

Director Connections, Board Appointments, and Director Reputation

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March, 2014

Abstract

We find that new outside directors in firms with valuable growth opportunities are likely to be well-connected to others with experience in the same industry, regardless of prior firm performance. More generally, however, well-connected outside directors join the boards of firms that are performing well within higher-performance industries, have lower leverage, and have well-connected CEOs and other outside directors. We conclude that, unless they have industry-specific connections, well-connected directors seek the quiet life by joining boards that are likely to present less threat to their time and reputations. Once they are on boards, well-connected outside directors behave in ways that are consistent with the importance of reputation. Overall they are associated with more performance-sensitive CEO turnover, while outside directors with more same-industry connections are less likely to be associated with accounting irregularities and those who are well-connected outside the industry are more likely to leave the board following extended poor performance.

We thank David Denis and seminar participants at Duquesne University and Temple University for valuable comments.

1. Introduction

In this study we use the extent of outside directors' connectedness to prominent external executives and directors to explore one aspect of how outside directors are matched to the boards of directors on which they serve. We consider connections that arise through mutual board service, employment, education, and military service. We further consider the extent to which outside directors' external connections are with people in the industries of the firms on whose boards they serve.

We consider two general hypotheses as to how well-connected directors are matched to the boards on which they sit.¹ In developing these hypotheses, we assume that individuals become well-connected because they are more skilled and therefore have opportunities to amass more and higher level experience. Their connections, in turn, provide them with access to potentially valuable information and also allow them to broker relationships that are potentially valuable to firms. Thus, well-connected directors are likely to have high advising and monitoring skills in addition to their greater numbers of connections and are likely to have more board opportunities available to them.

The *director quality hypothesis* states that these well-connected directors are matched to firms for which these skills and connections are more valuable, whether because the firms have a greater need for skills or connections or because the firms' other directors are relatively lacking in them. We propose three types of firms that would most benefit from adding a well-connected director: those with more growth opportunities, those that are currently performing poorly, and those whose boards are otherwise lacking in external connections.

Alternatively, the *director quiet life* hypothesis posits that because well-connected directors are busy people with reputations to protect, they prefer to sit on the boards of prestigious and high-quality firms. Such firms require less active involvement on the part of their outside directors and are less likely to damage their directors' reputations with poor performance or corporate scandal. If such boards are also more interested in the prestige and positive signaling value associated with the willingness of well-connected directors to sit on their boards than in

¹ The match between a director and a board requires both that the board is interested in a particular individual as a potential director and that the individual is potentially interested in being a director for the firm. We do not consider the relative role that the two sides play in making a match but rather focus on the joint outcome of board appointment.

the directors' skills and abilities per se we expect to see well-connected directors on the boards of firms that are larger, better performing, and at lower risk of performance downturns. Furthermore, if well-connected people have greater access to and affinity for other well-connected people, we expect to see well-connected directors on the boards of firms whose top executives or other directors are also well-connected.

The director quality and director quiet life hypotheses are not mutually exclusive. It is possible that directors differ systematically with respect to their motivations for serving on different types of boards. In particular, we posit that outside directors with more same-industry connections are better able to gather and process relevant information, allowing them to carry out their duties with less effort and less risk of unexpected negative outcomes. If this is true, we expect to find that outside directors who are well-connected in a particular industry are less likely to seek the quiet life in board appointments within that industry.

We examine the relative importance of these hypotheses using 35,641 firm years covered by the BoardEx and Compustat databases during the years 2000-2010. Because we are interested in exploring the determinants of the board-director match, we focus our initial analysis on the connectedness of individual outside directors in the years in which they are first appointed to individual firm boards. We identify 14,311 initial appointments of outside directors for which we have the requisite data and relate the external connectedness of these incoming directors to variables related to our hypotheses and to control variables.

We use industry average Tobin's q and the ratio of R&D to assets as proxies for growth opportunities; industry-adjusted firm Tobin's q and two-year stock return as proxies for firm performance; and the CEO's number of external connections and the average number of external connections held by those outside directors already on the board as measures of the connectedness of the rest of the board. Firm size, as measured by the log of firm assets, is our measure of the prestige of the firm. As measures of firm risk we use the standard deviation of stock returns and the firm's leverage ratio.

Overall, our results provide reasonably strong support for the director quiet life hypothesis. We document a strong positive relation between the external connectedness of the incoming outside director and both firm size and firm performance. This is consistent with well-connected directors being interested in the prestige that comes with being on the boards of

large and well-performing firms, and in the fact that such firms are likely to take less of directors' time and present less potential threat to directors' reputations. Also consistent with the latter interpretation, we find a strong negative relation between incoming directors' connections and firm leverage ratios: well-connected directors are less likely to join firms with high leverage. We also find that the external connectedness of incoming outside directors is strongly positively related to that of both the CEO and the other outside directors who are already serving on the board.

