Board Changes and the Director Labor Market: The Case of Mergers

August 2016

David A. Becher
Ralph A. Walkling
Jared I. Wilson*

Abstract

We examine the stability and composition of acquirer boards around mergers and the director characteristics associated with selection for the post-merger board. Our results indicate that the post-merger board changes substantially and variation is significantly different from both non-merger years and non-merging firms. Adjustments reflect firms upgrading skills associated with executive and merger experience and bargaining between targets and acquirers, rather than agency motives. Conversely, director selection at non-merging firms is driven by general skills and diversity. Our analyses provide insight into the dynamic nature of board structure and characteristics valued in the director labor market.

JEL Classification: G34
Keywords: Mergers and acquisitions; Boards of directors; Director labor market

---

* David Becher, Associate Professor, Department of Finance, Drexel University, and Fellow, Wharton Financial Institutions Center, University of Pennsylvania, 3220 Market Street, 1127 LeBow Hall, Drexel University, Philadelphia, PA 19104 (215) 895-2274, becher@drexel.edu; Ralph Walkling, Stratakis Chair in Corporate Governance, Department of Finance, Drexel University, 3220 Market Street, 1126 LeBow Hall, Drexel University, Philadelphia, PA 19104, (215) 895-1468, rw@drexel.edu; Jared Wilson, Assistant Professor, Indiana University, Kelley School of Business-Indianapolis, 801 West Michigan Street, Indianapolis, IN 46202, (317) 278-4715, jiw25@iupui.edu. We acknowledge Thomas Bates, Philip Bond, Jie Cai, Naveen Daniel, Diane Denis, Ran Duchin, Laura Field, Juanita Gonzalez-Uribe, Jarrad Harford, Jon Karpoff, Yuree Lim, Michelle Lowry, Ron Lumbra, Shawn Mobbs, Greg Nini, Hongxia Wang, as well as seminar participants at the 2016 Cass Mergers and Acquisitions Research Center Conference, the 2016 Eastern Finance Association meeting, the 2015 Financial Management Association meeting, the 2015 Southern Finance Association meeting, Drexel University, Temple University,

1. Introduction

The composition, characteristics, and role of the board of directors are central issues in corporate governance. Ideal boards provide independent advising and monitoring of management appropriate to the needs of the firm. These functions are especially important around strategic decisions, such as mergers, which have the potential to significantly impact firm value. Moreover, mergers can alter a firm's monitoring and advising needs and provide a convenient opportunity to improve or denigrate the existing board composition and structure. Nevertheless, little empirical attention has been given to board changes, either around mergers or in general.

We develop two competing hypotheses to examine the structure and composition of boards around mergers. On the one hand, prior studies suggest reasons to expect that boards should remain fairly stable around mergers (*stability hypothesis*). Hermalin and Weisbach (1998) posit that board structure is the result of negotiations between a CEO and its board. Entrenched or powerful CEOs may exert pressure on a board (Coles, Daniel, and Naveen, 2014; Bebchuk and Fried, 2004). In this case, CEOs may try to limit board changes to maintain their influence even when a firm's nature, and monitoring needs, warrant such changes. In addition, transaction costs can impede boards from an optimal structure and/or composition (e.g., Coles, Daniel and Naveen, 2008). New directors added or incumbent directors leaving may alter board cohesion and impose personal costs on directors. The limited empirical evidence supports this notion of relative board stability around mergers. Harford (2003) finds that post-merger target director retention is rare.

Alternatively, theoretical arguments suggest shifts in acquirer boards (*change hypothesis*). First, mergers represent a substantial shock to a firm that likely shifts its operational activities and increases firm complexity. Thus, a firm's advising and monitoring needs change and imply appropriate adjustments to board structure and composition. This firm need motive suggests that board changes and director selection around mergers reflect the demand for increased advising and monitoring of the larger, more complex firm. Second, a bargaining motive suggests that the post-merger board is the outcome of negotiations between acquirers and targets based on relative bargaining power or to aid deal completion. Third, changes around mergers may provide managers cover to add CEO-friendly directors and shift the power structure between the CEO and the board. Hermalin and Weisbach (1998) suggest that more powerful CEOs use their increased bargaining power over the director selection process to weaken board monitoring. Under a CEO opportunism motive board changes around mergers occur for managerial welfare reasons.

These alternative hypotheses (*stability* vs. *change*) lead us to explore several important and unaddressed questions: How stable are post-merger boards? Which director characteristics are associated with selection on the post-merger board and are attributes demanded around a merger different than those in the absence of one? How does post-merger director selection relate to the longevity of their tenure? Finally, how important are firm need, bargaining, and CEO opportunism motives in decisions regarding the post-merger board's structure and composition?

Addressing these questions around mergers offers three main advantages. First, mergers provide a unique setting to observe a relatively well-defined director labor pool and compare the characteristics of directors selected to those that are not. Most prior studies are unable to observe candidates considered but not appointed to a board, leaving an incomplete picture of the director selection process. Second, we can compare potential board changes around mergers to concurrent shifts in a firm's nature, and test ideas consistent with advising and monitoring needs. Third, mergers are a rich setting to explore potential conflicts of interest with management, acquirer and target boards and both firms' shareholders, which may impact board structure and composition.

To address the stability of boards around mergers, we require a benchmark of typical board changes. However, evidence on such a standard is limited. Most prior studies examining board structure focus on cross-sectional variation, though a few examine changes over time, but for the pre-Sarbanes-Oxley (SOX) period. Denis and Sarin (1999) report changes to board size and independence from 1983-1992, while Cicero, Wintoki, and Yang (2013) and Wintoki, Linck, and Netter (2012) examine these changes for two-year periods leading up to the implementation of SOX. Thus, we first provide a benchmark of the time series variation of board structure in the modern era, which is important given the fundamental shift in boards around SOX and contemporaneous changes in exchange listing requirements (Linck, Netter, and Yang, 2009).

Examining our first question on board stability, we document substantial shifts in board size and composition around mergers from 1996-2012. For the average deal, 0.95 target directors and 1.15 *unaffiliated directors* (directors neither on the target nor acquirer boards) are added to the post-merger board. The selection of these unaffiliated directors suggests their importance given the pool of available target and acquirer directors likely considered but not appointed. This addition of 2.1 directors around a merger is significantly greater than the 0.80 directors added in the absence of one. We also document significant changes to existing personnel as roughly twice as many acquirer directors depart as in non-merging firms (1.40 versus 0.81, respectively). Since firm size and complexity typically increase with a merger, we might expect board size to increase. Board size does increase 42% of the time, and yet in over half of these cases an acquirer director still departs. Further, in nearly one-quarter of deals, acquirer boards shrink even though non-acquirer directors are typically added. These results are inconsistent with the *stability hypothesis* and suggest board structure and composition changes are significantly different around mergers.

Given evidence consistent with the *change hypothesis*, we assess firm need, bargaining, and CEO opportunism motives. We first focus on specific director attributes demanded for a post-merger board by comparing skills sought around a merger to those in a non-merger year. Both unaffiliated and target director additions around mergers reflect an increased demand for specific skills, such as prior CEO, merger and board experience. Non-merger director selection, however, occurs for more routine reasons such as diversity, financial expertise and retirement; director selection drivers are distinct in mergers. These results hold comparing merger years to a propensity score-matched sample of non-merging firms or to post-merger size/industry matched non-merging firms (control for supply and demand factors of director selection). To further understand the director labor market, we compare all acquirer and target directors' attributes, selected or not, and unaffiliated directors added. Directors selected post-merger represent an upgrade in talent from pre-merger (prior CEO, merger and industry experience). Even if CEOs are likely entrenched, directors added do not have weaker monitoring abilities, inconsistent with CEO opportunism. Collectively, our results indicate firm need drives director selection around mergers.

Next, we examine the motives for board structure and composition change around mergers at the firm-level. As a target's size and complexity increases, target directors with specific skills (e.g. CEO or merger experience) are more likely to be added post-merger. This result is consistent with firm need and suggests that these firms require increased monitoring and advising. Target representation on the post-merger board is also associated with lower target announcement returns, suggesting that target directors bargain bid premia for board seats. Our results, however, provide no evidence in favor of acquirer agency conflicts as a motive for board changes around mergers.

To provide additional evidence for our hypotheses, we examine the tenure of directors added to the post-merger board. We expect that directors retained for a short period are more likely to have been added for integration or bargaining purposes. In comparison to target directors, unaffiliated directors are significantly more likely to be retained for periods longer than three years. Directors that remain long-term have more CEO-merger experience, financial expertise, and are more likely to be placed on key committees, consistent with firms keeping directors to fulfill longer-term firm needs. In addition, the shorter tenure of target directors is concentrated in deals with more complex targets, consistent with the notion that they are temporarily retained to facilitate the post-merger integration process. Collectively, our results provide evidence that firm need and bargaining motives play an important role in changes to acquirer boards around mergers.

Our paper addresses the ongoing debate over the efficacy of board structure and its role as a governance mechanism. On the one hand, studies suggest that boards are optimally designed and provide appropriate oversight of the CEO and the firm. Alternatively, director selection may be driven largely by CEOs seeking private benefits as well as other agency conflicts. We find that the selection of board members is driven by the specific nature of the firm, rather than CEO opportunism. While we do find some evidence for director retention that is consistent with bargaining, the directors selected appear of better quality. Overall, the drivers of director selection are different around mergers and are consistent with a firm's monitoring and advising needs.

2. Hypotheses

The impact of mergers on the structure and composition of acquirer boards is an empirical issue previously undocumented in the literature. We develop two competing hypotheses related to the structure of the post-merger board: relative stability versus change.

2.1 Motivations for Board Stability around Mergers

There are several reasons why post-merger boards may remain stable (*stability hypothesis*). First, as targets are relatively smaller, the incumbent board may be adequate to monitor and advise the post-merger firm. Second, theory suggests board structure is the result of negotiations between CEOs and a board (Hermalin and Weisbach, 1998). Coles et al. (2014) and Bebchuk and Fried (2004) find that entrenched or powerful CEOs can wield significant influence. Even if a firm's nature and monitoring require alterations, powerful CEOs may curb board changes that would diminish their influence.[1]

Transaction costs can also impede boards from their optimal structure and/or composition. Coles et al. (2008) note that CEOs can face personal costs if incumbent directors with professional/ personal relations to a CEO leave or if new directors are added without such relations. Research also indicates that few target directors are included post-merger. Harford (2003) documents that in over half of mergers, no target directors are retained and when a target director is retained, on average only one is selected. These arguments imply stability of the post-merger board.

To test board stability, we compare pre-merger acquirer and target boards to post-merger boards. Structural shifts are reflected in changes to board size while adjustments to board composition are captured by both additions and departures. We also compare variations in boards around mergers to years in which the same firm does not merge and to a propensity score-matched sample of non-merging firms based on pre-merger firm and board characteristics.

2.2 Motivations for Board Changes around Mergers

Alternatively, there is theoretical and empirical evidence in other contexts suggesting board structure and composition could change post-merger (*change hypothesis*). We propose three non-mutually exclusive motivations for such change: firm need, bargaining, and agency.

[1] Alternatively, an entrenched CEO may not only protect her position, but may seek to opportunistically alter the board in her favor. We consider this alternate interpretation of agency motives in Section 2.2.3.

2.2.1 Firm Need

Mergers can represent a substantial shock to a firm, requiring board changes in response to shifts in underlying firm fundamentals. As mergers expand a firm into new product lines, additional geographic areas, and increase its size and/or complexity, its monitoring and advising needs could change as well. Acquisitions can also represent a convenient opportunity to upgrade the set of existing board skills since personnel changes can be easier to explain.

