

# Understanding the Motives for Director Selection

Finance Working Paper N° 498/2017

July 2019

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## Abstract

Director selection is crucial in corporate governance, but little is known about the relative importance of individual director attributes in the selection process. We examine the motives for director selection using the empirical setting of mergers, which offers a well-defined pool of candidates considered and a discrete shock to a board's monitoring and advising needs. We find that boards increase director expertise tied to these changing needs, even in cases with powerful CEOs that could opportunistically weaken board monitoring. Individual candidates with expertise related to changing board needs are significantly more likely to be selected for the post-merger board. In contrast, directors are appointed from outside of the well-defined labor pool when they possess more related expertise than candidates from the merging firms. Our evidence suggests that directors are selected to meet changing monitoring and advising needs.

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Keywords: Director selection; Boards of directors; Director labor market

JEL Classifications: G34

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Abstract

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## **1. Introduction**

The selection of individuals to serve on boards of directors is a central issue in corporate governance. Directors are the only intermediary between shareholders and managers, yet shareholders typically have little say in their nomination. Consequently, the motives of a particular director's selection and that individual's qualifications are important issues. Despite the economic importance of director selection, our understanding of this process is limited. The existing literature contains indirect evidence based on observing directors already serving on the board. For example, Adams, Akyol, and Verwijmeren (2018) analyze companies' required disclosure of director experience. Our study complements this work with more direct evidence on board selection by observing a pool of potential director candidates, identifying which individuals are appointed, and examining the director characteristics most demanded in the selection process.

Prior literature suggests two possible motives for director selection: board monitoring and advising needs (i.e. Coles, Daniel, and Naveen, 2008) and opportunistic selection by managers (i.e. Shivdasani and Yermack, 1999). Ideally, directors should independently advise and monitor management relative to a board's needs. As those needs change, board composition should also evolve. In contrast, director selection can be driven by managers seeking to weaken board monitoring. Under this CEO opportunism motive, managers seek individuals that cater towards managerial interests, such as candidates with personal connections to the CEO.

Our objectives are to explore why an individual is selected for a board seat over others considered and examine the roles that board monitoring and advising needs and CEO opportunism play in director selection. As in Denis, Denis, and Walker (2015, 2018), we use a specialized setting to address more general questions about board composition. Analyzing director selection around mergers offers two main advantages. First, mergers can represent a significant change in

operations, requiring adjustments in board monitoring and advising needs. These changes allow us to address whether director selection reflects shifting firm needs. In other situations, there is not a discrete change in needs and the potential reasons for a candidate's selection are less clear. Second, mergers provide a unique setting to observe a relatively well-defined director labor pool (acquirer and target directors) and to compare the qualifications of directors selected to those that are not. Most prior studies are unable to observe candidates likely considered but not appointed, leaving an incomplete picture of director selection. Our setting, however, allows us to draw conclusions about the relative demand for director expertise and the motives of director selection.

To test the firm need and CEO opportunism motives, we construct a sample of 1,428 mergers between publicly traded acquirers and targets. This sample exhibits three features that make it an ideal empirical setting to address our research questions. First, acquirer boards often undergo a significant shift in monitoring and advising needs following the merger. We focus on 760 unique deals when an acquirer enters a new industry or geographic region. Second, we are able to identify and measure director attributes that meet changing board needs. The challenge is motivating which individual traits are most important amidst endless possibilities. We use director expertise in the new industry or geographic region to capture experience that matches the change in firm need. These measures reflect two of the top five characteristics demanded by boards (Adams et al., 2018). We contrast these expertise measures with director connections to the CEO, a director trait related to CEO opportunism (Fracassi and Tate, 2012). Third, there is variation in the selection of directors from observable pools of candidates. In 74% of deals, we observe one or more directors selected for the post-merger board over apparent candidates from the acquirer or target. Thus, our sample includes firms that undergo meaningful changes in firm needs and involves relatively well-defined pools of candidates to observe director selection.

Our first empirical test to consider the motives for selection examines changes in board composition. Following the literature linking director traits to firm value, we focus on non-executive directors.<sup>1</sup> We measure the difference in directors with expertise tied to changing board needs and director connections to the CEO from the pre- to post-merger acquirer boards. Consistent with firm need, boards that experience a change in industry or region undergo an increase in director expertise related to that change. For example, acquirers that enter a new industry experience a 47% (30%) increase in the number (proportion) of directors with expertise in that new industry. This is economically significant as it accounts for 76% of the net change in directors around these deals. In addition, companies with more complex increases in industry and geographic need undergo board changes almost twice as large as those with less complex changes in firm need. The proportion of directors with connections to acquirer CEOs, however, decreases. Our results of increases in relevant director expertise and fewer connections to the CEO in these deals provides no evidence of CEO opportunism as a motive for selection.

Next, we utilize the labor pool of candidates around mergers to estimate the probability of individual director selection for the post-merger board. Our results suggest that director expertise tied to changing monitoring and advising needs is a main factor distinguishing directors. In cases where the acquirer enters a new industry, directors with expertise in that industry have a 64% likelihood of selection versus 53% for those without it, a 22% increase in the unconditional probability of selection. The effect of expertise on selection is particularly important for target directors, as related expertise (outside of their work at the target firm) increases their likelihood of selection by nearly 100%. We find similar results for the impact of geographic expertise on acquirer and target directors selected in deals where the acquirer enters a new geographic region.

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<sup>1</sup> For example, Field and Mkrtchyan (2017), Wang, Xie, and Zhu (2015), Fahlenbrach, Low, and Stulz (2010), Guner, Malmendier, and Tate (2008) focus on non-executive director characteristics.

The observable labor pools of director candidates further allow us to incorporate deal fixed effects into our multivariate analysis of individual director selection. These fixed effects control for any unobservable firm or deal attributes that may influence both the reason to merge and director selection. In addition, they allow within deal variation in director attributes for each pool of potential candidates to determine the traits most demanded for post-merger board selection. Even after controlling for other director attributes and unobservable deal and firm characteristics, expertise tied to the change in monitoring and advising is an important factor in post-merger board selection. For example, new industry expertise increases the conditional probability of selection from 60% to 70%. We also find that for deals with significant changes in firm need, connections to the acquirer CEO do not impact post-merger director selection. The revealed preference of firms' post-merger selection decisions provides evidence on which director traits are most valued at a time of changing monitoring and advising needs. These results are consistent with the director selection process being influenced by the evolving needs of the board, rather than opportunistic CEOs attempting to weaken board monitoring by selecting less experienced directors.

While we find no evidence consistent with the CEO opportunism motive in the full sample, it is still possible that director selection is affected by this motive at firms where CEOs hold considerable bargaining power. All of our main results hold after restricting the sample to acquirers with the most powerful CEOs (as measured by CEO ability, CEO tenure, and CEO-Chair duality). In our empirical setting of mergers, it is also possible that bargaining between the acquirer and target may influence the selection of directors for the post-merger board. Even in cases where this bargaining likely occurs, we continue to find that firm need is the dominant factor driving director selection. In sum, these results suggest that directors with expertise that matches the underlying change in firm need are significantly more likely to be appointed to the board.

We provide further evidence on the firm need motive for selection by focusing on new directors added to the post-merger board. Given that only one target outside director is selected out of seven outside target directors on average, we examine the traits that make that one director demanded relative to the other target directors. Around both industry- and geography-related firm need changes, the main factor that distinguishes retained target directors from those that are not is additional expertise in the new industry or region. These results further highlight the role that changing monitoring and advising needs plays in the selection of directors.

In some deals, acquirers appoint unaffiliated directors, individuals on neither the target nor acquirer board pre-merger, to a post-merger board. Our results indicate that post-merger board selection draws from outside of the available pool of target directors when unaffiliated directors have more of the expertise required for the change in firm need than the target candidates. We also find that unaffiliated directors have significantly more expertise tied to changing firm needs than a comparable pool of alternative candidates, that is, newly appointed directors at similar non-merging firms. Finally, we detail that target and unaffiliated directors added around mergers have incremental expertise that matches the change in firm needs over incumbent acquirer directors.

One concern is that director selection around mergers is driven by endogenous factors related to the motivation to undertake a deal. We address this in several ways. First, we include deal fixed effects in all director selection models to control for unobservable firm or deal attributes. Second, we limit our sample to deals initiated during industry merger waves, where the motive to merge may be more exogenous, and find consistent results. Third, we examine director selection around withdrawn deals as a placebo test. If selection is related to an unobservable factor rather than changes in firm need, we should find similar results in withdrawn deals compared to those completed. Selection around withdrawn deals, however, does not reflect changes in need that

would have occurred had the deal been completed. This suggests that changes in monitoring and advising needs, rather than the motivation to undertake a deal, drive director selection. While none of these tests completely rule out the possibility of endogeneity affecting our results, they all provide consistent evidence that selection reflects firm need, rather than CEO opportunism.

Our study contributes to the literature examining board structure and director selection by using an empirical setting that enables us to observe director candidates considered and identify the individuals appointed to the board. This allows us to provide a more direct analysis of whether director selection meets the changing monitoring and advising needs of the board. Our study complements the work of Denis, Denis, and Walker (2015, 2018) who examine board composition for newly formed boards around spinoffs. Mergers, however, provide the ability to examine director selection decisions of an evolving firm and the conclusions may be generalizable to other non-merger scenarios in which the monitoring and advising needs of boards change. In addition, our work is related to studies examining the positive (i.e. Adams and Ferreira, 2009, Field and Mkrtchyan, 2017) and negative (i.e. Masulis, Wang, and Xie, 2012, Falato, Kadyrzhanova, and Lel, 2014) impacts that individual director characteristics have on firm decision-making and value by shedding additional light on the motives of the director selection process. Our evidence indicates that directors are selected to meet a board's changing monitoring and advising needs.

## **2. Hypotheses**

### *2.1 Firm-Need Hypothesis*

Mergers provide a unique setting to examine changes to a firm's operating environment. As a firm increases in complexity or expands into new products or geographic areas, the board's monitoring and advising needs will change. As those needs change, the composition of the board should also adjust relative to these needs. Harris and Raviv (2008) and Raheja (2005) hypothesize

and Boone, Field, Karpoff, and Raheja (2007), Coles, et al. (2008), and Linck, Netter, and Yang (2008) provide cross-sectional evidence, that more complex firms have larger, more independent boards. Further, Denis and Sarin (1999) find that large changes in board structure are typically preceded by shocks in business conditions and Wintoki, Linck, and Netter (2012) and Cicero, Wintoki, and Yang (2013) detail that firms adjust board size and independence consistent with changing firm fundamentals.<sup>2</sup> These findings suggest that the increased complexity associated with a merger will require board composition to change to meet the new monitoring and advising needs. In these cases, the director skills tied to these changes in firm need should become increasingly demanded. The firm-need hypothesis suggests that director selection decisions are driven by the new monitoring and advising needs of the firm.

## *2.2 CEO Opportunism Hypothesis*

Hermalin and Weisbach (1998) model board structure as a negotiation between a CEO and outside directors. In their model, CEOs use their bargaining power over the director selection process to negotiate for a relatively weak monitoring board. Shivdasani and Yermack (1999) find that CEOs use their influence to appoint directors with less incentive to monitor management. Further, Fracassi and Tate (2012) show that firms with more influential CEOs are more likely to appoint directors with social connections to that CEO, leading to weaker monitoring. Erel, Stern, Tan, and Weisbach (2018) find that directors unconnected to managers and from different backgrounds are better monitors. Powerful CEOs, who likely have bargaining power over director selection, may limit adjustments to board composition required by changes in board monitoring and advising needs or, under the guise of structural shifts (e.g., mergers), select directors with

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<sup>2</sup> Hermalin and Weisbach (1988) also find that director departures are likely after a firm's exit from a product market.

weaker monitoring incentives. The CEO opportunism hypothesis, therefore, suggests that director selection is driven by CEOs' preference for weaker monitoring.

### *2.3 Bargaining as a Motive for Director Selection Around Mergers*

In our context of mergers, director selection may be an outcome of negotiations between the acquirer and target. Prior studies examine the implications for target firms and their shareholders when the retention of target executives is linked to the negotiated deal terms. For example, Hartzell, Ofek, and Yermack (2004) show that target CEOs negotiate retention in exchange for lower merger bonuses. Wulf (2004) finds that target CEOs trade post-merger retention for deal premium at the expense of their shareholders. The same may be true for the selection of outside target directors around mergers. The implications for the post-merger board could be consistent with either the firm-need or CEO opportunism hypotheses. In bargaining for board seats, an acquirer could either select target directors that meet the changing needs of the firm or appoint those that weaken board monitoring. We control for the possibility that acquirers trade seats on the post-merger board to targets by identifying deals where these negotiations likely took place and examine whether director selection is consistent with changing monitoring and advising needs or CEO opportunism. Moreover, we recognize that these motives for director selection are not mutually exclusive and use the subsequent empirical predictions to distinguish among them.

### *2.4 Empirical Predictions*

While most prior studies focus on aggregate measures of board structure, such as board size or independence, we examine the composition of director expertise on the post-merger board and the characteristics of directors selected. As firms' monitoring and advising needs change, director skills related to these changes should become increasingly important. The empirical challenge is finding a reasonable set of individual traits that capture experience that matches the

change in firm needs. We use director expertise in a new industry or geographic region as these are two of the top five characteristics demanded by boards (Adams et al., 2018) and are closely aligned with our measures of changing firm need (entry into new industry or geographic region).<sup>3</sup>

The first prediction of the firm-need hypothesis is that the amount of related expertise will increase following the corresponding change in firm needs around the merger. For example, acquirers that enter a new industry will experience an increase in the proportion of directors with expertise in that new industry. This impact, however, should not be uniform. Firms that undergo a more complex change in board needs will experience a larger increase in related expertise than firms that undergo a less complex change in firm need. The second prediction of the firm need hypothesis is that individuals from the pool of potential director candidates with expertise related to firm need will be more likely to be selected post-merger than candidates without it. The firm-need hypothesis also predicts that any target directors retained in the course of bargaining will possess skills associated with the industry- or geography-related changes to board needs.