Further support for the importance of director reputation comes from the results of several additional tests. In the first test, we relate the incidence of director departures from firm boards to firm performance and the director's relative connectedness among the firm's outside directors. Our results suggest that director departures from firms that have had low stock returns over a three-year period are more likely to involve well-connected directors leaving, while departures from the boards of higher-return firms are more likely to be less connected directors. In the second test, we find that well-connected directors are associated with higher CEO turnover and greater turnover-performance sensitivity, which suggest that, once they have joined a board, well-connected directors are more diligent about removing poorly-performing CEOs. This may also suggest that outside directors' connectedness give them better access to information about managerial performance or replacement CEOs. Finally, we find that directors who are well-connected are associated with lower incidences of accounting irregularities and SEC enforcement action. Collectively these results suggest that, once they have joined boards of directors, well-connected directors behave in ways that are consistent with a desire to protect their reputations.

We find relatively less overall support for the director quality hypothesis. As discussed above, well-connected outside directors are more likely to join the boards of firms that are already performing well and that have other well-connected directors; i.e. firms that have less need for director skill and connections. However, we do find a strong positive relation between incoming director connectedness and expected growth opportunities. To the extent that firms with high growth opportunities can benefit more from the skill, information, and external relationships that a well-connected director brings to the table, these results suggest that the director quality hypothesis holds for high-growth firms.

We explore the possibility that director motivation is related to industry connections by separately examining outside directors' same-industry and other connections. Our results provide somewhat more support for the director quality hypothesis among outside directors who have higher same-industry connectedness. We find that the same-industry connectedness of incoming outside directors is positively related to firm R&D and is unrelated to firm performance. In addition, we do not find that outside directors with higher levels of industry connectedness are more likely to depart the board following extended poor performance: the overall negative association between performance and the departure of well-connected directors holds only for directors that are well-connected outside the industry of the firm. Finally, we find that only directors who are well-connected within the industry are associated with lower incidences of accounting irregularities and SEC enforcement action, on average; this result is not significant for directors who are well-connected outside of the industry. This may suggest that directors who are well-connected within the industry are better able to anticipate and prevent accounting fraud.

Our study is closest in spirit to two contemporaneous studies. Coles, Daniel, and Naveen (2012) use the number of people to whom an outside director is connected via mutual board service as a measure of that director's advising quality. Coles et al. hypothesize that such directors are more valuable to complex firms and more prevalent on their boards; they document results consistent with both of these hypotheses. Our study differs from theirs in that we examine the connectedness of outside directors at the time they are first appointed to firms' boards. This allows us to observe the determinants of the match at the time that it occurs, and to address in particular the hypotheses that access, desire for prestige, and the protection of time and reputation affect the director-board matching process.

In another related study, Masulis and Mobbs (2013b) examine the effects of reputation incentives on independent directors' actions. They do not examine director connections; however, like us, they are interested in the effects of director reputation on firm outcomes. Whereas we hypothesize that well-connected directors are especially concerned about their reputations in their dealings with all of their boards, Masulis and Mobbs assume that any independent director who holds more than one concurrent directorship will be most diligent for the most prestigious board on which the director sits. Using equity market capitalization as

a proxy for board prestige, they find that firms who are the most prestigious board position for a majority of their independent directors are less likely to engage in actions that could hurt director reputations.

We review the most relevant literature and develop our hypotheses in section 2. Section 3 details our sample selection process and provides descriptive statistics on our sample firms and directors. We present our results in Sections 4 and 5 and conclude in Section 6.

2. Related Literature and Hypothesis Development

Earlier studies directed at understanding what directors contribute to the boards on which they serve focus primarily on the extent to which directors are insiders who are presumed to specialize in advising based on their knowledge of the inner workings of the firm vs. outsiders whose independence is presumed to allow them to specialize in monitoring top management. Much of this evidence suggests that having relatively more outside directors on the board results in better decision-making and higher firm value. Boone, Field, Karpoff, and Raheja (2007) and Coles, Daniel, and Naveen (2008), however, provide evidence that the relative value of outsiders varies with firm scope and complexity. They show that larger and more complex firms have more outside directors and that outside directors are relatively more valuable to such firms.

More recently, researchers in financial economics have attempted to take a more nuanced look at what individual directors bring to the table. One such area of inquiry concerns directors' connections to people inside and outside the firm. Research to date has examined CEOs' connections to directors on their own boards, CEOs' external connections, and the external connections of outside directors.