The firm need motive suggests post-merger board changes are consistent with evolving monitoring and advising needs. Fama and Jensen (1983) propose that a firm's organization depends on the operational complexity, with more complex firms requiring larger and more hierarchical organizations. Harris and Raviv (2008) and Raheja (2005) hypothesize and Boone et al. (2007), Coles et al. (2008), and Linck et al. (2008) provide empirical evidence in the cross-section that more complex firms have larger, more independent boards; implying a positive association between complexity and board changes around mergers. We employ several measures of complexity, including relative deal size, industry diversification, number of target business segments, and R&D expenditures (Boone et al., 2007, Coles et al., 2008, and Linck et al., 2008).

In addition to testing firm need at the firm-level, we examine characteristics of directors selected versus not selected post-merger. Prior work identifies characteristics valued in the director labor market: CEO experience (Fich, 2005 and Fahlenbrach, Low, and Stulz, 2010), diversity (Adams and Ferreira, 2009), financial expertise (Guner, Malmendier, and Tate, 2008), higher education (Cashman, Gillan, and Whitby, 2012), industry expertise (Denis, Denis and Walker, 2015), merger experience (Harford and Schonlau, 2013), outside directorships (Fama and Jensen, 1983), and performance (Bargeron, Schlingemann, Stulz, and Zutter, 2013). As a firm's monitoring and advising needs increase, these director skills become more valuable. Under the firm need motivation, directors added around mergers should possess more of these attributes than directors added in the absence of a deal. In addition, this motive predicts that directors selected for the post-merger board will have more of these qualities than directors not selected.

Firms assess skills needed in an ever-changing environment.[2] Existing directors can also face retirement or mandatory age limitations. Thus, firm need suggests that boards seek desirable attributes not currently present or that need to be replaced. Many firms use a two-dimensional matrix showing needs versus existing attributes to determine if candidates possess skills absent. For example, while financial expertise may be valuable, it may already exist. In this case, a board would be less likely to seek more financial talent at the expense of other characteristics. The proprietary information on specific board needs is unobservable, but will be reflected in the skills of directors added. The characteristics of directors chosen exhibit a board's revealed preference.

2.2.2 Bargaining

A second reason acquirers may alter boards around mergers is related to negotiations. The price paid to target shareholders, location of the headquarters, name of the post-merger firm, and identity of the post-merger CEO and chair are all bargaining items. The bargaining motive suggests that the structure and composition of the post-merger board is an outcome of negotiations between acquirers and targets.[3] In this case, the addition of target directors post-merger is related to the negotiated deal terms and/or the bargaining position of the parties involved in the transaction.

Prior studies focus on the potential conflict of interest faced by target management in the negotiation process. Wulf (2004) finds that target CEOs trade post-merger retention for premium at the expense of target shareholders. Hartzell, Ofek, and Yermack (2004) show that target CEOs

---

[2] Recent examples include boards seeking directors familiar with modern social media. The 2011 Spencer Stuart Board Index indicates that demand for directors with digital backgrounds increased over 20% in the prior year.

[3] As one example, 21st Century Fox offered shareholders of Time Warner, Inc. board representation as part of Fox's bid to acquire Time Warner (*Wall Street Journal*, July 27, 2014).

are able to negotiate retention in exchange for lower merger bonuses related to the deal. The bargaining power of the parties involved may also be related to the post-merger board structure. Acquirers with a stronger bargaining position might not need to offer board seats as a concession in order to ensure deal completion. On the other hand, targets with more bargaining power may be better able to negotiate for post-merger seats without trading off other deal terms.

To test this bargaining, we examine the relation between the addition of target directors, measures of relative bargaining power and deal premium. We use four proxies for the relative bargaining power between the acquirer and target: relative deal size, target prior performance, target poison pill (Comment and Schwert, 1995) and target classified board (Bates, Becher, and Lemmon, 2008). Larger targets and those with higher prior performance, a poison pill or classified board likely hold more bargaining power. Deal premium, proxied by a target's announcement returns, can be traded for seats on the post-merger board. The bargaining motive predicts a positive relation between target director on the post-merger board and target bargaining power, but a negative one for target announcement returns. This motivation, however, does not provide specific predictions about characteristics of target directors selected to the post-merger board; thus we are agnostic with regard to predictions for this rationale at the individual director level.

2.2.3 CEO Opportunism

A final reason for post-merger board changes also relates to entrenchment issues. CEO opportunism suggests that board changes occur for acquirer managerial welfare reasons. Mergers can provide a convenient opportunity for acquirer CEOs to shift to a more management friendly board. Hermalin and Weisbach (1998) model board structure as a negotiation between a CEO and outside directors. More powerful CEOs may use their bargaining power to weaken board monitoring under the guise of structural shifts related to a deal. Fracassi and Tate (2012) provide evidence consistent with this as firms with more influential CEOs are more likely to appoint directors connected to a CEO, which reduces firm value and leads to weaker board monitoring. Shivdasani and Yermack (1999) find that CEOs involved in the director selection process are more likely to appoint busy directors, which could be consistent with the appointment of less valuable monitors. The absence of constraints on a CEO's power may also affect the post-merger board. Boone et al. (2007) observe a positive relation between board independence and constraints on CEO influence, including monitoring by institutional owners. This prior evidence implies an association between director selection, a CEO's power and the existence of external monitoring.

CEO opportunism predicts a positive association between acquirer CEO power and board changes, but a negative one between powerful CEOs and measures of individual director monitoring quality. Both of these relations would be moderated by constraints on CEO power, such as the existence of external monitors. Proxies for CEO power include the percentage of board capture, CEO-Chair duality, classified board, CEO ownership, and business connections between a CEO and directors (Coles, Daniel and Naveen, 2014; Fracassi and Tate, 2012). External monitoring is proxied by the percentage of shares held by the top 5 institutional owners.

3. Data

3.1 Main Sample

To test our hypotheses, we construct three samples: primary acquirer sample, propensity score-matched sample of non-merging firms based on pre-merger firm characteristics and a post-merger firm size, Fama-French 12 industry-matched sample of non-merging firms. Our primary acquirer sample consists of deals between 1996 and 2012 from the Thompson/SDC U.S. Merger and Acquisitions database (SDC). To observe acquirer and target directors, we require that both firms are U.S. publicly traded, the merger completed and 100 percent of a target is acquired. From SDC, we collect announcement and completion dates, transaction value, method of payment, and merger premium. This sample is merged with Compustat for accounting data, Center for Research of Stock Prices (CRSP) for stock returns, and institutional ownership data from Thomson Reuters.

Data on directors 1996 to 2003 (2004 to 2012) are obtained from RiskMetrics (BoardEx).[4] We require information on acquirer and target pre-merger boards from the board report date closest to but prior to the announcement and on the post-merger board from the board report date closest to but after completion. BoardEx provides details on director education, certifications, as well as past and current employment and directorships. For directors with missing information, we hand-collect data from proxy statements. Our final sample consists of 716 acquirers in 1,153 mergers.

To identify changes to acquirer boards, post-merger directors are matched with pre-merger acquirer and target directors. We define three types of post-merger directors: (i) retained directors from the pre-merger acquirer board (10,688); (ii) retained directors from the pre-merger target board (1,089); and (iii) unaffiliated directors on neither the acquirer nor target board pre-deal (1,459). We also define two other types of directors: not retained acquirer (target) directors on the pre-merger acquirer (target) board, but not on the post-merger board (1,895(9,199)).

3.2 Non-Merger Year Samples

To understand board structure and composition changes around a merger, it is necessary to have a benchmark of typical board changes in non-merger situations. Surprisingly, the availability of such a benchmark is limited.[5] As a result, we create three distinct non-merger year samples: own-firm non-merger sample, propensity score-matched sample, and supply-side matched sample.

[4] The BoardEx universe begins in 2000, but since Management Diagnostics began data collection in 2003, firms that were publicly traded between 2000 and 2003, but delisted before 2004 are not part of the BoardEx universe.

[5] Denis and Sarin (1999) examine changes to board size and independence (1983-1992). Cicero, Wintoki, and Yang (2013) and Wintoki, Linck and Netter (2012) present changes in board size and independence over two-year periods pre-Sarbanes Oxley. These studies focus on changes in the fraction of outside directors and the number of directors.

3.2.1 Own-Firm Non-Merger Sample

First, we create a sample of firm-years in which the acquirers in our sample did not engage in a merger. Board changes in this non-merger years sample are identified the same as the merger sample detailed above. Retained directors sat on the board in the prior year and continue to do so. New directors did not sit on the board in the prior year. Not retained directors sat on the board in the prior year, but no longer do so. This own-firm non-merger sample includes 6,659 firm-years.

3.2.2 Propensity Score-Matched Sample

Comparing changes in board structure around a merger to those in non-merger years allows us to compare a firm to itself. This methodology, however, may not account for the fact that the changes are driven by underlying factors rather than a merger, such as time trends or other industry factors. As a result, we employ a difference-in-difference methodology where we construct a second benchmark of non-merger board changes by matching the *pre-merger* firm to firms that did not merge. Firms are matched using a propensity score-matching methodology based on firm and board characteristics. Each acquirer is matched to ten non-merger firms with replacement with the closest propensity scores based on the model in Appendix B.[6] We calculate differences in board changes across time (e.g., pre- versus post-merger) and matched firms. The difference of these differences (difference-in-difference) allows us to compare two sets of relatively similar firms in the same year, where the main difference is one undergoes a merger and the other does not. This sample yields 6,346 matched non-merger firm-years to compare to our main sample.

3.2.3 Supply-side Matched Sample

The characteristics of directors selected for the post-merger board reveals a firm's demand for particular skills and attributes. It is possible, however, that director selection is not purely a

[6] All results are robust to a non-merger matched sample based on the five nearest neighbors or a caliper of 0.001.

demand effect. For a given director to be added, they must also agree to serve. The post-merger firm is larger and presumably more prestigious, making a seat on that board more attractive (Masulis and Mobbs, 2014). To control for these supply-side effects, our third benchmark focuses on the *post-merger* firm. We create another matched sample of firms that did not engage in a merger in the same year. This sample is based on the post-merger firm size and industry and yields 44,833 matched non-merger firm-years to compare to our merger sample. These matched firms are likely attracting potential candidates from the same pool of individuals as the acquirers.

3.4 Descriptive Statistics

Table 1 details summary statistics for the primary sample of 1,153 acquisitions from 1996-2012. Panel A presents deal characteristics, which are consistent with studies using similar sample restrictions (e.g., Cai and Sevilir, 2012, and Ishii and Xuan, 2014). Panel A focuses on measures of firm complexity to test for firm need. Average (median) relative deal size is 0.46 (0.22), suggesting a wide range of deal complexity within our sample. Panel B details that, on average, acquirer size and number of business segments increase after a merger. In addition, the average target spends a significantly higher percentage of assets on R&D than the average acquirer.

Following prior studies, the number of outside directorships, education level, financial expertise, as well as CEO, merger, and industry experiences are proxies for director talent and quality (Panel C). Compared to acquirer boards, target boards are smaller, and their directors hold fewer outside directorships, are less educated, and have less prior merger/CEO-merger experience. Target boards, however, have more financial experts and outside CEO experience than acquirers. We conduct individual director-level analyses, with pair-wise comparisons (e.g., target directors retained to acquirer directors leaving) to test the firm need and CEO opportunism motives.

To test for bargaining, we use four proxies for the target's relative bargaining power: relative deal size, target prior performance, target poison pill and target classified board. Panel B of Table 1 shows that average annual prior target stock performance is 9.5% compared to 16.8% for acquirers. Roughly 40% of targets have a poison pill and 60% have a classified board. In addition, a target's abnormal merger announcement return is used as a proxy for a negotiating term that can be traded for seats on the post-merger board under the bargaining motive. Panel A of Table 1 reports that target shareholders experience an average announcement return of 25.1%.

