)	(4.65)
N	75	75	75	200	198	198	456	456	456
Panel B: Average abnormal turnovers									
	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]	[-1, 1]	[-1, 5]	[-1, 10]
Start Date	-0.027	-0.032	-0.026	0.014	0.027	-0.015	0.133**	0.167**	0.097*
	(-0.52)	(-0.60)	(-0.51)	(0.24)	(0.43)	(-0.29)	(2.10)	(2.24)	(1.76)
N	197	197	197	81	81	81	470	470	470
Confidential Date	0.101	0.014	0.026	0.134	0.207***	0.122*	0.082	0.118**	0.180***
	(0.91)	(0.16)	(0.29)	(1.53)	(2.66)	(1.91)	(1.28)	(2.43)	(3.51)
N	94	94	94	175	175	175	434	434	434
Offer Date	0.017	-0.038	0.013	0.150	0.126	0.163*	0.201***	0.265***	0.264***
	(0.19)	(-0.46)	(0.14)	(1.59)	(1.44)	(1.71)	(3.70)	(4.43)	(4.91)
N	75	75	75	200	198	198	456	456	456

Table 3.10 Cause of the abnormal trading activities: Insider trading

This table reports the relation between institutional Ownership and abnormal trading activities. The sample includes 675 M&A deals which the merger process information can be acquired from SEC filings and institutional holding information can be acquired from Thomson Reuters database. Panel A of Table 3.10 reports the results of CARs from each date of interests to the merger announcement while Panel B presents that of abnormal turnovers. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Cumulative abnormal return	Start Date to Announcement	Confidential Date to Announcement	Offer Date to Announcement	Engage Advisor Date to Announcement
Difference in net insider trading	-0.005	-0.006	-0.002	-0.001
	(-0.69)	(-1.09)	(-0.60)	(-0.17)
Cash Percentage	0.001***	0.001	0.001*	0.001
	(2.69)	(1.34)	(1.89)	(1.19)
Complete Deal (dummy)	-0.535***	-0.380	-0.475	-0.363*
	(-2.76)	(-1.64)	(-1.46)	(-1.67)
Target Firm Size	-0.044	-0.027	-0.015	-0.024
	(-0.89)	(-0.75)	(-0.54)	(-0.61)
Target Tobin's Q	-0.106***	-0.097***	-0.058***	-0.085***
	(-5.36)	(-6.34)	(-3.28)	(-3.91)
Target ROA	0.115	0.109	-0.147	0.043
	(0.76)	(0.74)	(-1.40)	(0.24)
N	691	667	665	677
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R²	0.098	0.102	0.118	0.082
Panel B: Abnormal trading activities				
Difference in net insider trading	-0.000	-0.000**	-0.000**	-0.000***
	(-0.82)	(-2.02)	(-2.36)	(-2.64)
Cash Percentage	-0.000	0.000	-0.000	0.000
	(-0.33)	(0.50)	(-0.20)	(0.29)
Complete Deal (dummy)	-0.002*	-0.002	-0.003	-0.004***
	(-1.99)	(-1.63)	(1.23)	(-7.77)
Target Firm Size	0.001***	0.001***	0.001***	0.001***
	(3.49)	(3.56)	(5.06)	(3.04)
Target Tobin's Q	0.001***	0.000	0.000***	0.000***
	(5.79)	(0.33)	(32.02)	(13.26)
Target ROA	-0.005	-0.004	-0.005	-0.005
	(-1.32)	(-1.33)	(-1.59)	(-1.54)
N	678	660	655	666
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R²	0.068	0.055	0.087	0.076