The first prediction of the CEO opportunism hypothesis is that if powerful CEOs use their influence to opportunistically weaken board monitoring, the same or a fewer number of directors with expertise tied to the change in firm need will appear on the post-merger board. In addition, the number of directors with ties to management, as captured by employment connections to the acquirer CEO, will increase post-merger. Secondly, CEO power will moderate any relation between changing monitoring and advising needs and the composition of director expertise on the post-merger board. Finally, the CEO opportunism hypothesis predicts that individuals from the pool of potential director candidates are more likely to have connections to the acquirer CEO and

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<sup>3</sup> We control for the other three most demanded director characteristics (financial expertise, management, and leadership) in multivariate analysis in Section 4.3, but do not have specific predictions related to their impact on selection since they are likely demanded across all deals and not specifically tied to a change in industry/geography.

less likely to have expertise related to changing firm needs than those candidates not selected for the post-merger board. In cases when target directors are retained via bargaining for board seats, the CEO opportunism hypothesis predicts that they will less likely to possess incremental expertise related to changing firm needs and may be more likely to have connections to the acquirer CEO.

### 3. Data

To test our hypotheses, we collect mergers with announcement dates from 1996 to 2016 from the Thompson/SDC U.S. Merger and Acquisitions database (SDC). To observe acquirer and target boards, we require that both firms are U.S. publicly traded, the merger is completed, and 100 percent of a target is acquired. From SDC, we collect announcement and completion dates, deal transaction value and merger premium. This sample is merged with accounting (Compustat), stock returns (Center for Research of Stock Prices – *CRSP*), institutional ownership (Thomson Reuters) and director data (RiskMetrics/BoardEx). All deals with missing information for returns, assets, or director characteristics are eliminated. Data on board structure from 1996 to 2003 (2004 to 2016) are from RiskMetrics (BoardEx) as well as director characteristics such as age, gender, education, certifications, and past/current employment and directorships.<sup>4</sup> Consistent with the extant literature, we limit our sample to outside directors. We use information on target and acquirer pre-merger (post-merger) boards from the report date closest but prior to (after) a deal announcement (completion). Our final sample consists of 1,428 mergers by 855 acquirers.<sup>5</sup>

Table 1 details deal, director, and firm summary statistics. Deal characteristics in Panel A are consistent with merger studies using similar restrictions (Cai and Sevilir, 2012; Ishii and Xuan, 2014). The average (median) relative deal size is 44% (23%); these deals represent a significant

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<sup>4</sup> The BoardEx universe begins in 2000, but firms delisted before 2004 are not included. In robustness tests, we limit our analysis to BoardEx or RiskMetrics-only samples and find consistent results.

<sup>5</sup> We also construct a sample of 240 withdrawn deals for analysis described in Section 5.3.

change in monitoring and advising needs. Panels B and C report the classification of deals that undergo various levels of changes in monitoring and advising needs measured by industry and geographic region. Each measure is segmented into a more and less complex change in need.

The sample includes 157 deals where an acquirer's primary Fama-French 48 industry classification changed after a merger or where the acquirer added a segment in a Fama-French 48 industry that it did not operate in pre-deal.<sup>6</sup> These mergers are classified as a more complex change in industry-related monitoring and advising needs. Another 313 deals in which the acquirer purchased a target outside of its primary Fama-French 48 industry classification, but did not change its primary Fama-French 48 industry classification or report a new industry segment are categorized as experiencing a less complex change in industry-related needs.

To capture changes in geography-related board needs, we examine geographic segments. As in Bizjak, Lemmon, and Nguyen (2011), we define geographic operations based on international segment-level data reported by Compustat Geographic Segment Data. For ease of classification, we group the international operating regions into seven categories: Africa, Asia, Canada, Europe, Mexico, Middle East, and South America. Deals undergoing a more complex change in geography-related needs include 199 cases in which the acquirer adds a segment in an international region that it did not operate previously. A separate sample of 274 deals that add to existing international operations are classified as experiencing a less complex change in geography-related needs. Panels B and C suggests that mergers provide a setting with a significant sample of firms that undergo meaningful changes in monitoring and advising needs.

Panel D of Table 1 describes director characteristics used to proxy for monitoring/advising expertise, CEO opportunism, and other controls. The full sample includes 24,843 outside director-

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<sup>6</sup> Companies are required to report accounting information for individual segments if they represent 10% of sales, profits, or assets and the addition of such a segment may represent a significant change in operations.

level observations: 12,951 pre-merger acquirer, 10,451 pre-merger target, and 1,441 unaffiliated directors (on neither the acquirer nor target board pre-deal) selected for the post-merger board. All characteristics are measured prior to the announcement date. Proxies to test whether selected director traits meet a firm's monitoring and advising needs include new industry expertise and new region expertise. These expertise measures capture if a director has current or prior experience as a CEO or director at a firm with operations in the acquirer's new industry or geographic region, excluding experience at the target. We exclude target firm experience to ensure that this expertise is not a duplicate measure of membership on the target board when differentiating between selected and not selected directors. Sixteen (Forty-two) percent of directors in 'change in industry' ('change in geographic region') deals possess expertise tied to the change in firm need.

To test for the CEO opportunism hypothesis, we examine if a director has current or previous employment or education connections to the acquirer CEO (Fracassi and Tate, 2012). Directors that currently or previously served on the same board or worked at the same firm as the acquirer CEO as well as those that graduated from the same college within one year of the acquirer CEO are defined as connected. Only 8% of the full sample of director-years are connected to the acquirer CEO. Firm and board (Panel E) attributes used as controls are also consistent with prior merger studies using similar restrictions (e.g., Jenter and Lewellen, 2015).

## **4. Results**

### *4.1 Mergers as a Setting to Observe Director Selection*

Exploiting our relatively well-defined director labor pools, Table 2 details changes in board composition around mergers. To identify director selection, individuals on the post-merger board are matched with pre-merger acquirer and target directors. We define three types of directors selected post-merger: (i) retained directors from the pre-merger acquirer board (11,114); (ii)

retained directors from the pre-merger target board (1,141); and (iii) unaffiliated directors on neither the acquirer nor target board pre-deal (1,441). We also define two types of directors not selected: not selected acquirer (target) directors, which represent directors on the pre-merger acquirer (target) board, but not on the post-merger board (1,837 (9,310)). These observations compose pools of candidates likely considered for the post-merger board.

Panel A reports the number of deals and types of changes to acquirer board composition. Fifty-four percent of deals (777) experience at least one target or unaffiliated director added to the post-merger board in conjunction with at least one acquirer director departure. Another 20% of mergers (281) have no acquirer director departures, but add at least one target or unaffiliated director. In total, there are 1,058 deals (74% of total sample) where we observe one or more non-executive directors selected for the post-merger board from outside the acquiring firm.

Panels B and C describe the pools of selected and not selected directors. On average, the pre-merger acquirer board consists of 9.1 outside directors. Of those directors, 7.8 are retained and 1.3 are not. The average pre-merger target pool consists of 7.3 outside directors and less than one (0.8) target director is selected for the post-merger board. In only 37% of deals is an outside target director retained.<sup>7</sup> This is consistent with Harford (2003), who documents that in over half of mergers, no target directors are retained and even when target directors are selected, on average only one is retained. On average, one unaffiliated director is appointed to the post-merger board. This occurs in a higher percentage of deals (59%) than when a target director is retained (37%).

Unaffiliated directors appointed to the post-merger board were on neither the acquirer nor target board pre-deal announcement. One possible limitation of our empirical setting is that we cannot observe all other unaffiliated directors considered but not appointed. We address this

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<sup>7</sup> The retention of outside target directors represents a larger portion of total target director retention than inside target directors (target CEOs) which are retained in only 20% (18%) of sample deals.

concern in Section 4.4 by constructing a pseudo-pool of likely unaffiliated candidates considered. We also provide evidence that unaffiliated directors appointed possess expertise above and beyond the existing pools of acquirer and target directors. In sum, the average deal consists of 9.6 directors selected for the post-merger board and 7.8 acquirer and target directors likely considered, but not appointed. Table 2 suggests that our sample provides a relatively well-defined pool of potential candidates to observe the selection of directors to the board.

#### *4.2 Changes in Board Composition*

In Table 3, we document the change in director expertise and employment connections to the CEO on acquiring boards from pre- to post-merger. Columns (1) and (2) of both Panels A and B detail changes in board composition for deals with more and less complex changes in firm needs, respectively, while column (3) reports the difference between these two categories. We report the change in the number and proportion of directors with expertise and CEO connections.

Panel A focuses on acquirers with a change to industry-related firm needs, including 157 deals with a more complex entry into a new industry and 313 deals with a less complex purchase of a target in a different industry.<sup>8</sup> Acquirers that enter a new industry undergo an increase of 0.87 directors with expertise in that new industry, which is a 47% increase compared to the pre-merger board.<sup>9</sup> This increase represents 76% of the net change in directors around these deals (average board size increase is 1.14). The proportion of directors with new industry expertise also increases by 6.2 percentage points or by 30% compared to the pre-merger board. Deals with a less complex change in industry-related firm needs also experience a statistically significant increase in new industry expertise; a 30% (3.4 percentage point) increase in the number (proportion) of directors.

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<sup>8</sup> The 958 deals that experience no change in industry-related firm needs are not included in this analysis because there is no measure of new industry expertise to relate to the director selection process.

<sup>9</sup> The number of directors with new industry expertise increases from 1.85 on the pre-merger acquirer board to 2.72 on the post-merger board, representing the change of 0.87 directors.

Column (3) of Panel A reports that the adjustments to acquirer boards with more complex changes in firm needs are nearly twice as large as for acquirers that undergo a less complex change.

Panel A of Table 3 also computes the change in directors with connections to the acquirer CEO. The number (proportion) with connections does not change (decreases) in deals with either more or less complex changes to industry-related firm needs. This result provides no evidence in favor of a CEO opportunism motive for selection when monitoring and advising needs change.

We next examine acquirers that undergo a change in geography-related firm needs in Panel B. This includes 199 deals with a more complex entry into a new international region and 274 deals with a less complex addition to existing international operations.<sup>10</sup> Boards that enter a new region experience an increase of 0.72 directors with expertise in that region, representing 99% of the net change in directors around these more complex deals (average board size increase is 0.73).<sup>11</sup> Firms with less complex increases in geographic need also undergo substantial increases in the number and proportion of expertise, however, these change are significantly less than the more complex ones (Column (3)). As in Panel A, acquirers that undergo a significant increase in monitoring and advising needs experience no increase in the proportion of directors connected to the CEO. The results in Table 3 are consistent with the firm-need hypothesis; acquirers experience an increase in director expertise tied to the change in monitoring and advising needs. In addition, these increases are significantly larger for more complex changes.

We confirm the positive relation between changes in firm need and director expertise in a multivariate framework in Table 4. Panel A presents OLS regressions where the dependent variable is the proportion of directors on the acquirer board with expertise on the pre- or post-

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<sup>10</sup> The 955 deals that experience no change in geography-related firm needs are not included in this analysis because there is no measure of new region expertise to relate to the director selection process.

<sup>11</sup> The number of directors with new region expertise increases from 3.63 on the pre-merger acquirer board to 4.35 on the post-merger board, representing the change of 0.72 directors.

merger board. In each model, there are two observations per deal; one observation pre-merger and one observation post-merger. The *Post-merger* indicator variable is equal to one for post-merger observations and captures the change in the proportion of director expertise. We control for acquiring firm characteristics and year and industry fixed effects.<sup>12</sup> Model 1 (2) includes 157 (313) deals that enter a new industry (purchase a target in a different industry), while Model 3 (4) includes 199 (274) deals that enter a new geographic region (add to an existing geographic region).

We continue to find a strong positive and statistically significant increase in director expertise tied to changes in monitoring and advising needs. For example, Model 1 of Panel A indicates that boards that enter a new industry undergo an increase in the proportion of directors with new industry expertise of 4.6 percentage points, which represents a 23% increase compared to the pre-merger acquirer board.<sup>13</sup> Expertise in the new industry also significantly increases by 20% for deals with less complex changes in industry. We find very similar growth in new region expertise following increases in geography-related firm needs (Models 3 and 4).

Panel B of Table 4 tests whether the increases in director expertise are significantly larger for more complex changes in firm needs. The dependent variable is the change in the proportion of expert directors from pre- or post-merger. The *More Complex Industry (Geographic) Change* indicator is equal to one for deals with a more complex change in industry- (geography-) related board needs. We control for acquiring firm attributes plus year and industry fixed effects. Model 1 includes the 470 deals that undergo a change in industry-related board needs. The results suggest that the increase in the proportion of new industry expertise is 3.4 percentage points higher for acquirers entering a new industry (more complex) compared to acquirers that only purchase a target in a new industry (less complex). Given that the increase in the proportion of new industry

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<sup>12</sup> We find consistent results if we replace the year and industry fixed effects with deal fixed effects.

<sup>13</sup> The proportion of new industry expertise on the pre-merger acquirer board is 20.3% ( $4.6\% / 20.3\% = 23\%$ ).

expertise is 3.3 percentage points for the less complex deals, the change in industry expertise is twice as large for acquirers entering a new industry versus those with a less complex change. Model 2 includes the 473 deals that undergo a change in geography-related board needs. The change in new region expertise is 95% larger for acquirers experiencing a more complex change to geographic-related board needs as compared to those with less complex changes.<sup>14</sup>

Even though we find no evidence consistent with the CEO opportunism motive, it is still possible that CEO opportunism weakens board monitoring at firms where CEOs hold significant bargaining power. In Tables IA1 and IA2 of the Internet Appendix, we replicate Tables 3 and 4 to test whether powerful CEOs limit the increase in director skills tied to monitoring and advising needs or increase the composition of directors with business connections to that CEO. We focus on deals with powerful CEOs using several proxies for CEO bargaining power including CEO tenure (Hermalin and Weisbach, 1988), CEO-Chair duality (Adams, Almeida, and Ferreira, 2005), and CEO ability as measured by Demerjian, Baruch, and McVay (2012). Overall, we find that these measures of CEO power do not moderate the positive relationship between changes in firm needs and increases in director expertise tied to these needs. Regardless of the measure of CEO power implemented, Tables IA1 and IA2 continue to find a significant increase in expertise tied to changing firm needs as well as a decrease in the proportion of directors with connections to the CEO. These results suggest that firm need is the primary driver of director selection decisions when monitoring and advising needs of the board change.

We further address whether bargaining between acquirers and targets alters the results of Tables 3 and 4. We categorize deals with above median target director retention and below median merger premium as cases where target directors may have traded seats on the post-merger board

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<sup>14</sup> The change in proportion of new region expertise for less complex deals is 2 percentage points ( $1.9\%/2.0\% = 95\%$ ).

for a lower premium. In Tables IA3 and IA4 of the Internet Appendix, we find that this potential bargaining process does not lessen the relation between changes in firm needs and increases in expertise linked to these needs. We conclude that even if a power for premium tradeoff exists, board composition changes are consistent with the new board monitoring and advising needs.