Measures of acquirer CEO power and external monitoring are used to test for CEO opportunism. Proxies for CEO power include the degree of board capture, CEO-Chair duality, CEO ownership, and business connections between a CEO and directors. Panel C details that 55% of the pre-merger acquirer board is captured, significantly higher than for targets (51%). Two-thirds of acquirer CEOs are chair, higher than for the target (59%) and average acquirer CEO ownership is 2.4%. Finally, the percentage of acquirer directors that currently or previously served on the same board or worked at the same firm as the acquirer CEO (*connected to CEO*) is 10%, but only 0.8% of target directors have these connections. External monitoring is proxied by the percentage of shares held by the top 5 institutional owners and this percentage of shares held by these owners is higher for targets than acquirers and increases for the combined firm (Panel B).

4. Results

4.1 Board Dynamics around Mergers

Our first research question focuses on whether there are changes to acquirer boards around mergers and if these changes are different from changes in the absence of a merger. Table 2 provides a univariate difference-in-difference analysis, where we compare changes to acquiring boards to changes of our benchmark firms.[7] For each of our board structure measures, we calculate the difference in both the pre- and post-period across merger and matched firms and then calculate the difference in these differences. Panel A examines difference-in-differences for various measures of board changes across all firms, while Panel B segments results by relative deal size.

Panel A reports that in the pre-merger period differences in board structure and composition changes between acquiring firms and the propensity score-matched non-acquiring firms is insignificant. After a merger, however, there are substantial and significant differences in board changes for merging firms. Nearly 10% of the post-merger board consists of newly added unaffiliated directors versus 7.9% for non-merger matched firms. Similarly, at least one unaffiliated director is added in 58% of merger years versus 51% for non-merger firms (both are significantly higher around mergers). This corresponds to an addition of 1.15 unaffiliated directors in merger years compared to only 0.80 directors in non-merger years. In unreported results, we also find that retained target directors represent 7.1% of the post-merger board or 0.95 additional directors added to the post-merger board (implying 10% of the target board is retained).[8]

Significant board changes, however, are not limited to adding directors. A greater fraction of a prior year's directors depart in merger years (12.8%) than at non-merging firms (7.9%). This corresponds to at least one director departing in 65% (51%) of the years with (without) a merger. The difference-in-differences of director additions and departures from pre- to post-merger periods are all statistically significant at the 1% level. This suggest that changes to acquiring firm boards are significantly greater relative to non-acquiring matched firms in the year following a merger.

New directors added and incumbent directors departing does not fully reflect board changes in mergers. Board size increases nearly twice as frequently around mergers, yet over 50%

[7] We find similar results comparing board changes around a merger to our own-firm non-merger sample (unreported).
[8] Harford (2003) finds a similar percentage of target director retention post-merger.

(33%) of the time an acquirer director also departs at merging (non-merging) firms; difference-in-differences are significant at the 1% level. Acquirer board size is significantly less likely to remain stable following a merger compared to the matched sample of non-acquiring firms (36% in merger versus 50% in non-merger years). While firm size and complexity increase in mergers, board size decreases 22% of the time, despite the addition of new directors in nearly half of these cases. Overall, the composition and/or size of the board changes nearly 84% (68%) of the time around mergers compared to the absence of one, highlighting the dynamics of board variation in mergers.

While we document considerable board variation around mergers, these changes could be primarily driven by the nature and complexity of a deal. To test this, we split our mergers into terciles by relative deal size (Panel B). Regardless of size, acquirer boards are less stable in merger than non-merger years. In particular, additions and departures to acquirer boards vary by deal size, yet the difference-in-differences are substantial even in the smallest deals.

The univariate difference-in-difference tests in Table 2 yield evidence consistent with substantial changes to acquirer boards around mergers. We verify whether these results hold in a multivariate framework in Table 3. To capture the impact of mergers on boards, we create two indicators; one for acquirers (*Merger*) and one the post-merger period (*Post*). We regress measures of board structure and composition changes on these indicators and their interaction (*Merger x Post*). If acquiring boards experience more change than the non-merging matched sample, the coefficient on the interaction term should be positive and significant. We also control for firm and board characteristics as well as industry and year fixed effects. The board structure and composition changes of interest include change in board size (Models 1 and 4), the addition of unaffiliated directors (Models 2 and 5) and the departure of incumbent directors (Models 3 and 6).

Model 1 of Table 3 reports that the coefficient on *Merger x Post* is 0.562 and is significant at the 1% level. This result suggests that, following a merger, the board size of acquiring firms increases significantly compared to the non-merger matched sample. We find similar results in regard to the addition of unaffiliated directors (Model 2) and the departure of incumbent directors (Model 3). These results imply an increase in the relative addition/departure of unaffiliated/ incumbent directors following a merger. The economic magnitude of the relative board changes following a merger is similar to those reported in the univariate analysis. Our results are qualitatively and quantitatively unchanged in Models 4-6 where we include all control variables providing additional evidence that acquiring firm boards are *not* stable around mergers.

Despite our difference-in-difference analysis, other explanations may exist for board changes around mergers. First, these changes may be driven by anticipation of a deal or as a firm re-evaluates its needs post-merger. We examine shifts in boards in the years prior to and after a merger (Figure 1) and find little evidence of significant board changes. For example, the average percentage of new directors in the year prior to (after) a merger is 9.8% (7.7%) compared to 18.7% in a merger year.[9] Next, given board classification as a potential entrenchment device, firms with classified boards may experience fewer changes. In unreported tests we find no evidence firms with classified boards experience any less board changes around mergers.

It is also possible that the emergence of activist investors plays a role in a firm undertaking a merger and the concurrent changes in board structure and composition. Prior studies document that these investors do seek board representation (Brav, Jiang, Partnoy and Thomas, 2008 and Klein and Zur, 2009). In unreported results, we search for all cases where an acquirer is the subject of a 13-D filing or amendments in the two years pre-merger announcement. Reviewing each filing,

[9] We obtain qualitatively similar results if we extend the window to three years before/after the merger is completed.

we find that 5.5% of our mergers experience the emergence of an activist investor in this two-year window.[10] For these few cases where an activist emerges, we examine all related 13D filings and Factiva news stories to determine if the activist attempted to influence the board or the merger. In only 0.6% of our deals did an outside investor *publicly* encourage the merger or attempt to obtain representation on the acquirer board. We also exclude all deals in which an activist appears in this two-year window and find qualitatively and quantitatively similar results. Collectively, these results suggest that the influence of activists is not a first-order concern in our study.

Finally, some unobservable endogenous factor not captured by the propensity score-matching methodology may drive the motivation to undertake a merger and subsequent board changes. One setting where the motivation to merge may be more exogenous is an industry merger wave, which may be spurred by technological or regulatory shocks (Harford, 2005). During such a wave, acquirers may be forced to merge. Examining deals that take place inside a wave, we continue to find significant board changes around mergers (untabulated). Overall, we do not find support that these alternative motivations explain board changes around mergers.

Overall, results in Tables 2 and 3 as well as Figure 1 are striking: acquiring boards are *not* stable around mergers. These findings suggest substantial shifts in board structure and composition surrounding mergers and these changes are significantly greater than those that otherwise occur. We next turn our attention to understand why these changes occur.

4.2 What Does the Director Labor Market Value?

By focusing on adjustments to the post-merger board at the individual director level, our goal is to better understand the specific skills of board members valued in the director labor market.

[10] An activist investor may have already filed a 13D prior to our two-year window before the merger (existing activist). Less than 1% of acquirers had an existing activist file an amendment during this window. Further, on average, these existing activists hold a position in the acquirer for more than five years before the merger.

The setting of mergers affords the opportunity to compare directors selected to a post-merger board to those not selected. The revealed preference of firms' post-merger selections provides evidence on why board structure and composition change around mergers. We begin by exploring whether the attributes demanded in a merger year are different from those sought in a non-merger year.

4.2.1 Merger vs. Non-merger Years

For each acquirer in our main merger sample, Panel A of Table 4 compares attributes of directors added to the board in merger years to the set of firms in the propensity score-matched sample that did not engage in a merger.[11] Comparison (1) focuses on all new directors on a board (unaffiliated and retained targets in merger years versus new in non-merger years). Comparisons (2) and (3) examine only unaffiliated and only retained target directors, respectively, added in merger years versus new directors in non-merger years.

In general, comparison (1) suggests that firms select directors in merger years for different reasons than in non-merger years as all attributes of directors added in merger years are statistically different from those selected in non-merger years. In particular, directors in merger years are added for their deal and executive experience (external CEO, merger, CEO-merger, and industry experience); a skill set likely related to the monitoring and advising needs of merger integration. Conversely, director selection in non-merger years focuses on retirement (age), general skills (higher education and financial expertise) and diversity (gender).[12] These results are consistent with firm need*;* as the monitoring and advising needs of a firm change with a merger, certain director skills (e.g. deal and industry experience) become more valuable.

[11] In unreported analysis, we also compare the attributes of directors added around a merger to directors added at the same acquiring firms in non-merger years and find quantitatively and qualitatively similar results.

[12] Results are robust to restricting merger experience to recent experience in the past three years (rather than at any point in the past) as well as restricting financial expertise to only CFA/CPA certification in this and all further analysis.

Comparisons (2) and (3) of Panel A separate new directors in merger years into unaffiliated and target directors, respectively. Again, we find that unaffiliated and retained target directors possess more executive and deal experience than new directors added in non-merger years. Both unaffiliated and target directors added have significantly more CEO and CEO-merger experience than new directors selected at non-merger matched firms. In addition, retained target directors possess more outside directorships and merger experience than non-merger year additions.

Panel B of Table 4 addresses potential supply-side effects related to the composition of the post-merger board. As firm size increases, seats on the post-merger board may be more prestigious in the director labor market and thus, attract more qualified directors than the pre-merger board. We address this concern by matching each acquirer to a set of non-acquirers in the same year, Fama-French 12 industry and firm size decile based on the size of the post-merger firm. This matched sample of new directors added in non-merger years allows us to compare unaffiliated directors added to acquirer boards to a comparable pool of new directors that may have been considered but not selected by an acquirer. In general, results are consistent with Panel A. Overall, directors added in merger years are selected for their executive and deal experience. These results provide further support for firm need; changes in acquiring boards around mergers reflect attributes related to a firm's changing monitoring and advising needs.

4.2.2 Director Selection - Acquirer and Target Director Pools

Next, we examine determinants of post-merger board selection for acquirer and target pools of directors using logistic regressions in Table 5. These models include deal fixed effects which allow within deal variation in director characteristics for each pool to explain selection. The deal fixed effects control for any unobservable firm or deal-specific attributes that may simultaneously link engaging in a merger and changes to a board. Column 1 examines selection from the combined acquirer and target director pool.[13] Consistent with firm need, acquirer and target directors on a post-merger board have more outside directorships. Notwithstanding the literature on busy boards, experience on additional boards broadens the experience brought to the current board. In addition, selected directors possess more prior merger experience than those not selected, also consistent with firm need. Finally, directors with outside target industry experience are less likely to be added. While this appears inconsistent with firm need, it is concentrated in related deals and suggests a duplicative effect as acquirer and target directors have similar industry knowledge. Consistent with firm need, if we limit the sample to diversifying deals, the coefficient on target industry experience becomes positive and significant for target directors (untabulated).

To further address supply side issues in the director labor market, we construct measures of the relative importance of a directorship (Masulis and Mobbs, 2014). A director's board seat with the highest (lowest) market capitalization is ranked as the most (least) important directorship. Directors with only one seat are ranked as the most important. Directors are more likely to appear on the post-merger board if that directorship (acquirer or target) is their most important.