Table 3.11 Cause of the abnormal trading activities: institutional ownership

This table reports the relation between institutional Ownership and abnormal trading activities. The sample includes 675 M&A deals which the merger process information can be acquired from SEC filings and institutional holding information can be acquired from Thomson Reuters database. Panel A of Table 3.11 reports the results of CARs from each date of interests to the merger announcement while Panel B presents that of abnormal turnovers. All specifications include calendar year and Fama-French 5 industry fixed effects. Standard errors are adjusted for industry and year clustering. Corresponding t-statistics are in parentheses. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Panel A: Cumulative abnormal return				
	Start Date to Announcement	Confidential Date to Announcement	Offer Date to Announcement	Engage Advisor Date to Announcement
Institutional Ownership	0.220	0.209**	0.193*	0.199**
	(1.47)	(2.65)	(2.00)	(2.44)
Cash Percentage	0.001***	0.001	0.000	0.000
	(4.07)	(0.84)	(0.75)	(0.80)
Complete Deal (dummy)	-0.483**	-0.360	-0.467	-0.349*
	(-2.34)	(-1.61)	(-1.46)	(-1.75)
Target Firm Size	-0.076	-0.052	-0.042*	-0.053
	(-1.57)	(-1.56)	(-1.98)	(-1.49)
Target Tobin's Q	-0.116***	-0.106***	-0.060**	-0.091***
	(-4.24)	(-5.83)	(-2.46)	(-4.18)
Target ROA	0.153	0.120	-0.121	0.093
	(1.13)	(0.95)	(-0.94)	(0.54)
N	675	651	649	662
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R^2	0.105	0.109	0.142	0.104
Panel B: Abnormal trading activities				
Institutional Ownership	0.002***	0.002	0.002	0.001
	(2.75)	(1.60)	(1.64)	(0.76)
Cash Percentage	-0.000	0.000	-0.000	0.000
	(-0.18)	(0.91)	(-0.33)	(0.70)
Complete Deal (dummy)	-0.000	0.000	-0.001	-0.002
	(-0.23)	(0.09)	(-0.52)	(-0.96)
Target Firm Size	0.000*	0.000	0.001**	0.001**
	(1.81)	(1.10)	(2.61)	(2.11)
Target Tobin's Q	0.000*	-0.000	0.000	0.000
	(1.95)	(-0.18)	(0.46)	(1.45)
Target ROA	-0.004	-0.003	-0.004	-0.004
	(-1.09)	(-1.09)	(-1.19)	(-1.32)
N	662	644	639	651
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj. R^2	0.065	0.056	0.082	0.068

Appendix A

	Sample Selection Criteria	Number of deals
1	Takeover offers for US target firms announced between Jan 2000 and Dec 2014	152943
2	Percentage of target shares that bidder seeks to buy in the transaction is above 50%	108319
3	Publicly traded targets and acquirers with non-missing data for at least 200 trading days prior to announcement in CRSP	1757
4	Deals with non-missing data for target CEO, target and bidder firm, and deal characteristics (from SCD, COMPUSTAT, and BOARDEX)	935
5	Deals with non-missing return data around announcement date	932

Appendix B

Variable Label	Variable Definition
Panel A: Target CEO M&A Experience	
Target CEO Experience	Indicator variable that equals 1 if the target CEO was involved in any M&A deal prior to the current takeover contest, while in a senior position (i.e., executive, director, or equivalent level) with the current firm or any other firm in her work history (intersection of SDC and Boardex since 1980)
Target CEO Experience Number	The number of target CEO's past M&A deal experiences
Only Inside Experience	Indicator variable that equals 1 if the Target CEO has M&A experience only within the current target firm
Only Outside Experience	Indicator variable that equals 1 if the Target CEO has M&A experience only outside the current target firm
Inside & Outside Experience	Indicator variable that equals 1 if the Target CEO has both inside and outside experience
Poor Performance – Average Experience CAR Below Median	Indicator variable that equals 1 if the average CAR of CEO's past M&A deals is below the CEO sample median
Poor Performance – Average Experience CAR Bottom 25%	Indicator variable that equals 1 if the average CAR of CEO's past M&A deals is below the CEO sample bottom quartile
Poor performance – Average Experience CAR Negative	Indicator variable that equals 1 if the average CAR of CEO's past M&A deals is negative
M&A Experience as Target	Indicator variable that equals 1 if the target CEO has any M&A experience in a target firm
M&A Experience in All Public Firm Deals	Indicator variable that equals 1 if the target CEO has any experience in M&A deals that involve two public companies
M&A Experience as CEO or CFO	Indicator variable that equals 1 if the target CEO was involved in any M&A deal as CEO or CFO
Panel B: Other Target CEO Characteristics	
Male	Indicator variable that equals 1 if CEO is male
Tenure	Number of years CEO in current position as of the deal announcement
Age	CEO's age as of the deal announcement
Foreign	Indicator variable that equals 1 if CEO is not a U.S. citizen
CFO Experience	Indicator variable that equals 1 if CEO was ever a CFO
Financial Ind. Experience	Indicator variable that equals 1 if CEO has finance industry work experience

MBA Degree	Indicator variable that equals 1 if CEO holds MBA degree
Holds Top 50 University Degree	Indicator variable that equals 1 if CEO holds degree from a top 50 university according to QS World University Rankings in Year 2015/16