Prior evidence suggests that, on average, CEOs' connectedness to their own directors is problematic for their firms. Hwang and Kim (2009) hypothesize that a seemingly independent outside director may, in fact, have informal social ties to the CEO. They classify mutual alma mater, military service, regional origin, academic discipline, and industry as social ties and find that 25% of the directors on the average board are conventionally but not socially independent. Furthermore, their results suggest that outside directors with social ties to the CEO are

associated with higher CEO compensation, lower pay-performance sensitivity, and lower performance-turnover sensitivity. Dey and Liu (2011) find that firms with more independent directors who are connected to the CEO are associated with lower operating performance and poorer financial reporting quality. Fracassi and Tate (2012) find that firms with more powerful CEOs are more likely to appoint directors with whom they are connected. These CEO-director ties reduce firm value, particularly when governance is weak, and are associated with more value-destroying acquisitions.

CEOs' external connections, on the other hand, appear to be viewed by boards of directors as being beneficial to the firm. Engelberg, Gao, and Parsons (2013) find that CEOs who have large networks of executives and directors outside their firms are paid more, particularly if their connections are with other insiders, with firms in the same industry, or geographically local. The premium for connections is higher for firms who are geographically isolated or whose other board members are not well-connected.

Coles, Daniel, and Naveen (2012) hypothesize that outside directors' external connections are a measure of their advising quality; they find that complex firms have better connected outside directors, on average, and that the values of their firms are more sensitive to their outside director connectedness. Cashman, Gillan, and Whitby (2010) find that directors with more connections to other corporate boards are more likely to receive additional board seats and less likely to suffer in this regard if they are on the board of a firm that restates its financials; they conclude that director connections are important to the firms on whose boards they serve. Omer, Shelley, and Tice (2012) find that firms whose directors are more centrally located with networks are associated with lower performance, while Fogel, Ma, and Morck (2013) find that sudden deaths of centrally located independent directors are met with decreases in shareholder value, suggesting that such directors are valuable to firms.

In this study we examine outside director connections at the time of their initial appointments to boards of directors, allowing us to address the role that connections play in matching individual outside directors to specific boards. There are several potential reasons why directors' external connections could be of value to firms. First, a director with a large number of external connections may be better equipped to carry out the advising and monitoring duties associated with the position. The association between connections and

quality could be of a signaling nature: *ceteris paribus*, people who prove themselves to be of high quality are offered more opportunities over time and, therefore, amass a greater number of connections than do people of lesser quality. External connections may also more directly increase a director's ability to be an effective advisor or monitor, by providing the director with a wider range of experience and information or an increased ability to broker valuable relationships for the firm, e.g. with potential investors, customers, suppliers, or employees. To the extent that the directors themselves also prefer to utilize the skills and connections they have amassed we expect to see well-connected directors matched to firms that are most in need of what these directors can offer.

Alternatively, it is possible that outside directors who are already well-connected would, at the margin, prefer not to serve on boards that require significant advising or monitoring by their outside directors. Well-connected directors are more likely to be splitting their time across multiple organizations, leaving them less time to devote to any one organization. In addition, well-connected directors are likely to have built more significant positive reputations, increasing the potential cost to them of being associated with poor performance or fraud. These reasons imply that outside directors would favor the quiet life when considering whether to join a new board. Such opportunities will be available to them if well-performing firms value the prestige and signal of quality that come from being able to attract well-connected directors to their boards more than they value directors' active involvement.

In this paper we seek to provide evidence regarding these two primary hypotheses. Under the *director quality hypothesis*, the matching of individual directors to particular boards is based on firms' needs for directors' skills, experience, information, or contacts and on individual directors' willingness and ability to fill these needs. Under the *director quiet life hypothesis*, individual well-connected directors prefer the quiet life for reasons of time and reputation, while firms value connected directors for reasons of prestige and quality signaling. We examine these hypotheses by relating the external connectedness of incoming outside directors to firm and board characteristics.

We hypothesize that firms that are in greater need of advising or monitoring include those with more growth opportunities (greater need for advising, information, or connections), as well as those that have exhibited poor performance (greater need for monitoring). In addition,

we hypothesize that an outside director's skills and connections would be more valuable the less experienced is the CEO and the less well-connected are the CEO and the other directors on the board.

To the extent that the director/board matching process is driven instead by directors seeking the quiet life, we expect to find that well-connected directors prefer to serve on the boards of firms that present less need for advising or monitoring and less potential risk of adverse outcomes that could negatively affect director reputations. Thus, we hypothesize that the connectedness of outside directors will be greatest in firms that are more prestigious, and that have strong performance, lower return variability, and lower leverage. Under this hypothesis, well-connected directors are more likely to serve on the boards of firms whose CEOs and other outside directors are themselves well-connected.