Having examined characteristics of all directors retained post-merger, we next condition on deals in which at least one target director is added and focus on the target director pool (Column 2). Target directors with more outside directorships and more outside CEO experience are more likely to be added to the post-merger board (all consistent with firm need), although female target directors are less likely added. While our results indicate diversity in gender is valued, there may be a limit to which adding any specific attribute is valuable, especially if other desirable qualities (e.g., CEO experience) are demanded. Focusing on supply-side effects, target directors are less likely added if the target directorship is the director's least important seat. These results provide

[13] This model includes all acquirer and target directors, even if no target director is on the post-merger board.

support for the firm need motive; when target directors are added to the post-merger board, they possess more outside executive and board experience than target directors not retained.

Finally, we separate the acquirer pool and condition on deals when at least one acquirer director departs (Column 3). Consistent with firm need, acquirer directors on the post-merger board hold more outside directorships and merger experience than those that depart. In addition, acquirer directors retained have less outside target industry experience, again concentrated in related deals. Acquirer directors with outside CEO experience are less likely retained, which appears inconsistent with firm need. However, in subsequent tests, the net amount of outside CEO experience on the post-merger board increases with the addition of unaffiliated directors. Inconsistent with the agency motives, CEO connections do not explain post-merger retention.

As an additional test of CEO opportunism, we estimate regressions similar to Table 5 for subsamples based on potential agency conflicts and find the characteristics of retained acquirer and target directors are not different for CEO-Chair duality, acquirers with captured boards (highest tercile of percentage captured), high CEO ownership (highest tercile of CEO ownership), low institutional ownership (lowest tercile of institutional ownership), or connections between directors and the acquirer CEO (highest tercile of percent connected). These results are not consistent with CEO opportunism. Overall, results suggest that boards change around mergers to increase experience; director backgrounds with executive and deal experience are most valued.

4.2.3 Director Selection – Unaffiliated and Retained Target Directors

To further understand the post-merger board at the director-level, Table 6 compares unaffiliated directors added to other (not) retained directors. We estimate logistics including deal fixed effects as in Table 5. Consistent with firm need, unaffiliated directors are added for their CEO, outside directorship, and target industry experience. In fact, these directors have more of this experience than retained and not retained acquirer directors. Unaffiliated directors are also more likely to be connected to an acquirer CEO than target directors (retained or not), but, not surprisingly, less so than acquirer directors retained. This finding could be indicative of either agency conflicts or a desire to populate a board with directors of known quality, given that there are both costs and benefits associated with the appointment of connected directors (Schmidt, 2015). We address these interpretations in subsequent tests. Unaffiliated directors added do have significantly less merger experience than retained or departing acquirer or target directors. In general, however, our results provide support for firm need; the addition of unaffiliated directors upgrades the director skill set of the post-merger board that could be useful in merger integration.

Table 6 also examines retained target directors and builds on our evidence that boards upgrade talent around mergers. Consistent with unaffiliated directors, retained target directors hold more directorships and have more outside CEO experience than (not) retained acquirer directors. In addition, these directors have more target industry experience than acquirer directors, providing additional support for firm need as a motive for director selection.

We also examine if managerial welfare motives explain the addition of unaffiliated or retained target directors. We estimate regressions similar to Table 6 for subsamples based on our measures of acquirer CEO power (untabulated). The characteristics of unaffiliated and retained target directors compared to all other sets of directors do not vary by these measures. Regardless of potential CEO opportunism, directors added around a merger possess more outside CEO experience and outside directorships than retained and not retained acquirer (target) directors. These results provide additional evidence in favor of firm need rather than agency motives.

Overall, results from Tables 4-6 examining the determinants of director selection provide broad evidence that past experience matters for director selection onto the post-merger board. In particular, directors with outside CEO, merger, and additional industry experience as well as those with more outside directorships are more likely included on the post-merger board. Our findings suggest that firm need drives director selection and improves overall board quality around mergers.

4.3 What Determines Board Changes around Mergers?

Next, we focus on firm-level tests to examine motivation for board changes. Table 7 examines the percentage of: target directors added (Model 1), unaffiliated directors added (Model 2), and acquiring board not retained (Model 3). In Model 1, the percentage of target directors on the post-merger board increases with relatively larger deals and more complex (high R&D) targets. Consistent with firm need, as target complexity or size increases, so do the monitoring and advising skills needed. Merging with a target outside an acquirer's industry may imply a greater need for advising skills, suggesting higher target director retention in these deals. Results show that these directors are retained more often in related deals and could be consistent with CEO opportunism. However, target directors retained in either related or diversified deals are both characterized as high quality directors (CEO, directorship, and merger experience).

Given that the post-merger board contains more unaffiliated directors than target directors retained, we next examine the addition of unaffiliated directors (Model 2). None of our variables designed to measure firm need or the general controls appear to explain the addition of unaffiliated directors at the firm-level. All previously documented results, however, suggest that unaffiliated directors are added for their prior executive and director experience. Importantly, retirement does not play a role in the percentage of unaffiliated directors added as the percentage of pre-merger acquirer directors over 72 provides no explanatory power.[14] Finally, we examine the percentage of pre-merger acquirer directors not retained (Model 3). Similar to target director retention and

[14] The mandatory retirement age for directors is 72 years (Cline and Yore, 2014). Results are robust to using the percentage of directors 65, 68, or 70 or older or average director age instead of the percentage of directors 72 or older.

consistent with firm need, the percentage of acquirer directors not retained increases with relative deal size and deal complexity (target R&D). Overall, results from Table 7 suggest that changes to board structure and composition around mergers are driven by firm need and complexity.

Table 8 focuses on bargaining related to the percentage of the combined board comprised of: retained target directors (Model 1), retained target outside directors (Model 2), retained target inside directors (Model 3), and whether the target CEO is retained (Model 4). The percentage of target directors added is significantly negatively related to target announcement returns; consistent with a tradeoff of power for premium where target directors negotiate for seats on the post-merger board in exchange for a lower premium (Wulf, 2004). We find that even where it is likely targets trade power-for-premium, target directors retained are still of higher quality (CEO, directorship, and merger experience) (unreported). From an acquirer's view, retention of these target directors appears driven by firm need rather than CEO opportunism. Target takeover defenses (e.g., poison pill or classified board) may strengthen its bargaining position and allow a board to better negotiate representation on the post-merger board. The presence of a target poison pill/classified board has a significantly positive effect on the percentage of target directors post-merger and supports the notion that the post-merger board is an outcome of bargaining between acquirers and targets.[15]

Models 2 – 4 of Table 8 decompose retained target directors into outsiders, insiders, and target CEO. The results suggest that the power for premium trade-off documented in Model 1 is concentrated in outside target director retention. Consistent with Bargeron et al. (2013), we do not find that target CEO retention is related to this trade-off.

[15] Targets may also adopt these structures to protect their exploitable assets, so the relation between target director retention and governance may be related to the integration rather than bargaining. In our sample, however, there is no correlation between measures of target complexity (R&D expenditures) and classified board/poison pill.

Finally, Table 9 explores agency explanations for board changes around mergers using the same methodology as Table 7. As noted, the CEO opportunism motive predicts that firms with more powerful CEOs should experience more change to the post-merger board. Across our four measures of CEO power (board capture, CEO-Chair duality, connections between the acquirer CEO and directors, and CEO ownership) and our three measures of board changes, we find very little evidence that board changes around mergers are associated with agency conflicts. In particular, only director connections to the CEO has a significantly positive impact on target director retention. In all other instances, there is no relation between measures of CEO power and board changes, except acquirers with higher board capture, CEO-Chair duality and higher CEO ownership are *less* likely to retain target directors and not retain incumbent acquirer directors.

Overall, results from Tables 7 and 8 suggest that both firm need and bargaining play an important role in changes to board structure and composition around mergers, while Table 9 provides little evidence that acquirer CEO opportunism are driving these changes.

4.4 Unaffiliated and Retained Target Director Tenure

Examining board tenure provides additional insight into the motives for board changes around mergers. Our three motives for post-merger board changes: firm need, agency, and bargaining (target) have different implications for the length of director retention. Unaffiliated and target directors chosen to fulfill long-term specific firm needs are likely retained longer. However, target directors primarily added to facilitate bargaining (i.e., complete the deal at a lower premia) fulfill their purpose at deal closing. Also, target directors may be retained for shorter-term needs, such as aiding the post-merger integration process. For both the bargaining and integration motives, we would expect target director tenure to be short-lived. In contrast, target directors chosen on the basis of long-term firm need would be expected to have a longer tenure.

Table 10 summarizes the director tenure results and finds that 70% of all new directors remain longer than three years, suggesting that board changes around mergers are fairly permanent.[16] Panel A segments new directors into unaffiliated and target. We find that 75% of unaffiliated directors remain for at least three years post-merger, which is significantly greater than the 70% retention of new directors for three plus years in the propensity score-matched non-merger sample. This result provides additional evidence that these changes are relatively more permanent. For target directors, however, only 63% remain on the post-merger board for more than three years.

Panel B segments directors by whether they stay or go over this three-year horizon. In general, directors that stay long-term have more CEO-merger experience, financial expertise, and are on key committees (audit, compensation, and nominating). This result is consistent with firm need; the more permanent shifts in acquiring firm boards reflect directors with outside executive and deal experience and utilization of these talents in more prominent board roles. In addition, directors with longer tenure are not more connected to the acquirer CEO than those with shorter tenure; which is also consistent with upgrading a board's skill set and inconsistent with agency motives. These results hold whether we examine unaffiliated or target directors (untabulated).

While target directors added also represent an upgrade in board skill, it is not clear why fewer stay long-term. We explore two explanations: bargaining and integration. If the observed shorter tenure is a function of bargaining, we would expect this to be more prevalent in deals where targets receive a relatively lower premium. However, in Panel C of Table 10 comparing deals with high and low premia, we find that target directors in low premia mergers have a longer tenure. This result is inconsistent with bargaining driving shorter tenure for retained target directors.

[16] Results are qualitatively similar if examine alternate tenure horizons such as one-year or two-years.

If integration is a reason for this shorter tenure, we would expect that the subset of target directors with shorter tenure to be concentrated in cases where target integration is more of a concern: large, diversifying, and complex deals. Retained target directors have significantly shorter tenure in more complex deals (Panel C). Furthermore, Panel D examines characteristics of target directors that are retained for less than three years. Results show that retained target directors in more complex deals have significantly more financial, industry, CEO, and CEO-merger experience. All results in Table 10 hold if the sample is limited to directors less than the age of 72, 69, or 65. These findings are consistent with the notion that target directors with skills related to merger integration are retained in deals that likely require more such support.

In unreported tests, we repeat these analyses in a multivariate framework controlling for director characteristics (age, experience, committee membership, etc.) and board classification. Consistent with Table 10, unaffiliated directors are significantly more likely to remain on the combined board for more than three years as compared to retained target directors.[17] In addition, the shorter tenure of target directors continues to manifest in more complex deals, consistent with integration as the motive for shorter target director retention. Overall, our results suggest that the substantial changes to acquirer boards are relatively permanent and directors added in mergers reflect a demand for skills related to the monitoring and advising needs of the post-merger firm.

5. Robustness

We conduct robustness on subsamples based on time and regulation. SOX impacted board structures and makeup (Linck et al., 2009). In addition, regulated firms may demand different expertise or regulators may limit board composition (Houston and James, 1995; Kole and Lehn, 1999). In unreported results, we analyze sub-samples of pre- and post-SOX as well as excluding

[17] Unaffiliated directors are 15% more likely to remain for more than three years than retained target directors.

financials and utilities and find the significant board changes around mergers are consistent across time periods and industries. We conduct all analyses in Tables 2 - 9 on these sub-samples and while there are idiosyncratic differences, our general results remain. Boards change substantially around mergers and directors are added to the post-merger board in an attempt to improve the executive and deal experience of the board or due to bargaining between the merger participants.