Overall, Tables 3, 4, and IA1-IA4 provide evidence that acquirer boards experience a significant increase in expertise tied to monitoring and advising needs and that these changes increase with complexity in ways consistent with the firm need hypothesis.

#### *4.3 Individual Director Selection around Mergers*

One advantage of studying director selection around mergers is the ability to observe a relatively well-defined pool of directors that are likely considered. We leverage this unique setting in order to estimate the likelihood of selection based on individual director characteristics. The revealed preference of firms' post-merger director selection decisions provides evidence on which director attributes are most valued at a time of changing monitoring and advising needs.

Figure 1 explores the probability of selection onto the post-merger board for the pools of acquirer, target, and unaffiliated directors described in Section 4.1. The full pool of directors includes all acquirer and target directors on the pre-merger boards as well as unaffiliated directors added to the post-merger board. Panel A focuses on deals with a more complex change in industry-related needs where the acquirer enters a new industry. For the full pool, the unconditional likelihood of selection for the post-merger board is 55%. Once we condition on new industry expertise, there is a significant difference in selection probability. For example, expert directors from the full pool have a 64% probability of selection compared to 53% for those directors without the expertise. This represents a 22% difference in the unconditional likelihood of selection.

The target and acquirer pools of potential candidates display significantly different unconditional probabilities of selection. The likelihood of appointment to the post-merger board is 27% for the target pool and 78% for the acquirer pool. Each of these pools also displays significant differences in selection probability based on expertise related to the change in board need. The incremental increase in selection probability is significantly greater for target directors with the related expertise (outside of their work at the target firm), increasing their likelihood of selection by almost 100% of the unconditional likelihood.<sup>15</sup> Panel B details the selection probabilities for the less complex changes in industry-related need. We find a weaker relationship between post-merger board selection and new industry expertise. In particular, experts from the target pool are the only directors that experience significantly higher levels of selection likelihood.

Panels C and D of Figure 1 report the probability of director selection for acquirers that undergo a change in geography-related monitoring and advising needs. For acquirers that enter a new geographic region, the unconditional probabilities of selection for the full, target, and acquirer pools are 54%, 24%, and 78%, respectively. For those directors with expertise in the new region, the likelihood of selection is significantly higher across all three pools. For example, target directors with new region expertise at firms other than the target are over 30% more likely to be retained than those without it. We find similar results for the full pool of directors when we focus on less complex changes in geography-related needs in Panel D. Selection probability in the target and acquirer director pools for these deals, however, is not affected by expertise in the new region. This suggests that the result in the full pool of directors for less complex changes in geographic need is driven by the selection of unaffiliated directors with corresponding geography-related

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<sup>15</sup> We exclude target firm experience to ensure that this expertise is not a duplicate measure of membership on the target board when differentiating between selected and not selected directors.

expertise. The results of Figure 1 indicate that directors with expertise that matches the underlying change in board need are significantly more likely to be appointed to the post-merger board.

Table 5 examines the determinants of individual director selection using logistic regressions. Panel A (B) focuses on changes in industry- (geography-) related board needs. Model 1 (2) of each panel details deals with more (less) complex changes in board needs, while Model 3 includes deals without changes in industry or geography. The dependent variable in all models is an indicator equal to one if the director is selected for the post-merger board (retained acquirer, unaffiliated, and retained target directors) and zero otherwise. We also include director-level controls including connections to the acquirer CEO, CEO experience (Fahlenbrach, Low, and Stulz, 2010), board experience (Fama and Jensen, 1983), acquirer industry experience (Dass et al., 2014, Custodio and Metzger, 2013), financial expertise (Guner, Malmendier, and Tate, 2008), relative prestige of directorships (Masulis and Mobbs, 2014), gender (Adams and Ferreira, 2009), age, tenure, and if a director is from the acquirer. These models include deal fixed effects which allow within deal variation in director characteristics for each pool of potential candidates to determine the attributes most valued for post-merger board selection. The fixed effects also control for unobservable firm or deal-specific attributes that could link mergers and director selection.

Panel A shows a positive and statistically significant relationship between new industry expertise and selection for deals with more complex changes in industry-related needs. Even after controlling for director traits and unobservable deal and firm characteristics, expertise tied to board need is an important factor in selection. New industry expertise has an economically meaningful impact on the probability of selection as it increases the conditional probability from 60% to 70%, a 17% increase. The results generally suggest that connections to the acquirer CEO do not have an impact on post-merger director selection for deals with changes in firm need. While the

coefficient on connections to the acquirer CEO is marginally significant in Model 1, the directors selected possess significantly more industry expertise and this characteristic's economic effect is higher than the impact of CEO connections. In the 668 deals that do not enter a new industry or geographic region, however, connections to the CEO have a meaningful effect. For deals without significant changes in firm need, these results appear consistent with a CEO opportunism motive for director selection, though we recognize that there are costs and benefits of adding connected directors (Schmidt, 2015; Cai, Nguyen, and Walkling, 2017; Fahlenbrach, Kim, and Low, 2018).

The regressions in Table 5 also control for a variety of director traits plausibly linked to the probability of selection to the post-merger board. Prior literature suggests that directors value board seats based on their relative prestige (Masulis and Mobbs, 2014). To address these career concerns, we construct measures of the relative importance of a director's board seat following Masulis and Mobbs (2014). If a director holds multiple board seats and a seat on the post-merger board will be the directorship with the largest (smallest) market capitalization, it is ranked as the director's most (least) important directorship. The results suggest that directors are significantly more likely to be selected if that post-merger directorship is the director's most important board seat indicating that there are also supply side considerations in the director selection process. Directors selected are also more likely to have additional board experience, which may broaden the current knowledge of the board (Peyer and Perry, 2005). Consistent with Adams and Ferreira (2009) and Bernile, Bhagwat, and Yonkers (2018), gender diversity is valued in the selection of directors around mergers. The results also suggest that older and more tenured directors are less likely to be selected and that incumbent acquirer directors have a significant advantage in retention.

Panel B of Table 5 details individual director selection for firms that undergo significant changes in geography-related firm need. We continue to find that expertise consistent with a firm's

changing board needs is valued as new region expertise is significantly related to post-merger selection, but only for firms that experience a more complex change in geographic board need. Further, new region expertise has the largest economic effect on the conditional probability of selection out of any of the other director characteristics in Model 1. The influences of other director characteristics on post-merger selection have similar interpretations as those in Panel A.

As in Tables 3 and 4, we test whether powerful CEOs are associated with weakened board monitoring. Their influence could limit the selection of directors with monitoring and advising expertise or favor the selection of directors with business connection to the CEO. In Table IA5 of the Internet Appendix, we replicate the regressions in Table 5 and continue to find that directors with expertise meeting the new board needs are more likely to be selected even in cases when CEOs may hold significant bargaining power. Further, directors with connections to the acquirer CEO are no more likely to be selected at these types of firms. Table IA6 also details that in cases where bargaining for post-merger board seats likely occurs, director selection continues to reflect the changing needs of boards. Overall, results in Tables 5, IA5, and IA6 provide further evidence that director attributes related to changing monitoring and advising needs are most valued.

#### *4.4. Determinants of the Selection of New Directors*

In Section 4.3, we find that firms select directors based on characteristics linked to evolving board monitoring and advising needs. We continue with a more detailed analysis of new directors, retained target and unaffiliated directors, added to the post-merger board. We begin with the unique characteristics that retained target directors possess compared to target directors not retained but likely considered. Next, we examine why unaffiliated directors are appointed, even though a pool of target director candidates is available. In particular, we investigate whether these directors are unique compared to a pool of other unaffiliated candidates likely considered but not

appointed to the post-merger board. Finally, we explore if new directors added to the post-merger board have incremental expertise compared to incumbent acquirer directors that are retained.

Table 6 continues our multivariate analysis of individual director selection by focusing on only the target pool of directors. On average, one target outside director is selected for the post-merger board out of seven outside directors. We examine the characteristics that make that one director more likely to be selected from the pool of target directors. Model 1 (2) includes 64 (63) deals in which acquirers undergo a more complex change in industry-related (geography-related) board needs and add at least one target director. We contrast those results to Model 3 which examines the 252 deals with no major change in firm needs but where at least one target director is added to the post-merger board. In both industry- and geography-related changes in firm need, one of the main factors that distinguish target directors retained is their additional expertise in the new industry or region. New industry expertise increases the conditional probability of target director selection from 10% to 16%, while new region expertise increases it from 11% to 24%. These results suggest that expertise tied to the changing firm needs has an economically significant impact on selection probability, with a 60% or 118% increase, respectively.

We continue to find that in cases when firm needs change (either measure of complexity), there is no evidence of CEO opportunism around the selection of target directors. Model 3, however, reports that in deals with no major change in firm need connections to the acquirer CEO are a distinguishing factor among the target pool of directors. In sum, Table 6 suggests that the selection of target directors is driven by expertise that matches the change in firm needs, while CEO opportunism may only play a role in deals with little or no change in firm need.

In some deals, acquirers appoint unaffiliated directors rather than target directors. Table 7 explores the characteristics of these unaffiliated directors and how they compare to target directors.

Model 1 (2) includes 50 (65) deals with acquirers that undergo a more complex change in industry-related (geography-related) board needs and add at least one unaffiliated but no target directors.<sup>16</sup> Model 3 includes 210 deals with no major change in firm needs that add at least one unaffiliated directors but no target directors. The results suggest that selection shifts to candidates outside of the available pool of target directors when that pool lacks the expertise tied to a change in firm need. Unaffiliated directors added are more likely to have new industry and region expertise than target directors. The coefficient should be interpreted as 58.1% of unaffiliated directors have new region expertise compared to 40.6% of not retained target directors, which is statistically different within deals. While unaffiliated directors are also more likely to have connections to the acquirer CEO, the proportion of directors with connections does not significantly change pre- to post-merger. Model 3 reports that this is also the case in deals with no change in firm need. Overall, Table 7 suggests that directors are appointed from outside of the available labor pool when they possess more expertise tied to changes in monitoring and advising needs than target directors.

Given the addition of unaffiliated directors, we explore whether these directors are different than a pool of other newly appointed directors at similar, non-merging firms (Table 8). Each unaffiliated director is matched to all newly appointed directors in the same year at firms with a headquarters within a 100-mile radius of the acquirer and in the same Fama-French 48 industry. We focus on local peer firms given the findings of Knyazeva, Knyazeva, and Masulis (2013) that the local director labor market has an impact on board composition. We continue to use deal fixed effects to focus on the variation between traits of unaffiliated directors appointed to merging firms and matched newly appointed directors at non-merging firms. The unaffiliated directors have significantly more expertise tied to changing firm needs than a pool of comparable newly

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<sup>16</sup> We find similar results if we include deals that add at least one unaffiliated and retain at least one target director.

appointed directors added at non-merging firms. This holds for both changes in industry-related (Model 1) and geography-related firm need (Model 2). For example, Model 1 suggests that the conditional probability of selection for the post-merger board increases from 83% to 97% for directors with new industry expertise. The unaffiliated directors are also less likely to have connections to the appointing CEO and are more qualified in terms of managerial and industry experience than other directors likely considered for the post-merger board. Overall, these results suggest that unaffiliated directors selected around mergers are more likely to have expertise tied to changes in board needs than other unaffiliated directors likely considered but not appointed.

Our final empirical test examines whether the new directors, unaffiliated and target, added around mergers add incremental monitoring and advising skills over incumbent acquirer directors. In Table 9, the dependent variable is an indicator equal to one if the director is an unaffiliated or retained target director and zero for retained acquirer directors. Model 1 (2) includes 121 (134) deals with acquirers that enter a new industry (geographic region) and add either an unaffiliated or target director to the post-merger board. Model 3 includes 484 deals with no major change in firm needs that add either an unaffiliated or retained target director. Results indicate that unaffiliated and target directors added post-merger are significantly more likely to have expertise that matches the change in firm need than incumbent acquirer directors. For example, directors with new industry expertise tied to the acquirer's new industry operations are 16% more likely to be unaffiliated or target directors than a retained incumbent acquirer director.<sup>17</sup> We find similar results for changes in geography-related board needs. All these directors are also significantly less likely to have connections to the acquirer CEO. Our results provide further evidence that director selection around a shock to monitoring and advising needs are linked to addressing these needs.

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<sup>17</sup> The economic effect is  $16.1\% = 3.1\% \text{ coefficient} / 19.2\%$  of director-deal observation are unaffiliated or target.

## **5. Endogeneity and Mitigating Factors**

### *5.1 Endogeneity*

One concern about our empirical analysis is that some unobservable factor may influence both the decision to merge and director selection. It is unlikely that our director-level results (Tables 6-9) suffer from this endogeneity concern given the use of deal fixed effects that control for any unobservable firm- or deal-specific characteristics. For our board-level analyses, we replicate Tables 3 and 4 using a sample of deals announced inside an industry merger wave. In industry merger waves, the incentive to merge is likely more exogenous, spurred by technological or regulatory shocks or changes in consumer tastes (Harford, 2005). Merger waves are defined at the Fama-French 48 industry-level and capture two-year periods of abnormally high merger activity within an industry (Harford, 2005). In Tables IA7 and IA8 of the Internet Appendix, we replicate the regressions of Tables 3 and 4 and continue to find significant increases in director expertise tied to changing firm needs even for deals announced during merger waves. This result suggests that endogenous factors triggering firms to merge are unlikely to also be driving the post-merger board selection related to changing monitoring and advising needs.

### *5.2 Mitigating Factors*

This section explores other factors that may moderate the documented relationship between director selection and changing firm needs. First, the director selection process may be affected by whether a deal is a merger of equals (MOE), especially for target directors. In these cases, target firms may have more leverage to negotiate for seats on the post-merger board, regardless of the monitoring and advising needs. If we exclude the 48 deals classified as MOEs by SDC, our main conclusions hold. Second, activist investors could play a role both in a firm merging and in concurrent board changes. Prior studies show that activists seek board representation (Brav, Jiang,

Partnoy and Thomas, 2008; Klein and Zur, 2009). Given the challenge in acquiring a significant stake, activists are less likely to seek representation on larger firms, which are more likely to be acquirers. Nonetheless, we search for all cases where an acquirer is the subject of a 13-D filing/amendment within two years pre-merger where an investor intends to affect change in the firm. We find that 5.2% of our acquirers experience the emergence of an activist. However, for only 0.7% of our acquirers did an outside investor publicly encourage a deal or seek board seats. We find consistent results if we exclude all deals in which an acquirer activist investor appears, suggesting that the influence of activist investors is not a first-order concern in our setting.