Panel C: Bidder and Target Firm Characteristics

Target Ln(MVE, mil)	Natural logarithm of CPI-adjusted (1999-base) market value of target equity 42 days prior to the announcement, winsorized at 1st and 99th percentiles
Bidder Ln(MVE, mil)	Natural logarithm of CPI-adjusted (1999-base) market value of acquirer equity 42 days prior to the announcement, winsorized at 1st and 99th percentiles
Target Market Adj. Return, %	Target buy-and-hold returns during window [-253, -42] net of contemporaneous CRSP valued-weighted market return, winsorized at 1st and 99th percentiles
Bidder Market Adj. Return, %	Acquirer buy-and-hold returns during window [-253, -42] net of contemporaneous CRSP valued-weighted market return, winsorized at 1st and 99th percentiles
Target Return St. Dev.	Standard deviation of target daily returns during window [-253,-42], winsorized at 1st and 99th percentiles
Bidder Return St. Dev.	Standard deviation of acquirer daily returns during window [-253,-42], winsorized at 1st and 99th percentiles
Target Tobin's Q	Target (asset book value – equity book value + equity market value at fiscal yearend) / (asset book value), winsorized at 1st and 99th percentiles
Bidder Tobin's Q	Acquirer (asset book value – equity book value + equity market value at fiscal yearend) / (asset book value), winsorized at 1st and 99th percentiles
Target Leverage	Target (total liabilities book value) / (asset book value), winsorized at 1st and 99th percentiles
Bidder Leverage	Acquirer (total liabilities book value) / (asset book value), winsorized at 1st and 99th percentiles
Target ROA, %	Target EBITDA divided by total asset as of fiscal yearend before deal announcement, winsorized at 1st and 99th percentiles
Bidder ROA, %	Acquirer EBITDA divided by total asset as of fiscal yearend before the announcement, winsorized at 1st and 99th percentiles
Target M&A Experience	Indicator variable that equals 1 if the current target firm has M&A experience
Target M&A Experience Number	The number of current target firm's past M&A deal experiences

Panel D: Deal Characteristics

Ln(Transaction Value, mil)	Natural logarithm of the CPI-adjusted (1999-base) transaction value, winsorized at 1st and 99th percentiles

Final Offer Premium, %	Final offer price divided by target stock price as of 4 weeks before announcement, winsorized at 1st and 99th percentiles
First Offer Premium, %	First offer price divided by target stock price as of 4 weeks before announcement, winsorized at 1st and 99th percentiles
(Last-First)/First Offer Price, %	Difference between final and first offer price by current bidder divided by first offer price
Target Mkt. Adj. Return [-1, 1] , %	Target 3-day cumulative excess returns around the announcement. Daily excess returns net of CRSP value-weighted market portfolio returns, winsorized at 1st and 99th percentiles
Bidder Mkt. Adj. Return [-1, 1] , %	Acquirer 3-day cumulative excess returns around the announcement. Daily excess returns net of CRSP value-weighted market portfolio returns, winsorized at 1st and 99th percentiles
Comb. Mkt. Adj. Return [-1, 1] , %	Target and acquirer equity value-weighted 3-day excess return around the announcement, winsorized at 1st and 99th percentiles
All Cash	Indicator variable that equals 1 if method of payment is 100% cash
Fraction Cash, %	Percentage of cash in total consideration
All Equity	Indicator variable that equals 1 if method of payment is 100% acquirer equity
Tender Offer	Indicator variable that equals 1 if the deal involves a tender offer
Target Termination Fee	Indicator variable that equals 1 if the target has agreed to a termination fee
Bidder Termination Fee	Indicator variable that equals 1 if the acquirer has agreed to a termination fee

Panel E: Contest Characteristics

Multiple Bidders	Indicator variable that equals 1 if the contest involves multiple bidders
Number of Bidders	Number of unique bidding firms in the contest
Non-Friendly First Bidder	Indicator variable that equals 1 if the attitude of the first bid is not friendly
Completed Contest	Indicator variable that equals 1 if the target firm is eventually sold as a result of the contest
Completion Lag	Natural logarithm of one plus number of days between first bid announcement date and completion date of the contest
(Last-First)/First Offer Price, %	Difference between final and first contest-level offer price divided by first price
First Bid Premium, %	Contest first bid offer price-to-target stock price 4 weeks before announcement, winsorized at 1st and 99th percentiles

Panel F: Instrumental Variables

Matching Non-Target CEO M&A Experience	Indicator variable that equals 1 if matching CEO has M&A experience. Matching-CEO is appointed at the firm a) in the target Fama-French 48 industry, b) not involved in any M&As in the year prior and following the current takeover contest, and c) with asset book value closest to the current target