In sensitivity tests examining the determinants of target director retention, the addition of unaffiliated directors and the departure of acquirer directors (Tables 7-9), we control for additional factors that may impact the degree of change around mergers: serial acquirer (whether the firm engages in other acquisitions in the prior two years), free cash flow, leverage, geographic segments, operational segments, acquirer announcement return, geographic distance between the acquirer and target, and target firm governance measures as well as target industry homogeneity, average analyst forecast error or analyst coverage. Inclusion of these variables does not further explain post-merger board composition or alter our other results.

6. Summary and Conclusions

Prior literature has given little attention to changes in boards of acquiring firms. This is surprising given the importance of the board of directors and the potential for changes in the firm's monitoring and advising needs around a merger. It is possible that certain factors, like transaction costs, restrict adjustments to optimal board structure and composition, implying the relative stability of the post-merger board. Alternatively, theory suggests adjustments to the post-merger board as the monitoring and advising needs of the firm change due to the merger.

Our results indicate dynamic shifts in acquirer boards around mergers that are significantly different from both non-merging firm and non-merger years. Directors are added to the post-merger board at a significantly higher rate than for non-acquiring firms. In over 40% of deals, board size increases even though an acquirer director frequently departs. Board size also decreases in nearly 25% of deals although firm size and complexity increase. Overall, acquirer board size and/or composition change 84% of the time and these changes are driven primarily by firm need and bargaining. The addition of unaffiliated and/or target directors reflects demand for monitoring and advising the post-merger firm and improved director quality. In addition, target firms negotiate representation on the post-merger board when they have relatively more bargaining power compared to the acquirer firm or in exchange for accepting lower merger premiums.

Examining director level characteristics, unaffiliated and target directors added after mergers have significantly different attributes from directors added to boards of non-merging firms. Skills related to executive and deal experience are more valued around mergers, while general skills such as education and financial expertise are sought in non-merger years. Moreover, directors added to the post-merger board have more outside board and executive experience than both retained and not retained acquirer directors, suggesting boards upgrade overall talent around a merger. Finally, significant adjustments to acquiring firm boards around mergers are relatively permanent as a vast majority of these new directors remain on the post-merger board long-term.

Our results provide evidence on the dynamics of acquirer boards and, more generally, on director selection. Mergers provide a unique setting to contrast the characteristics of candidates added, retained and not selected, offering insights into attributes valued in the director labor market. Our evidence suggests that acquirers improve overall board quality and place an increased importance on executive and deal experience in director selection around mergers. Overall, we complement prior studies on the determinants of board structure by providing insight into the dynamic nature and board structure and the characteristics valued in the director labor market.

References

Adams, R., and Ferreira, D., 2009. "Women in the Boardroom and their Impact on Governance and Performance." *Journal of Financial Economics* 94, 291-309.

Bargeron, L.L., F.P. Schlingemann, R. Stulz, and C.J. Zutter, 2013. "Does target CEO retention in acquisitions involving private equity acquirers harm target shareholders?" Working Paper, Ohio State University.

Bates, T.W., D.A. Becher, and M.L. Lemmon, 2008. "Board Classification and Managerial Entrenchment: Evidence from the Market for Corporate Control." *Journal of Financial Economics* 87, 656-677.

Bebchuk, L. and Fried, J., 2004. "Pay Without Performance: The Unfulfilled Promise of Executive Compensation." *Harvard University Press*.

Boone, A.L., L.C. Field, J.M. Karpoff, and C.G. Raheja, 2007. "The Determinants of Corporate Board Size and Composition: An Empirical Analysis." *Journal of Financial Economics* 85, 66-101.

Brav, A., W. Jiang, F. Partnoy, and R. Thomas, 2008, "Hedge Fund Activism, Corporate Governance, and Firm Performance," *Journal of Finance* 63, 1729-1775.

Bryan, J.M., 2013. "Corporate Anti-Takeover Defenses: The Poison Pill Device." Thomson Reuters.

Cai, Y. and M. Sevilir, 2012. "Board Connections and M&A Transactions." *Journal of Financial Economics* 103, 327-349.

Cashman, G.D., S.L. Gillan, and R.J. Whitby, 2012. "Expertise, connections, and the labor market for corporate directors." Working Paper, Texas Tech University.

Cicero, D., M.B. Wintoki, T. Yang, 2013. "How Do Public Companies Adjust their Board Structure?" *Journal of Corporate Finance* 23, 108-127.

Coles, J.L., N. Daniel, and L. Naveen, 2008. "Boards: Does One Size Fit All?" *Journal of Financial Economics* 87, 329-356.

Coles, J.L., N. Daniel, and L. Naveen, 2014. "Co-opted Boards." *Review of Financial Studies 27*, 1751-1796.

Comment, R., Schwert, G. W., 1995. "Poison or Placebo? Evidence on the Deterrence and Wealth Effects of Modern Anti-takeover Measures." *Journal of Financial Economics* 39, 3-43.

Denis, D.J., D.K. Denis, and M. Walker, 2015. "CEO Assessment and the Structure of Newly Formed Boards." *Review of Financial Studies* 28, 3338-3366.

Denis, D.J. and A. Sarin, 1999. "Ownership and Board Structures in Publicly Traded Corporations." *Journal of Financial Economics* 52, 187-223.

Fahlenbrach, R., A Low, and R.M. Stulz, 2010. "Why Do Firms Appoint CEOs as Outside Directors?" *Journal of Financial Economics* 97, 12-32.

Fama E.F. and M.C. Jensen. 1983. "Separation of Ownership and Control." *Journal of Law and Economics* 26, 301-325.

Fich, E.M., 2005. "Are Some Outside Directors Better Than Others? Evidence from Director Appointments by Fortune 1000 Firms." *Journal of Business* 78, 1943-1971.

Fracassi, C. and G. Tate, 2012. "External Networking and Internal Firm Governance." *Journal of Finance* 67, 153-194.

Guner, B., U. Malmendier, and G. Tate, 2008. "Financial Expertise of Directors." *Journal of Financial Economics* 88, 323-354.

Harford, J., 2003. "Takeover Bids and Target Directors' Incentives: The Impact of a Bid on Directors' Wealth and Board Seats." *Journal of Financial Economics* 69, 51-83.

Harford, J., 2005. "What Drives Merger Waves?" *Journal of Financial Economics* 77, 529-560.

Harford, J. and R.J. Schonlau, 2013. "Does the Director Labor Market Offer Ex-Post Settling-up for CEOs? The Case of Acquisitions." *Journal of Financial Economics* 110, 18-36.

Harris, M. and A. Raviv, 2008. "A Theory of Board Control and Size." *Review of Financial Studies* 21, 1797-1832.

Hartzell, J.C., E. Ofek, and D.L. Yermack, 2004. "What's in it for Me? CEOs Whose Firms are Acquired." *Review of Financial Studies* 17, 37-61.

Hermalin, B. and M.S. Weisbach, 1998. "Endogenously Chosen Boards of Directors and Their Monitoring of the CEO." *American Economic Review* 88, 916-118.

Houston, J.F. and C. James, 1995. "CEO Compensation and Bank Risk: Is Compensation in Banking Structured to Promote Risk Taking." *Journal of Monetary Economics* 36, 405-431.

Ishii, J. and Y. Xuan, 2014. "Acquirer-Target Social Ties and Merger Outcomes." *Journal of Financial Economics* 112, 344-363.

Klein, A. and E. Zur, 2009, "Entreprenuerial Shareholder Activism: Hedge Funds and Other Private Investors." *Journal of Finance* 64, 187-229.

Kole, S.R. and K.M. Lehn, 1999. "Deregulation and the Adaptation of Governance Structure: The Case of the U.S. Airline Industry." *Journal of Financial Economics* 52, 79-117.

Linck, J.S., J.M. Netter, and T. Yang, 2008. "The Determinants of Board Structure." *Journal of Financial Economics* 87, 308-328.

Linck, J.S., J.M. Netter, and T. Yang, 2009. "The Effects and Unintended Consequences of the Sarbanes-Oxley Act on the Supply and Demand for Directors." *Review of Financial Studies* 22, 3287-3328.

Masulis, R.W. and S. Mobbs, 2014. "Independent Director Incentives: Where Do Talented Directors Spend Their Time and Energy?" *Journal of Financial Economics* 111, 406-429.

Raheja, C.G., 2005. "Determinants of Board Size and Composition: A Theory of Corporate Boards." *Journal of Financial and Quantitative Analysis* 40, 283-306.

Schmidt, B., 2015. "Costs and Benefits of Friendly Board during Mergers and Acquisitions." *Journal of Financial Economics* 117, 424-447.

Shivdasani, A. and D. Yermack, 1999. "CEO Involvement in the Selection of New Board Members: An Empirical Analysis." *Journal of Finance* 54, 1829-1853.

Wintoki, M. B., Linck, J., and Netter, J., 2012. "Endogeneity and the Dynamics of Internal Corporate Governance." *Journal of Financial Economics* 105, 581-606.

Wulf, J., 2004. "Do CEOs in Mergers Trade Power for Premium? Evidence from Mergers of Equals." *Journal of Law, Economics, and Organization* 20, 60–101.

Appendix A: Variable Definitions

	Variable Definition
Panel A: Deal Characteristics	
Deal Value ($ mil)	Transaction value ($ millions)
Relative Deal Size	Deal transaction value scaled by acquirer market value of equity
Acquirer CAR	Acquirer 3-day cumulative abnormal return (-1, +1) around the merger announcement date
Target CAR	Target 3-day cumulative abnormal return (-1, +1) around the merger announcement date
Premium	Final bid price scaled by target share price 42 days prior to merger announcement minus one
Diversifying Deal	Indicator variable equal to one if the acquirer and target are in different Fama-French 12 industries, zero otherwise
All Equity	Indicator variable equal to one if merger is 100% financed with equity, zero otherwise
All Cash	Indicator variable equal to one if merger is 100% financed with cash, zero otherwise
Tender Offer	Indicator variable equal to one for those deals announced via a tender offer, zero otherwise
Hostile	Indicator variable equal to one for those deals where the acquiring firm makes a hostile takeover attempt, zero otherwise
Multiple Bidders	Indicator variable equal to one if a target firm receives more than one takeover offer, zero otherwise
Panel B: Firm Characteristics	
Firm Size ($ million)	Total book value of assets
Business Segments	Number of unique business segments
ROA	Net income scaled by total book value of assets
R&D	Research and development expenditures scaled by total book value of assets
Leverage	Total book value of debt scaled by total book value of assets
Top 5 Institutional Ownership (%)	Percentage of total outstanding shares held by the largest five institutional owners
Stock Performance	One-year buy and hold abnormal returns
Stock Volatility	Standard deviation of annual monthly returns
Board Size	Total number of directors on the board
Independence	Percentage of independent directors on the board
Captured	Percentage of outside directors with tenure less than the current CEO
CEO-Chair	Indicator variable equal to one if the CEO is also chair of the board, zero otherwise
CEO Age	CEO age in years
Directors >= Age 72	Percentage of the board that is 72 years or older