Also, acquirers that engage in multiple deals may require fewer board changes after each subsequent deal. In unreported results, we analyze a subsample of serial acquirers (three deals in five years, Billett and Qian, 2008) and find similar results, suggesting that director selection for firms involved in multiple deals is not fundamentally different. It is also possible that director selection around the Sarbanes-Oxley Act (SOX) is driven by director independence concerns. We exclude deals announced from 2001 to 2004 and find consistent results. Finally, firms with classified boards may experience fewer board changes, given its potential as an entrenchment device. We find no evidence that these firms undergo less change to board composition or that the director selection process is different around a change to monitoring and advising needs (untabulated). Collectively, these results suggest that our conclusions are not affected by activists, serial acquirers, the mandated independence rules related to SOX, or board classification.

### *5.3 Withdrawn Deals*

To further test if some unobservable factor related to engaging in a merger affects director selection, we examine withdrawn deals as a placebo test. If director selection is driven by an unobservable factor rather than changes to monitoring and advising needs, we should find similar

results in withdrawn deals compared to those completed. To test this, we collect data on all withdrawn deals between 1996 and 2016 where both firms are publicly traded, there is a clear announcement and withdrawal date, and we can obtain all relevant board data before a deal is announced and after it is withdrawn, leaving us with a sample of 240 withdrawn deals.

We measure whether deal completion would have hypothetically changed the industry- and geography-related needs of the board. There are 74 (47) withdrawn deals in which the acquirer would have purchased a target in a different industry (target in a new geographic region). We repeat analyses of Tables 3, 4, and 5 using these two deal categories and report the results in Tables IA9, IA10, and IA11 of the Internet Appendix. In general, we find that selection around withdrawn deals does not reflect the hypothetical change in need associated with a deal's announcement. These results provide some assurance that evolving monitoring and advising needs impact director selection, rather than an unobservable factor that may influence firms to engage in an acquisition.

## **6. Conclusion**

We provide evidence on motives of the director selection process, focusing on the monitoring and advising needs of the board as well as opportunistic selection by CEOs. Mergers provide an ideal setting to test hypotheses about the motives of director selection. Monitoring and advising needs of the board often change significantly following such an event. Moreover, analyzing acquirer and target boards allows us to observe a pool of potential director candidates and contrast the characteristics of directors chosen versus those that are not for the post-merger board. Apart from firm need, director selection decisions can be influenced by CEOs attempting to weaken board monitoring and/or impacted by bargaining related to the merger.

Our results indicate that when firms undergo an industry- or geography-related change in monitoring and advising needs, boards experience a significant increase in director expertise

related to that change in firm need. These adjustments in board composition are economically meaningful as they account for 76%-99% of the net change in directors around these events. We find no evidence, however, that CEOs attempt to opportunistically weaken board monitoring in cases when the monitoring and advising needs of the board significantly increase.

The empirical setting of mergers provides a relatively well-defined labor pool of director candidates and allows us to estimate the probability an individual director is selected for the post-merger board. Our results indicate that director expertise linked to changing monitoring and advising needs is a main factor that differentiates individuals selected for the board from those that are not. The findings also suggest that directors that are arguably sympathetic to management, those with connections to the CEO, are not more likely to be selected for the post-merger board when firm needs increase significantly. Even though our setting focuses on mergers to observe the director labor pool, these results could be generalized to other non-merger scenarios in which the monitoring and advising needs of boards change. Our results highlight the role that changing monitoring and advising needs play in the selection of directors.

Overall, this study complements prior literature on the determinants of board structure by providing insight into the relative demand for director characteristics and whether director selection evolves with the monitoring and advising needs of the board. While prior studies focus on aggregate measures of board structure, we are able to observe individual director candidates actually selected as well as those likely considered but not appointed to the board, painting a more complete picture of the director selection process. We conclude that directors are selected to meet the monitoring and advising needs of the board.

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## Appendix A: Variable Definitions

	Variable Definition
<i>Panel A: Deal Characteristics</i>	
Deal Value	Deal transaction value (\$ millions)
Relative Deal Size	Deal transaction value scaled by acquirer market value of equity
Acquirer CAR	Acquirer three-day cumulative abnormal return (-1, +1) around the merger announcement date
Target CAR	Target three-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 date minus one
Entry into New Industry	Deals where the acquirer's primary Fama-French 48 industry classification changed following the merger or where the acquirer added a segment in a Fama-French 48 industry that it did not operate in prior to the deal
Purchase Target in Different Industry	Deals where the acquirer purchased a target outside of its primary Fama-French 48 industry classification, but did not require a change in the acquirer's primary Fama-French 48 industry classification or reporting of a new Fama-French 48 industry segment
Entry into New Geographic Region	Deals where the acquirer adds an international segment in a geographic region that it had not operated in prior to the merger
Addition to Existing Geographic Region	Deals where the acquirer adds an international segment in a geographic region that it already operated in prior to the merger
<i>Panel B: Firm Characteristics</i>	
Acquirer Firm Size	Log of total book value of assets
Acquirer ROA	Operating income scaled by total book value of assets
Acquirer Board Size	Total number of directors on the board
Acquirer Independence	Percentage of independent directors on the board
Acquirer CEO Age	CEO age in years
Acquirer CEO Tenure	CEO tenure in years
Acquirer Classified Board	Indicator variable equal to one if firm has a classified board, zero otherwise
Acquirer Co-option	Percentage of outside directors with tenure less than the current CEO
Acquirer CEO-Chair	Indicator variable equal to one if the CEO is also chair of the board, zero otherwise

## Appendix A (continued): Variable Definitions

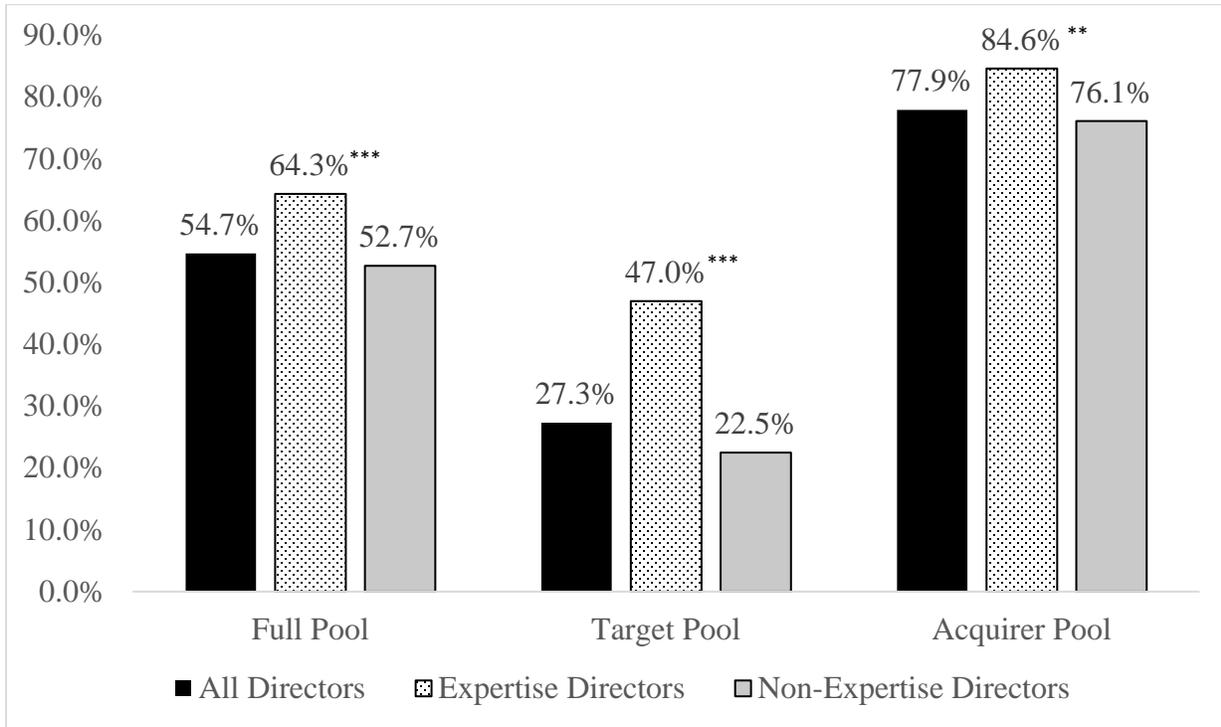
	Variable Definition
<i>Panel C: Director Characteristics</i>	
New Industry Expertise	Indicator variable equal to one if director is currently or has previously served as a CEO or director at a firm (excluding experience at the target firm) with operations in the new Fama-French 48 industry entered by the acquirer, zero otherwise
New Region Expertise	Indicator variable equal to one if director is currently or has previously served as a CEO or director at a firm (excluding experience at the target firm) with operations in the new international region entered by the acquirer, zero otherwise
Connected to Acquirer CEO	Indicator variable equal to one if director is currently or has previously served on same board or worked at same firm as the acquirer CEO or graduated from the same college within one year as the acquirer CEO, zero otherwise
CEO Experience	Indicator variable equal to one if director is currently or has previously served as a CEO of another public firm, zero otherwise
Board Experience	Indicator variable equal to one if director is currently or previously sits on another public firm board, zero otherwise
Acquirer Industry Experience	Indicator variable equal to one if director is currently or has previously served as a CEO or director at a firm in the acquirer's Fama French 48 industry, zero otherwise
Financial Expert	Indicator variable equal to one if director holds CFA or CPA, zero otherwise
High Ranked Seat	Indicator variable equal to one if acquirer (target) firm seat is director's largest directorship in terms of market capitalization, zero otherwise
Low Ranked Seat	Indicator variable equal to one if acquirer (target) firm seat is director's smallest directorship in terms of market capitalization, zero otherwise
Female	Indicator variable equal to one if director is female, zero otherwise
Age	Director age in years
Tenure	Director tenure in years
Unaffiliated Director	Director serving on neither the acquirer nor target board pre-merger

## Figure 1: Probability of Director Selection for Post-Merger Board

The figure reports the probability of selection onto the post-merger board for outside directors based on measures of expertise. The full pool of director candidates includes all retained acquirer directors, not retained acquirer directors, retained target directors, not retained target directors, and added unaffiliated directors. The target pool of director candidates includes only retained target directors and not retained target directors. The acquirer pool of director candidates includes only retained acquirer directors and not retained acquirer directors. The first bar in each group reports the probability of post-merger board selection for all directors in that director candidate pool. The second bar in each group reports the probability of post-merger board selection for directors with the labeled expertise measure of interest in that director candidate pool. The third bar in each group reports the probability of post-merger board selection for directors that do not possess the labeled expertise measure of interest in that director candidate pool. Panel A focuses on 157 deals with acquirers that change their primary Fama-French 48 industry classification or add a new Fama-French 48 industry segment post-merger (more complex change in industry-related need). Panel B focuses on 313 deals that do not change their primary Fama-French 48 industry classification or add a new industry segment post-merger but purchase a target outside of their primary Fama-French 48 industry classification (less complex change in industry-related need). The expertise measure of interest in Panels A and B is new industry expertise. Panel C focuses on 199 deals that add a new international segment post-merger (more complex change in geography-related need). Panel D focuses on 274 deals that add a segment in an international region where the acquirer has exiting operations (less complex change in geography-related need). The expertise measure of interest in Panels C and D is new region expertise. \*\*\*, \*\*, and \* denote statistically significant differences in selection probabilities between expert and non-expert directors at the 1%, 5%, and 10% levels, respectively.

Figure 1: Probability of Director Selection for Post-Merger Board (Continued)