Bidder Cash Holdings   Acquirer cash and cash equivalent divided by market capitalization market value of acquirer equity as of fiscal yearend

Target Ind. M&A Activity   Number of M&A's offers received by COMPUSTAT firms in the target Fama-French 48 industry during 6 months before the current announcement divided by total number of COMPUSTAT firms in the industry

Appendix C

	Sample Selection Criteria	Number of Deals
1	All the M&A deals for US target firms announced between Jan 2002 and Dec 2014	142948
2	Percentage of target shares that acquirer seeks to buy in the transaction is above 50%	4508
3	Acquirers and targets firm characteristics can be obtained from COMPUSTAT and CRSP database	1736
4	Keep deals that target proxy statement can be found in SEC EDGAR database	1242
5	Drop those deals with missing control variables	848

Appendix D

Variables Names	Variable Definitions
Panel A: Connections Variables	
Target Connections	Target Firm's board connections size. To calculate this variable, we sum the total number of connections of all the directors and CEO in a firm. Duplicate connections are removed. This variable includes all the connections that gained through work experience, social experience, and educational experience
Target Work Connections	Target Firm's board connections gained through work experience
Target Social Connections	Target Firm's board connections gained through social experience
Target Education Connections	Target Firm's board connections gained through educational experience
Target Connections of Experienced Directors	Target Firm's board connections that belong to experienced directors. Experienced directors are those with longer working experience on quoted boards than the sample mean
Target Connections of Less Experienced Directors	Target Firm's board connections that belong to less experienced directors. Less experienced directors are those with shorter working experience on quoted boards than the sample mean
Target Connections of Directors with Top School Education	Target Firm's board connections that belong to directors with top school education. Top institutes are those ranked within 100 by QS university rankings in the year 2015
Target Connections of Directors without Top School Education	Target Firm's board connections that belong to directors without top school education. Top institutes are those ranked within 100 by QS university rankings in the year 2015
Target Connections 2 Years Before the Merger Announcement	Target Firm's board connections size 2 years before the merger announcement
Panel B: Firm Characteristics	
Acquirer Size, Ln (Market Value of Equity)	Natural logarithm of the market value of acquirer equity 42 days before the merger announcement date. This variable is winsorized at 1st and 99st percentiles
Target size, Ln (Market Value of Equity)	Natural logarithm of the market value of target equity 42 days before the merger announcement date. This variable is winsorized at 1st and 99st percentiles

Acquirer Tobin's Q	Acquirer Tobin's Q. Calculated as (asset book value - equity book value + equity market value at fiscal yearend)/ (asset book value). This variable is winsorized at 1st and 99st percentiles
Target Tobin's Q	Target Tobin's Q. Calculated as (asset book value - equity book value + equity market value at fiscal yearend)/ (asset book value). This variable is winsorized at 1st and 99st percentiles
Acquirer ROA	Acquirer return on asset. Calculated as acquirer EBITDA divided by the acquirer book asset. This variable is winsorized at 1st and 99st percentiles
Target ROA	Target return on asset. Calculated as target EBITDA divided by the target book asset. This variable is winsorized at 1st and 99st percentiles

Panel C: Deal Process

Acquirer Initiate Deal	This is a dummy variable equals to 1 if the deal is initiated by one of the potential acquirers. The initiator is not required to be the announced acquirer
Total Number of Acquirers Contacted	Total number of all the potential acquirers contacted in the whole M&A process
Acquirer-Target Connection	This is a dummy variable equals to 1 if the acquirer and target are connected
Use of Financial Advisor in Searching for Potential Acquirers	This is a dummy variable equals to 1 if the target employed financial advisors in the searching for potential acquirers
Announced Acquirer is Introduced by Financial Advisor	This is a dummy variable equals to 1 if the announced acquirer is contacted by target financial advisor

Panel D: Deal Performance

Deal Premiums	Deal premium is defined as the offer price divided by the target stock prices 4 weeks before the merger announcement. This variable is collected from SDC database. This variable is winsorized at 1st and 99st percentiles
Target CAR (-1, 1)	Target 3-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles
Target CAR(-21, 1)	Target 23-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles

Acquirer CAR (-1, 1)	Acquirer 3-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles
Acquirer CAR(-21, 1)	Acquirer 23-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles
Combined CAR (-1, 1)	Target-acquirer combined 3-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles
Combined CAR(-21, 1)	Target-acquirer combined 23-day cumulative abnormal return calculated using CRSP value-weighted market returns. This variable is winsorized at 1st and 99st percentiles
Target Advisor Fees	Financial advisor fees paid by the target per thousands of transaction value