Appendix A (continued): Variable Definitions

	Variable Definition
Panel C: Director Characteristics	
Outsider	Indicator variable equal to one if director is an outsider, zero otherwise
Director Tenure	Director tenure in years
Director Age	Director age in years
Female	Indicator variable equal to one if director is female, zero otherwise
Outside Directorships	Total number of additional public board seats held
Hold Outside Directorships	Indicator variable equal to one if director holds additional public board seats, zero otherwise
Higher Education	Indicator variable equal to one if director holds post-secondary degree, zero otherwise
Financial Expert	Indicator variable equal to one if director holds CFA or CPA or has prior/current CFO experience, zero otherwise
Outside CEO Experience	Indicator variable equal to one if director is currently or previously CEO of an outside public firm, zero otherwise
Merger Experience	Indicator variable equal to one if director has previously served on a board that engaged in an acquisition, zero otherwise
CEO-Merger Experience	Indicator variable equal to one if director has previously served as CEO of a firm that engaged in an acquisition, zero otherwise
Target Industry Experience	Indicator variable equal to one if director has additional employment or director experience in target Fama-French 12 industry, zero otherwise
Connected to CEO	Indicator variable equal to one if director currently/previously served on the same board or worked at the same firm as the acquirer CEO, zero otherwise
Audit Committee Member	Indicator variable equal to one if director sits on the audit committee, zero otherwise
Compensation Committee Member	Indicator variable equal to one if director sits on the compensation committee, zero otherwise
Nominating Committee Member	Indicator variable equal to one if director sits on the nominating committee, zero otherwise
Highest Ranked Seat	Indicator variable equal to one if acquirer (target) firm seat is director's largest directorship in terms of market capitalization, zero otherwise
Lowest Ranked Seat	Indicator variable equal to one if acquirer (target) firm seat is director's smallest directorship in terms of market capitalization, zero otherwise

Appendix B: Propensity Score-Matching Model Results

The table reports the results of the propensity score-matching model estimating the likelihood of engaging in a merger. All independent variables are calculated as of the prior fiscal year end. Year and industry fixed effects are also included. All variable definitions are included in Appendix A. p-values based on standard errors clustered by firm are in parentheses and [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable: Merger (0/1)
Constant	-3.481[a]
	(0.000)
Firm Size	0.238[a]
	(0.000)
Leverage	-0.162[c]
	(0.074)
Stock Performance	0.039[c]
	(0.090)
Tobin's Q	0.012
	(0.150)
Independence	0.102
	(0.392)
CEO-Chair Duality	0.041
	(0.235)
CEO Age	-0.004[c]
	(0.081)
Board Size	0.012[c]
	(0.071)
Unaffiliated Added	-0.065[c]
	(0.059)
Incumbent Departs	0.011
	(0.757)
Observations	28,861
Pseudo r^2	0.168
Year & Industry Fixed Effects	Yes

Figure 1: Changes to Acquirer Board Surrounding Mergers

The figure reports changes to the board of directors for firms that engage in an at least one acquisition during the sample period 1996-2012. Changes to the board in year t-1 and year t+1 are compared to board changes in the year surrounding the merger, year t. Changes include the percentage of the board that is new, percentage of the board that is retained, percentage of the board that is not retained, the likelihood of adding a new director, and the likelihood of not retaining an incumbent director. The unshaded bar represents year t-1, the black bar represents the merger year, and the shaded bar represents year t+1.

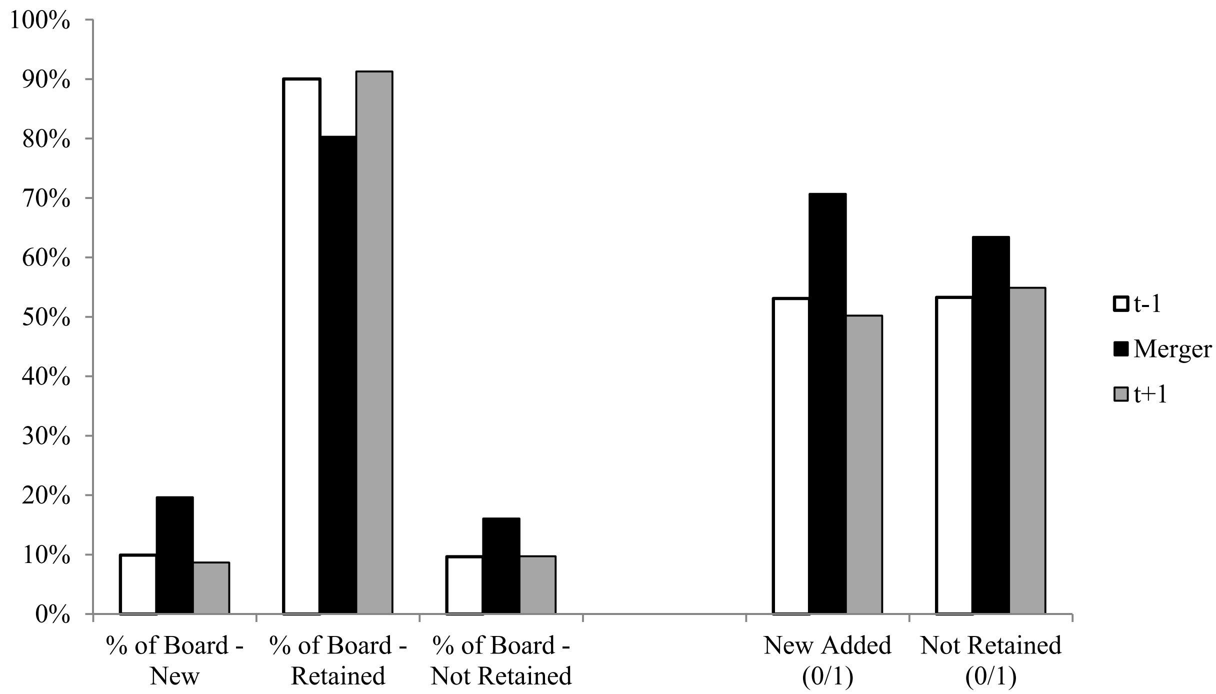

Table 1: Deal and Firm Characteristics

The table reports summary statistics for 1,153 deals from 1996-2012. Panel A contains deal characteristics. Panel B includes differences in means of firm characteristics for acquirer pre-deal, target pre-deal and post-merger firms. Panel C reports summary statistics on board characteristics. All variable definitions are included in Appendix A. All variables are winsorized at the 1% and 99% levels. [a], [b], and [c] denote statistically significant differences in means at the 1%, 5%, and 10% levels respectively.

Panel A: Deal Characteristics

	Mean	Median	Std Dev	Q1	Q3
Deal Value ($ mil)	$3,725	$990	$9,616	$323	$3,071
Relative Deal Size	0.461	0.219	0.820	0.060	0.610
Acquirer CAR	-1.5%	-1.0%	6.5%	-4.3%	1.4%
Target CAR	25.1%	20.1%	24.9%	8.8%	34.6%
Premium	40.5%	34.3%	36.7%	18.7%	54.4%
Diversifying Deal	33.2%				
All Equity	24.9%				
All Cash	35.6%				
Tender Offer	16.9%				
Hostile	1.0%				
Multiple Bidders	4.9%				

Panel B: Firm Characteristics

	Acquirer (1)	Target (2)	Post-Merger (3)	(1) – (2)	(3) – (1)
Firm Size ($ mil)	$59,142	$7,407	$76,049	$51,734[a]	$16,907[a]
Business Segments	2.971	1.732	3.087	1.239[a]	0.116[b]
R&D	0.031	0.058	0.031	-0.026[a]	0.000
ROA	0.117	0.066	0.096	0.051[a]	-0.021[a]
Stock Performance	16.8%	9.5%	–	7.3%[b]	–
Top 5 Institutional Ownership	24.2%	26.5%	24.5%	-2.3%[a]	0.3%[b]
CEO Ownership	2.39%	1.89%	1.95%	0.50%	-0.44%[b]
Poison Pill	–	37.9%	–	–	–
Classified Board	51.1%	59.8%	49.4%	-8.5%[a]	-1.7%[a]

Panel C: Board Characteristics

	Acquirer (1)	Target (2)	Post-Merger (3)	(1) – (2)	(3) – (1)
Board Size	10.87	8.90	11.48	1.96[a]	0.61[a]
Independence	73.7%	70.3%	74.7%	3.4%[a]	1.0%
Directors >= Age 72	6.3%	6.6%	6.4%	-0.3%	0.1%
Female	11.3%	7.7%	11.7%	3.6%[a]	0.4%
Director Tenure	7.73	7.39	7.46	0.34[b]	-0.28[c]
Outside Directorships	1.12	0.76	1.08	0.35[a]	-0.04
Hold Additional Seats	54.3%	40.2%	54.0%	14.1%[a]	-0.3%
Higher Education	57.6%	49.7%	58.5%	7.9%[a]	0.8%
Financial Expert	12.5 %	12.6%	13.1%	-0.1%	0.6%
Outside CEO Experience	22.3%	25.2%	22.9%	-2.9%[a]	0.5%
Merger Experience	80.4%	52.1%	73.9%	28.3%[a]	-6.5%[a]
CEO-Merger Experience	9.9%	7.2%	16.4%	2.7%[a]	6.5%[a]
Target Industry Experience	24.6%	34.8%	25.9%	-10.2%[a]	1.3%
Connected to CEO	10.0%	0.8%	7.3%	9.2%[a]	-2.7%[a]
Captured	54.9%	51.1%	55.9%	3.7%[a]	1.1%[a]
CEO-Chair	66.0%	59%	62%	7.0%[a]	-3.0%[c]
CEO Age	55.50	54.59	55.87	0.91[a]	0.37

Table 2: Board Structure – Acquiring Firms versus Non-Acquiring Firms

The table compares board dynamics of firm-years involving a merger with a public target to a propensity score-matched sample of firm-years with no merger activity. Results of the propensity score model are reported in Appendix B. There are 1,008 merger firm-years in each of the pre- and post-merger periods and 6,346 non-merger firm-years in each of the pre- and post-merger periods. Panel A considers all merger and non-merger firm-years. Panel B splits firm-year matches into relative deal size terciles and reports the difference-in-difference effect only. [a], [b], and [c] denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

Panel A	Pre-			Post-			
	Merger	Non-Merger	Diff.	Merger	Non-Merger	Diff.	Diff-in-diff
% of Board – Unaffiliated Director	9.61%	9.27%	0.34%	9.90%	7.92%	1.98%[a]	1.65%[a]
≥ 1 Unaffiliated director added	54.66%	51.95%	2.71%	58.33%	50.79%	7.55%[a]	4.84%[a]
% of Board – Not Retained	9.25%	9.18%	0.07%	12.80%	7.88%	4.92%[a]	4.84%[a]
≥ 1 Director departs	55.46%	52.99%	2.46%	65.48%	50.61%	14.86%[a]	12.40%[a]
Δ Board size	0.04	0.00	0.04	0.60	-0.02	0.62[a]	0.58[a]
Board size increases	27.28%	24.93%	2.35%	41.96%	24.98%	16.99%[a]	14.64%[a]
& director departs	12.10%	10.05%	2.05%[c]	23.91%	8.29%	15.62%[a]	13.57%[a]
Board size does not change	45.73%	49.80%	-4.06%	35.71%	49.51%	-13.80%[a]	-9.74%[a]
& director departs	16.96%	18.01%	-1.05%[b]	19.25%	17.11%	2.13%[c]	3.18%
Board size decreases	26.98%	25.28%	1.71%	22.32%	25.51%	-3.19%[b]	-4.90%[a]
& director added	10.71%	9.23%	1.48%	10.71%	8.95%	1.76%[c]	0.28%

Table 2: Board Structure – Acquiring Firms versus Non-Acquiring Firms (Continued)

Panel B	Merger- Low Size (1)	Merger- Medium Size (2)	Merger- High Size (3)
% of Board – Unaffiliated Director	1.59%[c]	3.13%[a]	0.30%
≥ 1 Unaffiliated director added	3.32%	6.43%[c]	5.31%[c]
% of Board – Not Retained	2.85%[a]	4.15%[a]	6.56%[a]
≥ 1 Director departs	11.16%[a]	9.27%[a]	14.81%[a]
Δ Board size	-0.10	0.44[a]	1.58[a]
Board size increases	-5.12%	15.55%[a]	37.25%[a]
& director departs	-0.24%	10.91%[a]	32.09%[a]
Board size does not change	2.56%	-12.35%[a]	-21.10%[a]
& director departs	8.06%[a]	1.09%	-1.49%
Board size decreases	2.56%	-3.20%	-16.15%[a]
& director added	1.42%	1.42%	-3.73%[c]

Table 3: Board Dynamics around Mergers – Difference-in-difference

The table presents OLS regressions where the dependent variables are the change in board size (Models 1 and 4), an indicator equal to one if an unaffiliated director is added to the board (Models 2 and 5), and an indicator variable equal to one if a director departs the board (Models 3 and 6). Merger is an indicator equal to one for 2,016 firm-years in the year prior to and following a firm engaging in a merger and equal to zero for 12,692 non-merger propensity score-matched firm-years. Post is an indicator equal to one for merging firms and non-merger matched firms in the year following the merger and zero otherwise. All other independent variables are calculated as of the prior fiscal year end. Year and industry fixed effects are also included. All variable definitions are included in Appendix A. p-values based on standard errors clustered by firm are in parentheses and [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels respectively.