**Panel A: More Complex Change in Industry Deals**



**Panel B: Less Complex Change in Industry Deals**

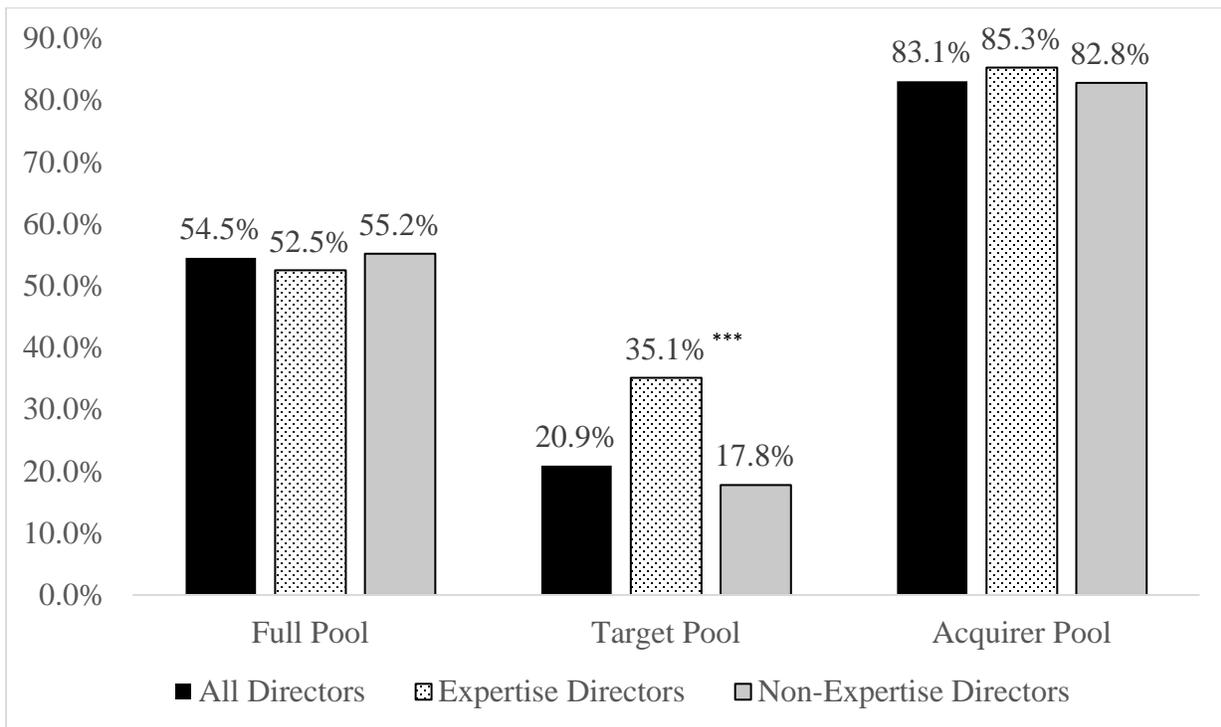
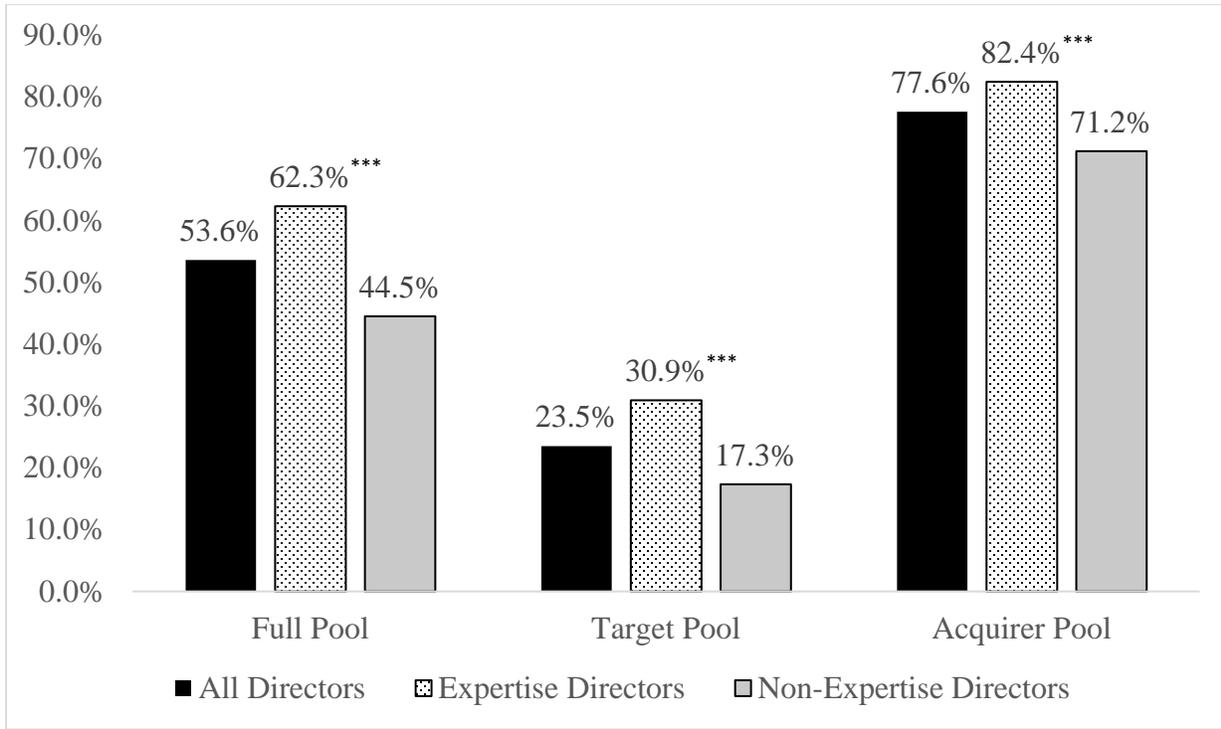


Figure 1: Probability of Director Selection for Post-Merger Board (Continued)

**Panel C: More Complex Change in Geographic Region Deals**



**Panel D: Less Complex Change in Geographic Region Deals**

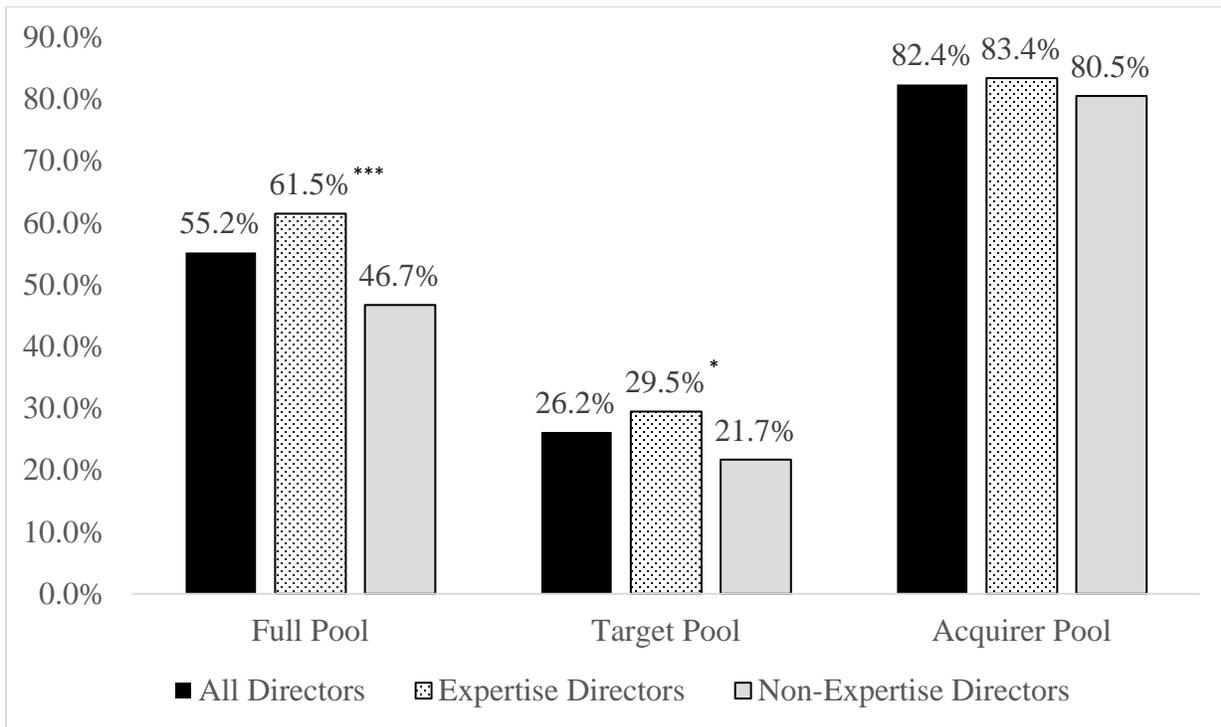


Table 1: Summary Statistics

The table reports summary statistics for 1,428 completed deals from 1996-2016. Panel A contains deal characteristics. Panel B classifies all sample deals into categories of changes in monitoring and advising needs and reports the number (percentage) of deals in each group. The four categories include deals with a change in industry and change in geographic region, deals with a change in industry but no change in geographic region, deals with a change in geographic region but no change in industry, and deals with no changes in industry or geographic region. Panel C reports the number of deals in each degree of change in monitoring and advising needs (change in industry and change in geographic region). Panel D includes firm characteristics. Panel E reports director characteristics. All variable definitions are included in Appendix A.

<i>Panel A: Deal Characteristics</i>					
	Mean	Median	Std. Dev.	Q1	Q3
Deal Value (\$ mil)	\$3,598	\$955	\$9,023	\$295	\$3,085
Relative Deal Size	44.4%	22.7%	60.0%	7.1%	60.6%
Acquirer CAR	-1.2%	-0.9%	6.4%	-4.4%	1.4%
Target CAR	25.5%	20.5%	25.0%	8.8%	35.5%
Premium	39.7%	33.7%	34.5%	19.4%	52.2%

<i>Panel B: Changes in Monitoring &amp; Advising Needs – All Deals</i>		
No. (%) of Deals	Change in Industry	No Change in Industry
Change in Geographic Region	183 (13%)	290 (20%)
No Change in Geographic Region	287 (20%)	668 (47%)

<i>Panel C: Degrees of Changes in Monitoring &amp; Advising Needs</i>			
No. of Deals	More Complex	Less Complex	Total
Change in Industry	157	313	470
Change in Geographic Region	199	274	473

Table 1: Summary Statistics (continued)

<i>Panel D: Director Characteristics</i>					
	Mean	Median	Std. Dev.	Q1	Q3
New Industry Expertise	16%		37%		
New Region Expertise	42%		49%		
Connected to Acquirer CEO	8%		28%		
CEO Experience	14%		35%		
Board Experience	53%		50%		
Acquirer Industry Experience	14%		35%		
Financial Expert	8%		28%		
High Rank Seat	78%		41%		
Low Rank Seat	12%		33%		
Female	12%		33%		
Age	60.8	61.0	8.6	55.0	67.0
Tenure	7.2	5.3	6.9	2.0	10.0

<i>Panel E: Firm Characteristics</i>					
	Mean	Median	Std. Dev.	Q1	Q3
Acquirer Firm Size	\$48,844	\$6,216	\$170,023	\$1,953	\$26,279
Acquirer ROA	0.12	0.11	0.09	0.04	0.17
Acquirer Board Size	10.8	10.0	3.5	8.0	12.0
Acquirer Independence	75%	80%	15%	67%	88%
Acquirer CEO Age	56.0	56.0	6.9	52.0	60.0
Acquirer CEO Tenure	7.7	6.0	7.2	2.8	10.0
Acquirer Classified Board	49%	0%	50%	0%	100%
Acquirer Co-option	55%	56%	33%	27%	86%
Acquirer CEO-Chair	68%	100%	47%	0%	100%

Table 2: Mergers as a Setting to Observe Director Selection

The table reports summary statistics on board composition changes and pools of potential outside director candidates for post-merger board selection for 1,428 completed deals from 1996-2016. Panel A provides a matrix that describes the number (percentage) of mergers that experience changes in board composition related to the retention, departure, and addition of acquirer, target, and unaffiliated directors. Panel B reports the average number of outside directors per deal in each of the director candidate pools. Panel C reports summary statistics of outside directors in each of the director candidate pools surrounding a merger.

<i>Panel A: Board Composition Changes</i>			
		<i>Acquirer:</i>	
		$\geq 1$ director departs	All directors retained
<i>Target or Unaffiliated:</i>	$\geq 1$ director added	777 (54%)	281 (20%)
	No directors added	145 (10%)	225 (16%)

<i>Panel B: Average Director Pools per Deal (Outsiders Only)</i>			
	Pre-Merger Board Size	Selected for Post-Merger Board	Not Selected for Post-Merger Board
Acquirer	9.1	7.8	1.3
Target	7.3	0.8	6.5
Unaffiliated		1.0	
Total	16.4	9.6	7.8

<i>Panel C: Summary Statistics of Directors Pools</i>						
	Mean	5%	Q1	Median	Q3	95%
Acquirer Directors Selected	7.8	4.0	6.0	8.0	9.0	13.0
Acquirer Directors Not Selected	1.3	0.0	0.0	1.0	2.0	4.0
Deals (%) with Not Selected Acquirer	64.6%					
Target Directors Selected	0.8	0.0	0.0	0.0	1.0	4.0
Deals (%) with Selected Target	36.9%					
Target Directors Not Selected	6.5	3.0	5.0	6.0	8.0	11.0
Unaffiliated Directors Added	1.0	0.0	0.0	1.0	2.0	3.0
Deals (%) with Added Unaffiliated	58.5%					

Table 3: Changes in Director Expertise and Connections to the CEO

The table reports the net change from pre- to post-merger board in the number (percentage) of outside directors and the net change in proportion of outside directors with expertise and connections to the acquirer CEO. Panel A sorts the sample into acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need) and those acquirers that do not but purchase a target outside of their primary industry classification (less complex change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Panel B sorts the sample into acquirers that add a new international segment post-merger (more complex change in geography-related need) and those acquirers that add a segment in an international region with existing operations (less complex change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Directors with a connection to the acquirer CEO have worked (executive or director) at the same firm, excluding the acquirer, at the same time as the acquirer CEO prior to the merger announcement or attended the same college and graduated within one year of the acquirer CEO. Column (3) represents the difference between column (1) and column (2). \*\*\*, \*\*, and \* denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

	More Complex: Entry into New Industry (157 deals)	Less Complex: Purchase Target in Different Industry (313 deals)	Difference
	(1)	(2)	(3)
<i>Panel A: Change in Industry-Related Need</i>			
<i>New Industry Expertise:</i>			
Change in number of directors	0.87***	0.42***	0.45***
Percentage change in number of directors	47%***	30%***	17%***
Change in proportion of directors	6.2%***	3.4%***	2.8%**
<i>Connection to Acquirer CEO:</i>			
Change in number of directors	-0.01	0.00	-0.01
Percentage change in number of directors	0%	0%	0%
Change in proportion of directors	-1.8%***	-0.6%*	-1.2%*
<i>Panel B: Change in Geographic-Related Need</i>			
	More Complex: Entry into New International Region (199 deals)	Less Complex: Addition to Existing International Region (274 deals)	Difference
	(1)	(2)	(3)
<i>New Region Expertise:</i>			
Change in number of directors	0.72***	0.46***	0.26**
Percentage change in number of directors	20%***	10%***	10%**
Change in proportion of directors	5.2%***	2.5%***	2.7%**
<i>Connection to Acquirer CEO:</i>			
Change in number of directors	-0.09**	-0.03	-0.06
Percentage change in number of directors	-11%**	-3%	-8%
Change in proportion of directors	-1.9%***	-0.8%***	-1.1%*

Table 4: Changes in Director Expertise

The table presents multivariate analysis of the change in director expertise on the acquirer board from pre- to post-merger. Panel A reports OLS regressions where the dependent variable is the proportion of outside directors with the corresponding expertise noted in the header of each model column. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 includes deals that change their primary industry classification or add a new industry segment post-merger (157 deals) (more complex change in industry-related need). Model 2 includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (313 deals) (less complex change in industry-related need). Model 3 includes deals that add a new international segment post-merger (199 deals) (more complex change in geography-related need). Model 4 includes deals that add a segment in a geographic region where the acquirer has existing operations (274 deals) (less complex change in geography-related need). Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. Panel B reports OLS regressions where the dependent variable is the change in the number of outside directors with new industry expertise (Model 1) and new region expertise (Model 2). All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 48 industries are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