Table 3: Board Dynamics around Mergers – Difference-in-difference (Continued)

	Dependent Variable:					
	Δ Board size	≥ 1 Unaffiliated director added	≥ 1 Director departs	Δ Board size	≥ 1 Unaffiliated director added	≥ 1 Director departs
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-0.023	0.039	0.067[b]	1.678[a]	-0.358[a]	-0.748[a]
	(0.693)	(0.195)	(0.036)	(0.000)	(0.000)	(0.000)
Merger	0.052	0.030[c]	0.022	0.089[c]	0.011	0.001
	(0.263)	(0.073)	(0.193)	(0.052)	(0.481)	(0.967)
Post	-0.005	0.012[c]	-0.013[c]	-0.005	0.009	-0.015[b]
	(0.789)	(0.091)	(0.066)	(0.787)	(0.205)	(0.029)
Merger x Post	0.562[a]	0.043[b]	0.122[a]	0.560[a]	0.040[c]	0.120[a]
	(0.000)	(0.038)	(0.000)	(0.000)	(0.052)	(0.000)
Board Size				-0.177[a]	-0.004[c]	0.045[a]
				(0.000)	(0.090)	(0.000)
Firm Size				0.098[a]	0.047[a]	0.008[b]
				(0.000)	(0.000)	(0.048)
Leverage				-0.126	-0.024	0.013
				(0.128)	(0.436)	(0.685)
R&D				0.037	0.046	-0.090
				(0.825)	(0.575)	(0.287)
ROA				-0.026	-0.053	-0.146[a]
				(0.820)	(0.280)	(0.002)
Stock Performance				0.064[a]	0.005	-0.026[a]
				(0.003)	(0.535)	(0.003)
Stock Volatility				-0.387	0.265[a]	0.480[a]
				(0.143)	(0.002)	(0.000)
Average Director Age				0.009[b]	0.002	-0.002
				(0.016)	(0.285)	(0.219)
Top 5 Institutional Ownership				-0.258[b]	-0.023	0.014
				(0.039)	(0.635)	(0.764)
Independence				0.225[c]	0.056	0.080[b]
				(0.066)	(0.164)	(0.044)
CEO-Chair Duality				0.037	-0.014	-0.019[c]
				(0.185)	(0.207)	(0.090)
Observations	14,708	14,708	14,708	14,708	14,708	14,708
r^2	0.02	0.02	0.03	0.12	0.05	0.10
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 4: Director Characteristics – Merger Years versus Non-Merger Years

The table compares director characteristics of firm-years involving a merger with a public target to firm-years with no merger activity. Panel A compares years in which a firm engages in a merger to a propensity score-matched sample of firms based on pre-merger firm characteristics that do not engage in a merger. This sample includes 1,189 (933) unaffiliated (retained target) director-firm-years in merger years and 6,051 new director-firm-years in non-merger years. Panel B compares years in which a firm engages in a merger to a matched sample of firms in the same year, Fama-French 12 industry and firm size decile based on post-merger size that do not engage in a merger. This sample includes 1,459 (1,089) unaffiliated (retained target) director-firm-years in merger years and 12,872 new director-firm-years in non-merger years. Column (1) compares the mean characteristics of all new directors in merger years (unaffiliated and retained target) to new directors in non-merger years. Column (2) compares mean characteristics of unaffiliated directors in merger years to new directors in non-merger years. Column (3) compares mean characteristics of retained target directors in merger years to new directors in non-merger years. [a], [b], and [c] denote statistically significant differences in means between merger and non-merger years at the 1%, 5%, and 10% levels, respectively.

Panel A: Propensity Score-Matched Firm Comparison	{Unaffiliated & Retained Target} vs. Non-Merger (1)		Unaffiliated vs. Non-Merger (2)		Retained Target vs. Non-Merger (3)	
	Merger	Non-Merger	Merger	Non-Merger	Merger	Non-Merger
Outsider	87%	85%[a]	86%	84%	89%	85%[a]
Age	58.0	56.1[a]	56.5	56.2	60.0	56.1[a]
Female	12%	14%[c]	15%	14%	9%	14%[a]
Higher Education	56%	65%[a]	58%	66%[a]	53%	66%[a]
Financial Expert	7%	10%[a]	8%	10%[c]	6%	10%[a]
Hold Outside Directorships	54%	50%[a]	53%	51%	55%	50%[b]
Outside CEO Experience	25%	18%[a]	25%	20%[a]	26%	18%[a]
Merger Experience	44%	28%[a]	30%	29%	61%	29%[a]
CEO-Merger Experience	19%	8%[a]	18%	10%[a]	19%	9%[a]

Panel B: Post-merger Size Matched Firm Comparison	{Unaffiliated & Retained Target} vs. Non-Merger (1)		Unaffiliated vs. Non-Merger (2)		Retained Target vs. Non-Merger (3)	
	Merger	Non-Merger	Merger	Non-Merger	Merger	Non-Merger
Outsider	87%	85%	85%	85%	88%	85%[c]
Age	58.0	55.4[a]	56.6	55.4[a]	59.8	55.2[a]
Female	12%	16%[a]	14%	16%	9%	16%[a]
Higher Education	55%	66%[a]	56%	66%[a]	52%	66%[a]
Financial Expert	7%	9%[a]	7%	9%[a]	6%	10%[a]
Hold Outside Directorships	53%	51%	51%	52%	56%	48%[b]
Outside CEO Experience	25%	19%[a]	25%	20%[a]	26%	17%[a]
Merger Experience	41%	29%[a]	28%	30%	59%	27%[a]
CEO-Merger Experience	18%	7%[a]	17%	8%[a]	19%	6%[a]

Table 5: Determinants of Aggregate Director Selection – Acquirer and Target Pools

The table details logistic models estimating director selection onto the post-merger board from pools of potential candidates. All regressions contain deal fixed-effects. Column (1) analyzes director selection from the candidate pool containing acquirer and target directors, the pool in column (2) contains only target directors, and column (3) contains only acquirer directors. Column (1) includes all mergers, column (2) includes only mergers in which at least one target director was retained, and column (3) includes only mergers in which at least one acquirer director was not retained. The dependent variable for all logit models is an indicator variable equal to one if the director is selected for the post-merger board and zero if not selected. All other variable definitions are included in Appendix A. p-values are included in parentheses. [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Acquirer & Target Selection	Target Selection ≥ 1 Target Retained	Acquirer Selection ≥ 1 Acquirer Not Retained
	(1)	(2)	(3)
Outsider	0.545[a]	0.659[b]	0.795[a]
	(0.000)	(0.011)	(0.000)
Age	-0.033[a]	-0.022[a]	-0.057[a]
	(0.000)	(0.003)	(0.000)
Female	0.234[a]	-0.324[c]	0.265[b]
	(0.006)	(0.069)	(0.024)
Higher Education	0.074	0.004	0.062
	(0.165)	(0.968)	(0.384)
Financial Expert	-0.002	-0.181	0.150
	(0.979)	(0.251)	(0.176)
Hold Outside Directorships	0.513[a]	0.861[a]	0.292[a]
	(0.000)	(0.000)	(0.001)
Outside CEO Experience	-0.060	0.259[c]	-0.214[b]
	(0.357)	(0.058)	(0.011)
Target Industry Experience	-0.187[a]	-0.183	-0.207[b]
	(0.009)	(0.168)	(0.035)
Merger Experience	0.567[a]	-0.169	0.778[a]
	(0.000)	(0.275)	(0.000)
Connected to CEO	-0.052	0.703	0.122
	(0.660)	(0.190)	(0.379)
Highest Ranked Seat	0.298[a]	0.054	0.165
	(0.001)	(0.776)	(0.142)
Lowest Ranked Seat	-0.052	-0.383[b]	0.124
	(0.579)	(0.048)	(0.329)
Acquirer Director	4.284[a]		
	(0.000)		
Target CEO	1.214[a]	1.456[a]	
	(0.000)	(0.000)	
Acquirer CEO	1.234[a]		1.404[a]
	(0.000)		(0.000)
Tenure	-0.018[a]	0.014	-0.031[a]
	(0.000)	(0.182)	(0.000)
Observations	17,849	2,427	7,108
Pseudo r^2	0.570	0.056	0.073
Deal Fixed Effects	Yes	Yes	Yes

Table 6: Determinants of Specific Director Selection – Unaffiliated, Retained and Not Retained

The table details logistic models comparing unaffiliated and target directors to selected and not selected acquirer and target directors. All regressions contain deal fixed-effects. Columns 1-4 examines unaffiliated directors, while Columns 5 - 6 examine retained target directors. In particular, Column (1) compares unaffiliated directors to not retained acquirer directors, column (2) compares unaffiliated directors to not retained target directors, column (3) compares unaffiliated directors to retained acquirer directors and column (4) compares unaffiliated directors to retained target directors, Column (5) compares retained target directors to not retained acquirer directors, and column (6) compares retained target directors to retained acquirer directors.. The dependent variable for all logit models is an indicator variable equal to one if the director is an unaffiliated or retained target director and zero for the comparison director. Each regression in the table only includes deals with both types of directors involved in the comparison. All other variable definitions are included in Appendix A. p-values are included in parentheses. [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Unaffiliated vs.				Target Retained vs.	
	Not Retained		Retained		Not Retained	Retained
	Acquirer (1)	Target (2)	Acquirer (3)	Target (4)	Acquirer (5)	Acquirer (6)
Outsider	0.558[a]	0.182	0.666[a]	0.809[a]	-0.404[b]	0.138
	(0.007)	(0.105)	(0.000)	(0.001)	(0.035)	(0.210)
Age	-0.049[a]	-0.024[a]	-0.024[a]	-0.005	-0.063[a]	-0.006
	(0.000)	(0.000)	(0.000)	(0.672)	(0.000)	(0.303)
Female	0.505[b]	0.645[a]	0.188	0.260	0.027	-0.231
	(0.015)	(0.000)	(0.127)	(0.355)	(0.907)	(0.101)
Higher Education	-0.135	0.109	0.046	0.152	-0.129	-0.099
	(0.313)	(0.174)	(0.606)	(0.374)	(0.322)	(0.239)
Financial Expert	0.347[c]	-0.040	0.182	0.750[a]	-0.338	-0.369[a]
	(0.073)	(0.712)	(0.137)	(0.004)	(0.109)	(0.006)
Hold Outside Directorships	0.578[a]	0.891[a]	0.399[a]	-0.020	0.626[a]	0.288[a]
	(0.000)	(0.000)	(0.000)	(0.920)	(0.000)	(0.003)
Outside CEO Experience	0.539[a]	0.488[a]	0.689[a]	0.498[b]	0.348[b]	0.432[a]
	(0.000)	(0.000)	(0.000)	(0.022)	(0.030)	(0.000)
Target Industry Experience	0.719[a]	-0.411[a]	0.406[a]	0.174	0.360[b]	0.536[a]
	(0.000)	(0.000)	(0.001)	(0.462)	(0.029)	(0.000)
Merger Experience	-3.230[a]	-1.677[a]	-3.766[a]	-2.802[a]	-0.821[a]	-1.438[a]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Connected to CEO	-0.088	2.474[a]	-0.469[a]	1.333[a]	-2.319[a]	-2.745[a]
	(0.694)	(0.000)	(0.009)	(0.003)	(0.000)	(0.000)
Observations	2,091	5,387	6,922	1,116	1,472	4,343
Pseudo r^2	0.428	0.174	0.399	0.299	0.157	0.126
Deal Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Determinants of Board Dynamics – Firm Need

The table presents Tobit regressions where the dependent variables are the percentage of the post-merger board that is retained target directors (Model 1), the percentage of the post-merger board that is unaffiliated directors (Model 2), and the percentage of the pre-merger acquirer board that is not retained (Model 3). Year and Fama-French 12 industry fixed effects are also included. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 12 industry are in parentheses and [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable:		
	% Combined Board: Retained Target	% Combined Board: Unaffiliated	% Acquirer Board: Not Retained
	Model 1	Model 2	Model 3
Constant	-0.249[a]	0.039	-0.047
	(0.004)	(0.608)	(0.638)
Relative Deal Size	0.160[a]	0.015	0.058[b]
	(0.000)	(0.420)	(0.028)
Diversifying Deal	-0.085[a]	0.010	-0.026
	(0.000)	(0.583)	(0.166)
Target R&D	0.069[a]	-0.017	0.032[a]
	(0.000)	(0.111)	(0.000)
Target Business Segments	0.012	-0.001	0.007
	(0.110)	(0.888)	(0.361)
All Equity	0.123[a]	-0.007	0.067[a]
	(0.000)	(0.585)	(0.000)
All Cash	-0.183[a]	0.013	0.006
	(0.000)	(0.446)	(0.780)
Tender Offer	-0.104[b]	-0.005	-0.009
	(0.011)	(0.771)	(0.597)
Hostile	-0.139[b]	-0.024	-0.142[b]
	(0.047)	(0.753)	(0.042)
Multiple Bidders	-0.113[b]	0.030	0.003
	(0.031)	(0.335)	(0.895)
Acquirer Board Independence	0.003	-0.041	0.029
	(0.943)	(0.316)	(0.506)
Acquirer CEO Age	-0.001	0.002[a]	0.003[a]
	(0.585)	(0.007)	(0.007)
Acquirer Directors Age >= 72	-0.023	-0.056	-0.178[c]
	(0.743)	(0.277)	(0.072)
Acquirer Stock Performance	-0.070[a]	0.010	-0.025[a]
	(0.006)	(0.426)	(0.001)
Observations	1,125	1,125	1,125
Pseudo r^2	0.65	0.15	0.34
Year & Industry Fixed Effects	Yes	Yes	Yes

Table 8: Determinants of Board Dynamics: Bargaining

The table presents regressions modeling the power for premium tradeoff. Models 1-3 are Tobit regressions and Model 4 is a linear probability model. The dependent variables are the percentage of the post-merger board that is retained target directors (Model 1), the percentage of the post-merger board that is retained target outside directors (Model 2), the percentage of the post-merger board that is retained target inside directors (Model 3), and an indicator equal to one if the target CEO is retained on the post-merger board (Model 4). Year and Fama-French 12 industry fixed effects are also included. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 12 industry are in parentheses and [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable:			
	% Combined Board: Retained Target	% Combined Board: Retained Target Outsider	% Combined Board: Retained Target Insider	Target CEO Retained (0/1)
	Model 1	Model 2	Model 3	Model 4
Constant	-0.172[c]	-0.194[c]	-0.125[b]	0.220[c]
	(0.082)	(0.052)	(0.017)	(0.080)
Target CAR	-0.175[a]	-0.170[a]	-0.069	-0.083
	(0.005)	(0.002)	(0.245)	(0.234)
Target Stock Performance	-0.037	-0.032	-0.024[c]	-0.017
	(0.223)	(0.274)	(0.076)	(0.488)
Target Poison Pill	0.024	0.018	0.031[a]	0.037[c]
	(0.110)	(0.250)	(0.001)	(0.050)
Target Classified Board	0.029[c]	0.034[b]	-0.009	0.025
	(0.067)	(0.020)	(0.383)	(0.383)
Relative Deal Size	0.148[a]	0.150[a]	0.028[c]	0.086[c]
	(0.000)	(0.000)	(0.061)	(0.057)
Diversifying Deal	-0.062[a]	-0.074[a]	0.008	-0.007
	(0.001)	(0.000)	(0.554)	(0.737)
All Equity	0.117[a]	0.108[a]	0.057[a]	0.120[a]
	(0.000)	(0.000)	(0.000)	(0.002)
All Cash	-0.171[a]	-0.167[a]	-0.077[b]	-0.089[a]
	(0.000)	(0.000)	(0.017)	(0.007)
Tender Offer	-0.086[a]	-0.071[c]	-0.056[c]	-0.031
	(0.004)	(0.060)	(0.079)	(0.165)
Hostile	-0.148[b]	-0.117[b]	-0.696[a]	-0.176[a]
	(0.012)	(0.039)	(0.000)	(0.003)
Multiple Bidders	-0.112[b]	-0.094[c]	-0.094[b]	-0.144[b]
	(0.021)	(0.052)	(0.027)	(0.015)
Acquirer Board Independence	0.001	0.028	-0.061[c]	-0.058
	(0.987)	(0.592)	(0.083)	(0.413)
Acquirer CEO Age	-0.001	-0.001	-0.000	-0.001
	(0.474)	(0.366)	(0.990)	(0.565)
Acquirer Directors Age >= 72	-0.009	-0.034	0.019	0.092
	(0.910)	(0.745)	(0.820)	(0.328)
Acquirer Stock Performance	-0.051	-0.055[c]	0.001	-0.019
	(0.105)	(0.065)	(0.937)	(0.532)
Observations	1,125	1,125	1,125	1,125
r^2	0.66	0.69	0.50	0.18
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table 9: Determinants of Board Dynamics – Agency

The table presents Tobit regressions where the dependent variables are the percentage of the post-merger board that is retained target directors (Model 1), the percentage of the post-merger board that is unaffiliated directors (Model 2), and the percentage of the pre-merger acquirer board that is not retained (Model 3). Year and Fama-French 12 industry fixed effects are also included. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 12 industry are in parentheses and [a], [b], and [c] denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable:		
	% Combined Board: Retained Target	% Combined Board: Unaffiliated	% Acquirer Board: Not Retained
	Model 1	Model 2	Model 3
Constant	0.022	0.073	0.076
	(0.867)	(0.360)	(0.395)
Acquirer Board Captured	-0.052[b]	-0.030	-0.048
	(0.035)	(0.143)	(0.104)
Acquirer CEO-Chair	-0.035[b]	0.018	-0.001
	(0.022)	(0.444)	(0.977)
Acquirer % Connected to Acquirer CEO	0.136[a]	-0.056	0.047
	(0.005)	(0.134)	(0.344)
Acquirer CEO Ownership	-0.074	-0.068	-0.225[a]
	(0.214)	(0.307)	(0.001)
Acquirer Top 5 Institutional Ownership	0.108	-0.078	-0.120
	(0.252)	(0.258)	(0.135)
Diversifying Deal	-0.075[a]	0.009	-0.024
	(0.000)	(0.651)	(0.203)
All Equity	0.109[a]	-0.005	0.064[a]
	(0.000)	(0.700)	(0.000)
All Cash	-0.272[a]	0.004	-0.017
	(0.000)	(0.795)	(0.380)
Tender Offer	-0.154[a]	-0.008	-0.019
	(0.003)	(0.660)	(0.316)
Hostile	-0.137[b]	-0.022	-0.128
	(0.029)	(0.787)	(0.125)
Multiple Bidders	-0.031	0.038	0.030
	(0.522)	(0.274)	(0.294)
Acquirer Board Independence	-0.047	-0.059	-0.008
	(0.433)	(0.108)	(0.870)
Acquirer CEO Age	-0.001	0.002[a]	0.003[b]
	(0.766)	(0.003)	(0.028)
Acquirer Directors Age >= 72	0.023	-0.032	-0.137
	(0.604)	(0.583)	(0.202)
Acquirer Stock Performance	-0.067[b]	0.011	-0.024[a]
	(0.017)	(0.373)	(0.003)
Observations	1,125	1,125	1,125
r^2	0.51	0.17	0.32
Year & Industry Fixed Effects	Yes	Yes	Yes

Table 10: Unaffiliated/Target Director Tenure

The table presents analysis of director tenure for retained target directors and unaffiliated directors on the post-merger board. There are a total of 841 deals with at least one retained target or unaffiliated director (2,548 retained target and unaffiliated directors) on the post-merger board. Panel A reports the percentage of directors that remain 3 years following the merger. Panel B compares characteristics of those directors that remain for at least 3 years to those directors that leave within 3 years following the merger. 1,344 (588) retained target or unaffiliated directors stay (leave) for (in) more (less) than 3 years, 804 (264) unaffiliated directors stay (leave) for (in) more (less) than 3 years, and 540 (324) retained target directors stay (leave) for (in) more (less) than 3 years. Panel C reports the percentage of retained target directors that remain 3 years following the merger for the subsamples of deals based on above and below median premium and deal complexity (target R&D expenditures) mergers. Panel D compares characteristics of retained target directors that leave within 3 years following the deal in above and below median deal complexity (target R&D expenditures) mergers. All variable definitions are included in Appendix A. [a], [b], and [c] denote statistically significant difference in means at the 1%, 5%, and 10% levels, respectively.

Panel A: Tenure

	All	Unaffiliated	Target	Difference
Tenure >= 3 years	69.6%	75.3%	62.5%	12.8%[a]

Panel B: Stay vs. Leave

	Stay >= 3 years	Leave < 3 years
Outsider	90%	80%[a]
Age	57.24	58.30[a]
Female	14%	7%[a]
Higher Education	59%	46%[a]
Financial Expert	7%	5%[c]
Hold Outside Directorships	56%	52%
Outside CEO Experience	24%	26%
Target Industry Experience	28%	29%
Merger Experience	42%	43%
CEO-Merger Experience	18%	15%[c]
Connected to CEO	6%	4%
Audit Committee	31%	25%[a]
Compensation Committee	26%	19%[a]
Nominating Committee	21%	18%[c]

Panel C: Target Director Tenure

	High Premium	Low Premium	Difference
Tenure >= 3 years	52.0%	64.9%	-12.9%[b]
	Low Complexity	**High Complexity**	**Difference**
Tenure > = 3 years	65.0%	55.2%	9.8%[a]

Panel D: Short Tenure Target Director Characteristics

	Low Complexity	High Complexity	Difference
Financial Expert	5%	14%	9%[a]
Hold Outside Directorships	56%	64%	8%
Outside CEO Experience	24%	33%	10%[c]
Target Industry Experience	28%	37%	9%[c]
Merger Experience	64%	65%	1%
CEO-Merger Experience	15%	24%	10%[b]