<i>Panel A</i>	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.046*** (0.010)	0.033*** (0.000)	0.045*** (0.003)	0.020** (0.039)
Acquirer Independence	-0.034 (0.808)	-0.172 (0.115)	0.176 (0.139)	0.271 (0.169)
Acquirer ROA	0.006 (0.982)	0.054 (0.754)	0.198 (0.432)	0.118 (0.285)
Acquirer Directors Age >=72	-0.180 (0.291)	-0.037 (0.778)	-0.281* (0.078)	-0.368** (0.031)
Acquirer CEO Age	-0.002 (0.499)	-0.001 (0.608)	0.003 (0.130)	0.001 (0.755)
Acquirer CEO Tenure	-0.002 (0.539)	0.001 (0.481)	0.001 (0.619)	0.002 (0.263)
Acquirer Classified Board	0.049 (0.203)	-0.002 (0.938)	-0.030 (0.493)	-0.036 (0.195)
Acquirer Co-option	0.115** (0.048)	-0.003 (0.952)	-0.108* (0.059)	-0.106** (0.029)
Acquirer CEO-Chair	-0.026 (0.551)	-0.006 (0.764)	0.041 (0.140)	0.023 (0.525)
Constant	0.055 (0.798)	0.075 (0.448)	0.088 (0.570)	0.069 (0.748)
Observations	314	626	398	548
Adjusted r <sup>2</sup>	0.16	0.23	0.24	0.19
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table 4: Changes in Director Expertise (Continued)

<i>Panel B</i>	Dependent Variable:	
	Δ in Proportion of Directors with	
	New Industry Expertise	New Region Expertise
	Model 1	Model 2
More Complex Industry Change (0/1)	0.034** (0.037)	
More Complex Geographic Change (0/1)		0.019** (0.013)
Acquirer Board Size	-0.003** (0.040)	-0.001 (0.552)
Acquirer Independence	-0.062 (0.128)	-0.103** (0.026)
Acquirer ROA	-0.060 (0.355)	0.028 (0.549)
Acquirer Directors Age >=72	-0.037 (0.379)	0.043 (0.204)
Acquirer CEO Age	0.001 (0.280)	0.001 (0.566)
Acquirer CEO Tenure	-0.001 (0.374)	-0.002 (0.102)
Acquirer Classified Board	0.022** (0.015)	0.004 (0.707)
Acquirer Co-option	-0.005 (0.834)	0.023 (0.386)
Acquirer CEO-Chair	-0.003 (0.752)	-0.006 (0.608)
Deal Premium	-0.040 (0.134)	0.011 (0.358)
Constant	0.130* (0.074)	0.048 (0.457)
Observations	470	473
Adjusted r <sup>2</sup>	0.13	0.04
Year & Industry Fixed Effects	Yes	Yes

Table 5: Probability of Director Selection for Post-Merger Board – Multivariate

The table reports logit regressions estimating the probability of director selection onto the post-merger board for outside directors. The dependent variable in all models is an indicator variable equal to one if the director is selected for the post-merger board. Model 1 of Panel A includes 157 deals with acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 of Panel A includes 313 deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 1 of Panel B includes 199 deals that add a new international segment post-merger (more complex change in geography-related need). Model 2 of Panel B includes 274 deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). Model 3 in both Panel A and Panel B includes 668 deals that do not fall into any of the deal types described above. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

<i>Panel A: Change in Industry-Related Need</i>	More Complex:	Less Complex:	All Non-Complex Deals
	Entry into New Industry	Purchase Target in Different Industry	
	Model 1	Model 2	Model 3
New Industry Expertise	0.102*** (0.004)	-0.014 (0.385)	
Connected to Acquirer CEO	0.088* (0.062)	0.038 (0.117)	0.107*** (0.000)
CEO Experience	0.018 (0.610)	0.055*** (0.001)	0.022 (0.245)
High Rank Seat	0.094** (0.026)	0.132*** (0.000)	0.119*** (0.000)
Low Rank Seat	-0.105** (0.034)	-0.005 (0.845)	-0.125*** (0.000)
Board Experience	0.160*** (0.000)	0.106*** (0.000)	0.213*** (0.000)
Acquirer Industry Experience	0.005 (0.913)	0.038** (0.041)	-0.027 (0.176)
Financial Expert	-0.075 (0.181)	-0.016 (0.430)	0.001 (0.946)
Female	0.059 (0.119)	0.046*** (0.008)	0.085*** (0.000)
Age	-0.005*** (0.006)	-0.003*** (0.001)	-0.006*** (0.000)
Tenure	-0.017*** (0.000)	-0.011*** (0.000)	-0.011*** (0.000)
Acquirer Director	0.684*** (0.000)	0.514*** (0.000)	0.705*** (0.000)
Director-deal Observations	2,731	5,062	12,384
Number of Deals	157	313	668
Deal Fixed Effects	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.37	0.56	0.39

Table 5: Probability of Director Selection for Post-Merger Board – Multivariate (Continued)

<i>Panel B: Change in Geography- Related Need</i>	More Complex: Entry into New International Region	Less Complex: Addition to Existing International Region	All Non- Complex Deals
	Model 1	Model 2	Model 3
New Region Expertise	0.052*** (0.000)	0.036 (0.264)	
Connected to Acquirer CEO	-0.019 (0.252)	0.070* (0.058)	0.107*** (0.000)
CEO Experience	0.018* (0.088)	0.082*** (0.000)	0.022 (0.245)
High Rank Seat	0.080*** (0.000)	0.133*** (0.000)	0.119*** (0.000)
Low Rank Seat	0.004 (0.755)	-0.076** (0.018)	-0.125*** (0.000)
Board Experience	0.038*** (0.005)	0.067** (0.045)	0.213*** (0.000)
Acquirer Industry Experience	0.002 (0.897)	0.003 (0.897)	-0.027 (0.176)
Financial Expert	0.007 (0.610)	-0.037 (0.210)	0.001 (0.946)
Female	0.012 (0.256)	0.065*** (0.010)	0.085*** (0.000)
Age	-0.000 (0.572)	-0.003*** (0.005)	-0.006*** (0.000)
Tenure	-0.006*** (0.000)	-0.013*** (0.000)	-0.011*** (0.000)
Acquirer Director	0.239*** (0.000)	0.619*** (0.000)	0.705*** (0.000)
Director-deal Observations	3,278	4,255	12,384
Number of Deals	199	274	668
Deal Fixed Effects	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.43	0.51	0.39

Table 6: Which Target Directors Are Retained?

The table reports logit regressions estimating the probability of director selection onto the post-merger board for outside directors within the target pool of director candidates. The dependent variable in all models is an indicator variable equal to one if the director is selected for the post-merger board. Only deals that retained a target director are included. Model 1 includes 64 deals with acquirers that change their primary industry classification or add a new industry segment post-merger and add at least one target director to the post-merger board (more complex change in industry-related need). Model 2 includes 63 deals that add a new international segment post-merger and add at least one target director to the post-merger board (more complex change in geography-related need). Model 3 includes 252 deals that do not fall into any of the deal types described above and add at least one target directors to the post-merger board. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	More Complex: Entry into New Industry	More Complex: Entry into New International Region	All Non- Complex Deals
	Model 1	Model 2	Model 3
New Industry Expertise	0.063** (0.039)		
New Region Expertise		0.111* (0.059)	
Connected to Acquirer CEO	0.072 (0.236)	0.072 (0.597)	0.047* (0.077)
CEO Experience	-0.066** (0.045)	-0.094* (0.077)	-0.007 (0.569)
High Rank Seat	0.012 (0.736)	0.041 (0.446)	0.003 (0.814)
Low Rank Seat	-0.015 (0.676)	0.037 (0.523)	0.006 (0.721)
Board Experience	0.087*** (0.004)	0.046 (0.459)	0.038*** (0.000)
Acquirer Industry Experience	0.087** (0.021)	0.075 (0.157)	0.025* (0.082)
Financial Expert	-0.059 (0.199)	0.004 (0.953)	0.007 (0.536)
Female	-0.029 (0.383)	-0.116** (0.036)	-0.008 (0.455)
Age	-0.004** (0.013)	-0.004 (0.148)	-0.003*** (0.000)
Tenure	-0.002 (0.377)	-0.011*** (0.002)	-0.001 (0.391)
Director-deal Observations	543	505	2,243
Number of Deals	64	63	252
Deal Fixed Effects	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.11	0.10	0.05

Table 7: Why Do Firms Hire Directors Outside of the Available Pool of Target Directors?

The table reports logit regressions estimating the probability of director selection onto the post-merger board for unaffiliated directors and not retained target directors. The dependent variable in all models is an indicator variable equal to one if the director is selected for the post-merger board (unaffiliated directors) and zero otherwise (not retained target director). Only deals that added an unaffiliated director and did not retain a target director are included. Model 1 includes 50 deals with acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 includes 65 deals that add a new international segment post-merger (more complex change in geography-related need). Model 3 includes 210 deals that do not fall into any of the deal types described above. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	More Complex: Entry into New Industry	More Complex: Entry into New International Region	All Non- Complex Deals
	Model 1	Model 2	Model 3
New Industry Expertise	0.045* (0.060)		
New Region Expertise		0.175*** (0.006)	
Connected to Acquirer CEO	0.181*** (0.000)	0.553*** (0.001)	0.304*** (0.000)
CEO Experience	0.054** (0.012)	0.185*** (0.002)	0.126*** (0.000)
Board Experience	0.021 (0.256)	0.161** (0.012)	0.177*** (0.000)
Acquirer Industry Experience	0.065** (0.038)	-0.067 (0.330)	-0.054* (0.067)
Financial Expert	-0.107** (0.047)	-0.015 (0.848)	-0.068** (0.036)
Female	0.061** (0.013)	0.134** (0.034)	0.195*** (0.000)
Age	-0.003*** (0.004)	-0.007** (0.015)	-0.006*** (0.000)
Director-deal Observations	451	558	1,859
Number of Deals	50	65	210
Deal Fixed Effects	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.22	0.20	0.16

Table 8: Are Unaffiliated Directors Added Around Mergers Different?

The table reports logit regressions comparing the characteristics of unaffiliated directors added around mergers to a comparable pool of new directors added to firms not undergoing a merger. Each unaffiliated director is matched to new directors added to firms in the same Fama-French 48 industry with a headquarters within a 100 mile radius of the acquirer in the same year. The dependent variable in all models is an indicator variable equal to one if the director is an unaffiliated director added around a merger and zero otherwise (matched new director at non-merging firm). Model 1 includes 85 deals with acquirers that change their primary industry classification or add a new industry segment post-merger and have corresponding matched non-merger new directors. Model 2 includes 94 deals that add a new international segment post-merger and have corresponding matched non-merger new directors. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	More Complex: Entry into New Industry	More Complex: Entry into New International Region
	Model 1	Model 2
New Industry Expertise	0.218*** (0.000)	
New Region Expertise		0.768*** (0.000)
Connected to Appointing CEO	-0.227*** (0.000)	-0.673*** (0.000)
CEO Experience	0.261*** (0.000)	0.176*** (0.008)
Board Experience	0.049* (0.054)	0.052 (0.360)
Acquirer Industry Experience	0.219*** (0.000)	0.018 (0.794)
Financial Expert	-0.218*** (0.005)	-0.138 (0.095)
Female	0.104*** (0.001)	0.211*** (0.001)
Age	0.004*** (0.002)	0.003 (0.260)
Director-deal Observations	5,090	9,362
Number of Deals	85	94
Deal Fixed Effects	Yes	Yes
Pseudo R <sup>2</sup>	0.207	0.335

Table 9: Are Directors Added around Mergers an Upgrade over Incumbent Directors?

The table reports logit regressions comparing the characteristics of unaffiliated and retained target directors added around mergers to retained acquirer directors. The dependent variable in all models is an indicator variable equal to one if the director is an unaffiliated or retained target director and zero otherwise (retained acquirer). Model 1 includes 121 deals with acquirers that change their primary industry classification or add a new industry segment post-merger and add either an unaffiliated or retained target director to the post-merger board (more complex change in industry-related need). Model 2 includes 134 deals that add a new international segment post-merger and add either an unaffiliated or retained target director to the post-merger board (more complex change in geography-related need). Model 3 includes 484 deals that do not fall into any of the deal types described above and add either an unaffiliated or retained target director to the post-merger board. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	More Complex: Entry into New Industry	More Complex: Entry into New International Region	All Non- Complex Deals
	Model 1	Model 2	Model 3
New Industry Expertise	0.031** (0.034)		
New Region Expertise		0.027** (0.048)	
Connected to Acquirer CEO	-0.085*** (0.000)	-0.070*** (0.000)	-0.065*** (0.000)
CEO Experience	0.005 (0.777)	0.010 (0.363)	0.003 (0.454)
Board Experience	-0.006 (0.675)	-0.011 (0.463)	0.007** (0.021)
Acquirer Industry Experience	0.094*** (0.000)	0.016 (0.170)	0.012*** (0.003)
Financial Expert	-0.011 (0.727)	0.019 (0.243)	-0.002 (0.663)
Female	-0.018 (0.281)	-0.003 (0.775)	-0.001 (0.829)
Age	-0.003*** (0.000)	-0.003*** (0.000)	-0.002*** (0.000)
Director-deal Observations	1,229	1,260	5,358
Number of Deals	121	134	484
Deal Fixed Effects	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.06	0.05	0.08

**Internet Appendix for:**  
**Does Firm Need Matter in Director Selection?**

July 2019

Abstract

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Director selection is crucial in corporate governance, but little is known about the relative importance of individual director attributes in the selection process. We examine the motives for director selection using the empirical setting of mergers, which offers a well-defined pool of candidates considered and a discrete shock to a board's monitoring and advising needs. We find that boards increase director expertise tied to these changing needs, even in cases with powerful CEOs that could opportunistically weaken board monitoring. Individual candidates with expertise related to changing board needs are significantly more likely to be selected for the post-merger board. In contrast, directors are appointed from outside of the well-defined labor pool when they possess more related expertise than candidates from the merging firms. Our evidence suggests that directors are selected to meet changing monitoring and advising needs.

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Table IA1: Changes in Director Expertise and Connections to the CEO for Powerful CEO Firms

The table reports the net change in proportion of outside directors with expertise and connections to the acquirer CEO for firms with powerful CEOs. We define powerful CEOs three ways: above median CEO ability (Demerjian, Baruch, and McVay, 2012), above median CEO tenure, and CEO-Chair duality. Panel A sorts the sample into acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need) and those acquirers that do not but purchase a target outside of their primary industry classification (less complex change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Panel B sorts the sample into acquirers that add a new international segment post-merger (more complex change in geography-related need) and those acquirers that add a segment in an international region with existing operations (less complex change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Directors with a connection to the acquirer CEO have worked (executive or director) at the same firm, excluding the acquirer, at the same time as the acquirer CEO prior to the merger announcement or attended the same college and graduated within one year of the acquirer CEO. Column (3) represents the difference between column (1) and column (2). \*\*\*, \*\*, and \* denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

<i>Panel A: Change in Industry-Related Need</i>	More Complex: Entry into New Industry	Less Complex: Purchase Target in Different Industry	Difference
	(1)	(2)	(3)
<i>New Industry Expertise:</i>			
High CEO Ability	6.0%***	3.9%***	2.1%
High CEO Tenure	4.5%***	2.3%***	2.2%
CEO-Chair	5.8%***	3.3%***	2.5%
<i>Connection to Acquirer CEO:</i>			
High CEO Ability	-1.7%*	0.0%	-1.7%
High CEO Tenure	-2.2%*	-1.1%**	-1.1%
CEO-Chair	-2.4%***	-0.5%	-1.9%
<i>Panel B: Change in Geographic-Related Need</i>	More Complex: Entry into New International Region	Less Complex: Addition to Existing International Region	Difference
	(1)	(2)	(3)
<i>New Region Expertise:</i>			
High CEO Ability	3.9%***	2.2%***	1.7%
High CEO Tenure	4.2%***	1.9%**	2.3%
CEO-Chair	4.4%***	2.5%***	1.1%
<i>Connection to Acquirer CEO:</i>			
High CEO Ability	-1.8%**	-0.8%*	-1.0%
High CEO Tenure	-2.5%***	-0.8%**	-1.7%*
CEO-Chair	-1.8%***	-1.0%***	-0.9%

Table IA2: Changes in Director Expertise for Powerful CEO Firms

The table presents multivariate analysis of the change in director expertise on the acquirer board with powerful CEOs from pre- to post-merger. We define powerful CEOs three ways: above median CEO ability (Demerjian, Baruch, and McVay, 2012), above median CEO tenure, and CEO-Chair duality. All panels report OLS regressions where the dependent variable is the proportion of outside directors with the corresponding expertise noted in the header of each model column. Panel A includes only firms with above median CEO ability, Panel B includes only firms with above median CEO tenure, and Panel C includes only firms with CEO-Chair duality. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 includes deals that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 3 includes deals that add a new international segment post-merger (more complex change in geography-related need). Model 4 includes deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 48 industries are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

<i>Panel A: High CEO Ability</i>	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.057*** (0.004)	0.031*** (0.000)	0.050*** (0.003)	0.015 (0.277)
Acquirer Independence	0.002 (0.990)	-0.255*** (0.008)	0.260* (0.057)	0.212 (0.257)
Acquirer ROA	0.335 (0.164)	-0.079 (0.651)	0.192 (0.544)	0.170 (0.192)
Acquirer Directors Age >=72	-0.204 (0.181)	0.158 (0.108)	-0.229 (0.322)	-0.316*** (0.009)
Acquirer CEO Age	-0.001 (0.773)	-0.001 (0.563)	0.003 (0.353)	0.006 (0.225)
Acquirer CEO Tenure	-0.005 (0.356)	-0.001 (0.382)	0.001 (0.644)	0.003 (0.284)
Acquirer Classified Board	0.039 (0.525)	0.007 (0.803)	-0.058 (0.326)	-0.040 (0.127)
Acquirer Co-option	0.205*** (0.001)	-0.019 (0.685)	-0.128* (0.077)	-0.134** (0.026)
Acquirer CEO-Chair	-0.007 (0.895)	0.022 (0.461)	0.051 (0.120)	0.034 (0.423)
Constant	-0.162 (0.610)	0.152 (0.111)	0.131 (0.596)	-0.060 (0.786)
Observations	232	464	284	376
Adjusted r <sup>2</sup>	0.195	0.286	0.199	0.255
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table IA2: Changes in Director Expertise for Powerful CEO Firms (Continued)

<i>Panel B: High CEO Tenure</i>	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.044** (0.025)	0.021** (0.043)	0.029 (0.204)	0.000 (0.976)
Acquirer Independence	0.131 (0.175)	-0.192 (0.200)	0.028 (0.848)	0.263 (0.220)
Acquirer ROA	-0.083 (0.797)	0.490** (0.020)	0.228 (0.643)	0.100 (0.635)
Acquirer Directors Age >=72	-0.230* (0.055)	-0.041 (0.804)	-0.209 (0.470)	-0.472** (0.019)
Acquirer CEO Age	0.002 (0.447)	-0.002 (0.556)	0.006* (0.051)	0.001 (0.760)
Acquirer CEO Tenure	-0.001 (0.759)	0.003 (0.157)	-0.001 (0.787)	0.007*** (0.004)
Acquirer Classified Board	0.056* (0.085)	0.003 (0.920)	-0.002 (0.970)	-0.028 (0.504)
Acquirer Co-option	0.102 (0.231)	-0.045 (0.458)	-0.154** (0.041)	-0.089 (0.280)
Acquirer CEO-Chair	-0.062 (0.323)	0.009 (0.793)	0.033 (0.575)	-0.052* (0.054)
Constant	-0.143 (0.446)	0.373** (0.019)	0.176 (0.408)	0.457* (0.097)
Observations	158	312	200	274
Adjusted r <sup>2</sup>	0.351	0.323	0.316	0.281
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table IA2: Changes in Director Expertise for Powerful CEO Firms (Continued)

<i>Panel C: CEO-Chair</i>	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.042* (0.076)	0.036*** (0.000)	0.038** (0.037)	0.017* (0.098)
Acquirer Independence	-0.146 (0.387)	-0.287** (0.025)	0.103 (0.492)	0.242** (0.049)
Acquirer ROA	0.052 (0.831)	-0.004 (0.985)	0.184 (0.599)	0.284 (0.228)
Acquirer Directors Age >=72	-0.449*** (0.000)	-0.008 (0.959)	-0.280 (0.220)	-0.162 (0.292)
Acquirer CEO Age	-0.003 (0.500)	-0.002 (0.280)	0.003 (0.223)	0.003 (0.509)
Acquirer CEO Tenure	0.002 (0.664)	0.002 (0.440)	0.001 (0.657)	-0.002 (0.438)
Acquirer Classified Board	-0.020 (0.606)	0.016 (0.438)	-0.056 (0.249)	-0.041 (0.153)
Acquirer Co-option	0.056 (0.422)	-0.034 (0.595)	-0.144** (0.042)	-0.109* (0.052)
Constant	0.165 (0.604)	0.509*** (0.000)	0.291 (0.145)	0.048 (0.840)
Observations	236	448	288	382
Adjusted r <sup>2</sup>	0.279	0.285	0.245	0.208
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table IA3: Changes in Director Expertise and Connections to the CEO for Bargaining Deals

The table reports the net change in proportion of outside directors with expertise and connections to the acquirer CEO for deals where bargaining between acquirers and targets likely occurred. We define these deals as having above median target director retention and below median premium. Panel A sorts the sample into acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need) and those acquirers that do not but purchase a target outside of their primary industry classification (less complex change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Panel B sorts the sample into acquirers that add a new international segment post-merger (more complex change in geography-related need) and those acquirers that add a segment in an international region with existing operations (less complex change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Directors with a connection to the acquirer CEO have worked (executive or director) at the same firm, excluding the acquirer, at the same time as the acquirer CEO prior to the merger announcement or attended the same college and graduated within one year of the acquirer CEO. Column (3) represents the difference between column (1) and column (2). \*\*\*, \*\*, and \* denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

<i>Panel A: Change in Industry-Related Need</i>	More Complex: Entry into New Industry	Less Complex: Purchase Target in Different Industry	Difference
	(1)	(2)	(3)
<i>New Industry Expertise:</i>			
Bargaining Deals	14.4%***	16.0%***	-1.6%
<i>Connection to Acquirer CEO:</i>			
Bargaining Deals	-4.0%**	-2.4%	-1.6%
<i>Panel B: Change in Geographic-Related Need</i>	More Complex: Entry into New International Region	Less Complex: Addition to Existing International Region	Difference
	(1)	(2)	(3)
<i>New Region Expertise:</i>			
Bargaining Deals	16.6%***	11.9%***	4.7%
<i>Connection to Acquirer CEO:</i>			
Bargaining Deals	-4.0%**	-3.0%***	-1.0%

Table IA4: Changes in Director Expertise for Bargaining Deals

The table presents multivariate analysis of the change in director expertise on the acquirer board where bargaining between acquirers and targets likely occurred. We define these deals as having above median target director retention and below median premium. The table reports OLS regressions where the dependent variable is the proportion of outside directors with the corresponding expertise noted in the header of each model column. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 includes deals that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 3 includes deals that add a new international segment post-merger (more complex change in geography-related need). Model 4 includes deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 48 industries are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.130** (0.010)	0.162*** (0.000)	0.187*** (0.002)	0.137** (0.010)
Acquirer Independence	0.134 (0.400)	0.306 (0.347)	0.321 (0.351)	-0.201 (0.538)
Acquirer ROA	0.503* (0.079)	0.211 (0.684)	0.307 (0.484)	0.564 (0.199)
Acquirer Directors Age >=72	0.127 (0.794)	0.444 (0.201)	0.167 (0.816)	-0.237 (0.555)
Acquirer CEO Age	0.003 (0.489)	0.002 (0.806)	0.016** (0.042)	0.002 (0.782)
Acquirer CEO Tenure	-0.007 (0.233)	0.004 (0.264)	-0.011 (0.288)	0.007 (0.477)
Acquirer Classified Board	0.118* (0.068)	-0.309*** (0.000)	0.044 (0.808)	0.000 (0.999)
Acquirer Co-option	0.039 (0.733)	-0.228 (0.166)	0.008 (0.920)	-0.009 (0.912)
Acquirer CEO-Chair	-0.049 (0.359)	-0.067 (0.335)	0.160** (0.028)	0.086 (0.261)
Constant	-0.190 (0.384)	0.082 (0.811)	-1.210** (0.023)	-0.168 (0.827)
Observations	82	76	80	84
Adjusted r <sup>2</sup>	0.538	0.738	0.459	0.242
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table IA5: Probability of Director Selection for Post-Merger Board for Powerful CEO Firms

The table reports logit regressions estimating the probability of director selection onto the post-merger board for outside directors at firms with powerful CEOs. We define powerful CEOs three ways: above median CEO ability (Demerjian, Baruch, and McVay, 2012), above median CEO tenure, and CEO-Chair duality. Panel A includes only firms with above median CEO ability, Panel B includes only firms with above median CEO tenure, and Panel C includes only firms with CEO-Chair duality. The dependent variable in all models is an indicator variable equal to one if the director is selected for the post-merger board. Model 1 of each panel includes deals with acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 of each panel includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 3 of each panel includes deals that add a new international segment post-merger (more complex change in geography-related need). Model 4 of each panel includes deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

<i>Panel A: High CEO Ability</i>	More Complex:	Less Complex:	More Complex:	Less Complex:
	Entry into New Industry	Purchase Target in Different Industry	Entry into New International Region	Addition to Existing International Region
	Model 1	Model 2	Model 3	Model 4
New Industry/Region Expertise	0.068* (0.081)	-0.023 (0.282)	0.097*** (0.000)	0.037 (0.254)
Connected to Acquirer CEO	0.057 (0.295)	0.028 (0.374)	-0.058** (0.033)	0.055 (0.143)
CEO Experience	0.024 (0.555)	0.081*** (0.000)	0.016 (0.417)	0.072*** (0.002)
High Rank Seat	0.077 (0.118)	0.144*** (0.000)	0.112*** (0.000)	0.114*** (0.000)
Low Rank Seat	-0.129** (0.025)	-0.014 (0.654)	0.001 (0.974)	-0.072** (0.027)
Board Experience	0.170*** (0.000)	0.123*** (0.000)	0.032 (0.167)	0.053 (0.115)
Acquirer Industry Experience	0.001 (0.991)	0.046* (0.058)	-0.007 (0.725)	0.016 (0.476)
Financial Expert	-0.083 (0.229)	-0.010 (0.703)	0.008 (0.755)	-0.030 (0.342)
Female	0.097** (0.020)	0.054** (0.016)	0.033* (0.093)	0.064** (0.010)
Age	-0.004** (0.034)	-0.003*** (0.001)	-0.001 (0.255)	-0.002* (0.063)
Tenure	-0.017*** (0.000)	-0.014*** (0.000)	-0.009*** (0.000)	-0.012*** (0.000)
Acquirer Director	0.669*** (0.000)	0.587*** (0.000)	0.361*** (0.000)	0.516*** (0.000)
Director-deal Observations	2,032	3,884	2,340	2,940
Number of Deals	116	231	142	188
Deal Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.365	0.546	0.414	0.510

Table IA5: Probability of Director Selection for Post-Merger Board for Powerful CEO Firms

<i>Panel B: High CEO Tenure</i>	More Complex:	Less Complex:	More Complex:	Less Complex:
	Entry into New Industry	Purchase Target in Different Industry	Entry into New International Region	Addition to Existing International Region
	Model 1	Model 2	Model 3	Model 4
New Industry/Region Expertise	0.110** (0.037)	-0.024 (0.282)	0.085*** (0.003)	0.032 (0.471)
Connected to Acquirer CEO	0.151** (0.031)	0.025 (0.435)	-0.029 (0.379)	0.068 (0.155)
CEO Experience	-0.039 (0.459)	0.068*** (0.004)	-0.001 (0.959)	0.060* (0.054)
High Rank Seat	0.065 (0.298)	0.134*** (0.000)	0.073** (0.017)	0.103** (0.010)
Low Rank Seat	-0.176** (0.018)	-0.022 (0.540)	-0.078** (0.024)	-0.109** (0.016)
Board Experience	0.121*** (0.009)	0.098*** (0.000)	0.046 (0.114)	0.031 (0.504)
Acquirer Industry Experience	-0.047 (0.495)	0.063** (0.014)	-0.033 (0.243)	0.028 (0.345)
Financial Expert	0.026 (0.758)	-0.056* (0.066)	0.017 (0.613)	-0.037 (0.350)
Female	0.079 (0.164)	0.028 (0.256)	0.016 (0.536)	0.051 (0.133)
Age	-0.004* (0.089)	-0.003** (0.013)	-0.000 (0.877)	-0.002 (0.185)
Tenure	-0.015*** (0.000)	-0.011** (0.000)	-0.009*** (0.000)	-0.013*** (0.000)
Acquirer Director	0.674*** (0.000)	0.503*** (0.000)	0.372*** (0.000)	0.605*** (0.000)
Director-deal Observations	1,307	2,399	1,620	2,083
Number of Deals	76	147	98	142
Deal Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.355	0.580	0.391	0.565

Table IA5: Probability of Director Selection for Post-Merger Board for Powerful CEO Firms

<i>Panel C: CEO-Chair</i>	More Complex:	Less Complex:	More Complex:	Less Complex:
	Entry into New Industry	Purchase Target in Different Industry	Entry into New International Region	Addition to Existing International Region
	Model 1	Model 2	Model 3	Model 4
New Industry/Region Expertise	0.115*** (0.009)	-0.015 (0.301)	0.041** (0.011)	0.032 (0.446)
Connected to Acquirer CEO	0.049 (0.367)	0.045** (0.037)	-0.015 (0.451)	0.065 (0.175)
CEO Experience	-0.006 (0.899)	0.050*** (0.001)	0.010 (0.471)	0.100*** (0.001)
High Rank Seat	0.127** (0.018)	0.098*** (0.000)	0.084*** (0.000)	0.164*** (0.000)
Low Rank Seat	-0.093 (0.136)	-0.026 (0.229)	-0.002 (0.901)	-0.055 (0.183)
Board Experience	0.212*** (0.000)	0.090*** (0.000)	0.060*** (0.000)	0.075* (0.088)
Acquirer Industry Experience	0.059 (0.317)	0.044** (0.011)	-0.006 (0.681)	0.022 (0.450)
Financial Expert	-0.069 (0.335)	-0.007 (0.722)	0.003 (0.851)	-0.056 (0.148)
Female	0.065 (0.161)	0.041*** (0.007)	0.011 (0.433)	0.071** (0.024)
Age	-0.007*** (0.002)	-0.001** (0.049)	-0.000 (0.445)	-0.004*** (0.005)
Tenure	-0.021*** (0.000)	-0.009*** (0.000)	-0.007*** (0.000)	-0.015*** (0.000)
Acquirer Director	0.772*** (0.000)	0.389*** (0.000)	0.271*** (0.000)	0.681*** (0.000)
Director-deal Observations	2,042	3,698	2,389	3,016
Number of Deals	118	224	144	191
Deal Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.398	0.532	0.454	0.523

Table IA6: Probability of Director Selection for Post-Merger Board for Bargaining Deals

The table reports logit regressions estimating the probability of director selection onto the post-merger board for outside directors at firms where bargaining between acquirers and targets likely occurred. We define these deals as having above median target director retention and below median premium. The dependent variable in all models is an indicator variable equal to one if the director is selected for the post-merger board. Model 1 includes deals with acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 3 includes deals that add a new international segment post-merger (more complex change in geography-related need). Model 4 includes deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	More Complex: Entry into New Industry	Less Complex: Purchase Target in Different Industry	More Complex: Entry into New International Region	Less Complex: Addition to Existing International Region
	Model 1	Model 2	Model 3	Model 4
New Industry/Region Expertise	0.143** (0.022)	0.102 (0.203)	0.267*** (0.002)	0.029 (0.745)
Connected to Acquirer CEO	0.067 (0.376)	0.008 (0.941)	-0.152 (0.137)	0.112 (0.264)
CEO Experience	-0.123** (0.045)	0.234** (0.017)	0.015 (0.838)	0.029 (0.635)
High Rank Seat	-0.002 (0.979)	0.125 (0.284)	0.159** (0.041)	0.136 (0.058)
Low Rank Seat	-0.167** (0.038)	0.178 (0.189)	-0.078 (0.397)	0.029 (0.702)
Board Experience	0.175*** (0.001)	0.116 (0.116)	0.034 (0.701)	0.059 (0.532)
Acquirer Industry Experience	-0.022 (0.773)	0.015 (0.856)	0.129 (0.103)	-0.036 (0.545)
Financial Expert	-0.000 (0.996)	0.015 (0.866)	0.084 (0.430)	0.053 (0.500)
Female	0.011 (0.867)	-0.032 (0.722)	-0.121 (0.145)	0.002 (0.982)
Age	-0.005* (0.062)	-0.008** (0.019)	-0.007* (0.059)	-0.007** (0.019)
Tenure	-0.013*** (0.000)	-0.018*** (0.002)	-0.015*** (0.000)	-0.013*** (0.006)
Acquirer Director	0.366*** (0.000)	0.710*** (0.000)	0.489*** (0.000)	0.441*** (0.000)
Director-deal Observations	695	591	644	603
Number of Deals	39	38	39	37
Deal Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.184	0.331	0.231	0.207

Table IA7: Changes in Director Expertise and Connections to the CEO during Merger Waves

The table reports the net change in proportion of outside directors with expertise and connections to the acquirer CEO for deals that were announced during merger waves where the incentive to merge is likely more exogenous, spurred by technological or regulatory shocks. Panel A sorts the sample into acquirers that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need) and those acquirers that do not but purchase a target outside of their primary industry classification (less complex change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Panel B sorts the sample into acquirers that add a new international segment post-merger (more complex change in geography-related need) and those acquirers that add a segment in an international region with existing operations (less complex change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Directors with a connection to the acquirer CEO have worked (executive or director) at the same firm, excluding the acquirer, at the same time as the acquirer CEO prior to the merger announcement or attended the same college and graduated within one year of the acquirer CEO. Column (3) represents the difference between column (1) and column (2). \*\*\*, \*\*, and \* denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

<i>Panel A: Change in Industry-Related Need</i>	More Complex: Entry into New Industry	Less Complex: Purchase Target in Different Industry	Difference
	(1)	(2)	(3)
<i>New Industry Expertise:</i>			
Merger Wave Deals	9.2%***	4.5%***	4.7%**
<i>Connection to Acquirer CEO:</i>			
Merger Wave Deals	-1.3%	-1.0%	-0.3%
<i>Panel B: Change in Geographic-Related Need</i>	More Complex: Entry into New International Region	Less Complex: Addition to Existing International Region	Difference
	(1)	(2)	(3)
<i>New Region Expertise:</i>			
Merger Wave Deals	6.5%***	5.3%***	1.2%
<i>Connection to Acquirer CEO:</i>			
Merger Wave Deals	-1.5%**	-0.8%*	-0.7%

Table IA8: Changes in Director Expertise during Merger Waves

The table presents multivariate analysis of the change in director expertise on the acquirer board for deals that were announced during merger waves where the incentive to merge is likely more exogenous, spurred by technological or regulatory shocks. The table reports OLS regressions where the dependent variable is the proportion of outside directors with the corresponding expertise noted in the header of each model column. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 includes deals that change their primary industry classification or add a new industry segment post-merger (more complex change in industry-related need). Model 2 includes deals that do not change their primary industry classification or add a new industry segment post-merger but purchase a target outside of their primary industry classification (less complex change in industry-related need). Model 3 includes deals that add a new international segment post-merger (more complex change in geography-related need). Model 4 includes deals that add a segment in a geographic region where the acquirer has existing operations (less complex change in geography-related need). Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 48 industries are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Dependent Variable:			
	Proportion of Directors with			
	New Industry Expertise	New Industry Expertise	New Region Expertise	New Region Expertise
	Model 1 More Complex: Entry into New Industry	Model 2 Less Complex: Purchase Target in Different Industry	Model 3 More Complex: Entry into New Int'l Region	Model 4 Less Complex: Add to Existing Int'l Region
Post-merger (0/1)	0.054*** (0.001)	0.042*** (0.008)	0.048** (0.034)	0.053*** (0.006)
Acquirer Independence	0.246*** (0.002)	-0.220 (0.329)	-0.048 (0.723)	0.028 (0.919)
Acquirer ROA	0.236 (0.469)	-0.126 (0.621)	0.234 (0.467)	0.276 (0.448)
Acquirer Directors Age >=72	-0.446*** (0.010)	-0.122 (0.410)	-0.829*** (0.001)	-0.266 (0.241)
Acquirer CEO Age	-0.001 (0.867)	0.002 (0.615)	0.005** (0.047)	0.004 (0.684)
Acquirer CEO Tenure	0.003 (0.661)	0.003 (0.507)	-0.004 (0.526)	-0.004** (0.046)
Acquirer Classified Board	0.061 (0.123)	0.041 (0.442)	-0.029 (0.527)	-0.100 (0.210)
Acquirer Co-option	0.127 (0.133)	-0.143** (0.035)	0.016 (0.841)	-0.044 (0.783)
Acquirer CEO-Chair	-0.083 (0.115)	0.031 (0.215)	0.054 (0.222)	0.085 (0.179)
Constant	0.314 (0.228)	0.221 (0.219)	0.393* (0.061)	0.107 (0.791)
Observations	166	140	178	166
Adjusted r <sup>2</sup>	0.247	0.0617	0.394	0.268
Year & Industry Fixed Effects	Yes	Yes	Yes	Yes

Table IA9: Changes in Director Expertise and Connections to the CEO – Withdrawn Deals

The table reports the net change from pre-announcement to post-withdrawal board in the number (percentage) of outside directors and the net change in proportion of outside directors with expertise and connections to the acquirer CEO. Panel A details 74 withdrawn deals where if the deal had been completed it would have resulted in the purchase of a target outside of the acquirer's primary industry classification (change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Panel B details 47 withdrawn deals where if the deal had been completed it would have resulted in the addition of a new international segment post-merger (change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Directors with a connection to the acquirer CEO have worked (executive or director) at the same firm, excluding the acquirer, at the same time as the acquirer CEO prior to the merger announcement or attended the same college and graduated within one year of the acquirer CEO. Column (3) represents the difference between column (1) and column (2). \*\*\*, \*\*, and \* denote statistically significant differences at the 1%, 5%, and 10% levels, respectively.

<i>Panel A: Change in Industry-Related Need</i>	Hypothetical Purchase of Target in Different Industry (74 deals)
	(2)
<i>New Industry Expertise:</i>	
Change in number of directors	0.00
Percentage change in number of directors	0.0%
Change in proportion of directors	0%
<i>Connection to Acquirer CEO:</i>	
Change in number of directors	-0.11
Percentage change in number of directors	-12.5%
Change in proportion of directors	-0.6%
	(1)
<i>Panel B: Change in Geographic-Related Need</i>	Hypothetical Entry into New International Region (47 deals)
	(1)
<i>New Region Expertise:</i>	
Change in number of directors	0.09
Percentage change in number of directors	2.4%
Change in proportion of directors	0.0%
<i>Connection to Acquirer CEO:</i>	
Change in number of directors	-0.09
Percentage change in number of directors	-8.5%
Change in proportion of directors	-0.1%

Table IA10: Changes in Director Expertise – Withdrawn Deals

The table presents multivariate analysis of the change from pre-announcement to post-withdrawal board in director expertise on the acquirer board. The dependent variable in each model is the proportion of outside directors with the corresponding expertise noted in the header of each model column. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 details 74 withdrawn deals where if the deal had been completed it would have resulted in the purchase of a target outside of the acquirer’s primary industry classification (change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Model 2 details 47 withdrawn deals where if the deal had been completed it would have resulted in the addition of a new international segment post-merger (change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. All variable definitions are included in Appendix A. p-values based on standard errors clustered by Fama-French 48 industries are in parentheses and \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	New Industry Expertise	New Region Expertise
	Model 1	Model 2
	Hypothetical Change in Industry	Hypothetical Change in Region
Post-merger (0/1)	0.004 (0.841)	-0.002 (0.864)
Acquirer Independence	0.182 (0.194)	0.224* (0.069)
Acquirer ROA	-0.220** (0.012)	0.073 (0.724)
Acquirer Directors Age >=72	0.415 (0.147)	-0.069 (0.732)
Acquirer CEO Age	-0.003 (0.518)	0.001 (0.697)
Acquirer CEO Tenure	-0.003 (0.488)	-0.003 (0.313)
Acquirer Classified Board	-0.065 (0.163)	-0.025 (0.581)
Acquirer Co-option	0.064 (0.526)	-0.103 (0.208)
Acquirer CEO-Chair	-0.015 (0.784)	0.083* (0.061)
Constant	0.090 (0.782)	0.366 (0.118)
Observations	148	368
Adjusted r <sup>2</sup>	0.42	0.28
Year & Industry Fixed Effects	Yes	Yes

Table IA11: Probability of Director Selection for Post-Merger Board – Withdrawn Deals

The table presents multivariate analysis of the change from pre-announcement to post-withdrawal board in director expertise on the acquirer board. The dependent variable in each model is the proportion of outside directors with the corresponding expertise noted in the header of each model column. In each model, the firm-year immediately prior to announcement and the firm-year immediately following completion of each deal are included in the sample. Model 1 details 74 withdrawn deals where if the deal had been completed it would have resulted in the purchase of a target outside of the acquirer's primary industry classification (change in industry-related need). Industry is based on Fama-French 48 classifications. Directors with new industry expertise have served as a director or CEO at a firm, excluding the target, in the new industry. Model 2 details 47 withdrawn deals where if the deal had been completed it would have resulted in the addition of a new international segment post-merger (change in geography-related need). International segment is defined as any segment outside of the United States. Directors with new region expertise have served as a director or CEO at a firm, excluding the target, that operates in the new international region. Post-merger is an indicator equal to one for the firm-year immediately following completion of the deal. All regressions contain deal fixed effects. All variable definitions are included in Appendix A. p-values based on standard errors clustered by deal are in parentheses and \*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels respectively.

	Hypothetical Change in Industry	Hypothetical Change in Region
	Model 1	Model 2
New Industry/Region Expertise	-0.018 (0.849)	-0.037 (0.716)
Connected to Acquirer CEO	0.441** (0.041)	0.472 (0.119)
CEO Experience	0.094 (0.167)	-0.019 (0.827)
High Rank Seat	0.125* (0.098)	0.170* (0.084)
Low Rank Seat	-0.224** (0.020)	-0.322*** (0.007)
Board Experience	0.109* (0.063)	0.252** (0.013)
Acquirer Industry Experience	0.193* (0.072)	-0.096 (0.280)
Financial Expert	-0.024 (0.730)	0.113 (0.188)
Female	0.072 (0.322)	0.113 (0.181)
Age	-0.006* (0.061)	-0.006* (0.097)
Tenure	-0.020*** (0.000)	-0.019*** (0.000)
Acquirer Director	0.895*** (0.000)	0.837*** (0.000)
Director-deal Observations	1,087	705
Number of Deals	74	46
Deal Fixed Effects	Yes	Yes
Pseudo R <sup>2</sup>	0.52	0.50

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