We recognize that there may be variation across potential outside directors with respect to the effort required of and the risk associated with membership on a given board of directors. In particular, it is plausible that advising and monitoring duties can be carried out with relatively less effort and fewer negative surprises by outside directors who have more connections within the firm's specific industry than by those whose connections are in other industries. Thus, we hypothesize that, at the margin, outside directors with same-industry connections are less likely to seek the quiet life than are those with more other connections.

3. Sample Selection and Description

Our sample consists of all firms listed on the BoardEx database during the years 2000-2010 that have total assets of at least \$50 million in 2010 dollars. The database provides detailed profiles of approximately half a million world business leaders, as well as information about the connections between and among them. The leaders in the database include senior management and members of boards of directors for publicly traded and large private firms in North America.

For each included person, BoardEx details and cumulates direct connections to everyone else in the database. These connections are categorized as to whether they are: corporate connections, through having been employed by the same company or having served together

on a company board of directors; military connections stemming from service in the same military branch; government connections via employment by government agencies; non-profit connections through service on non-profit boards, or education connections due to having attended the same university. In all cases, two individuals are classified as connected only if their time spent at the institution in question overlapped.

In Table 1 we present a time profile and various descriptive statistics for the firms in our sample. Panel A displays the number of firms in each year, as well as their mean and median book values of total assets. The number of firms in the sample increases each year through 2007 before declining during each of the last three years of the sample period. There is a large increase from 1,823 firms in 2002 to 3,294 firms in 2003; this increase reflects the addition of smaller firms to BoardEx coverage beginning in 2003. Commensurate with this, the mean and median total assets of the sample firms drops sharply in 2003, before resuming an almost monotonic increase. The number of firms peaks in 2007 at 4,203 firms, declining to 3,327 firms in 2010. There are a total of 35,641 firm year observations.

In Panel B of Table 1 we present univariate statistics for various board, CEO, and firm characteristics. The median board has eight directors, six of whom are independent outside directors. The median outside director in a given year has served on the board of the sample firm for 5.2 years, has 8.5 years until reaching the firm's mandatory director retirement age (or 70, if no such age is specified), and serves on one corporate board of directors. The median CEO has been in this CEO position for 3.6 years.

Table 2 provides descriptive statistics on directors' external connections. We calculate the size of the gross firm network, FG, by cumulating the connections of all of the directors on the firm's board. Gross connections per director, DG, is equal to FG divided by the number of directors on the firm's board. We further characterize connections by the extent to which they are professional in nature, resulting from service together as employees or board members of the same firm, or social, where social includes all types of connections other than those labeled as professional. These social connections include overlapping time spent at educational institutions, in the military, on non-profit boards, in the government, and on sporting teams. We further divide professional connections into board and employment connections, and social connections into education and other connections.

In panel A of table 2 we provide statistics on the total connections through all firm directors, as well as the number of connections contributed by the CEO and by the independent outside directors. The mean (median) firm has 969 (739) external connections, 780 (569) of which come through its outside directors. The average (median) outside director is better connected than the average (median) CEO, with 117 (101) versus 76 (40) connections, respectively.

In Panel B we separate external connections by type of connection. Overall, professional connections are somewhat more common than social connections, with 510 (383) professional connections and 464.6 (316) social connections in the average (median) firm. Comparing CEO connections to outside director connections we see that the CEO connections are somewhat more likely to be professional than social, while the two categories are approximately equal for the average outside director. The professional connections of directors overall are much more likely to come through mutual employment than through mutual service on other boards: 393.4 (291) versus 138.4 (93) respectively. This pattern holds as well for CEOs and outside directors measured separately.

For panel C we further classify directors' external connections according to whether or not the individuals to whom they are connected have experience – either board or employment - in the firm's industry. Overall, a median 14.4% (102/707) of firms' connections have same-industry experience. This percentage is higher for CEOs than for outside directors: 26.5% (9/34) versus 12.5% (12/96).

4. Determinants of Director Connectedness

4.1 Director Appointments

In order to shed light on the role of external connectedness in the director-board matching process we examine the connectedness of new outside directors at the time that they first join a particular board of directors. Table 3 provides descriptive statistics on the number of such additions to our sample firms during the period studied, as well as on the number of outside directors who depart the sample firms and the net change in number of outside directors.

Among the 29,802 firm year observations for which we have prior-year board information, there are a total of 15,804 firm years in which there are changes of some type in the identity of

the firm's board members. In 12,059 firm years one or more new outside directors join the board; the median number of new directors is one. In 8,487 firm years, one or more existing directors depart from the board of directors; the median number of departing directors is also one.

We test our hypotheses in a multivariate framework by regressing each incoming outside director's total number of external connections on variables related to each of our hypotheses. Of the 12,059 firm years in which new outside directors join the board, we have the required independent variable values for 9,806 of them. Because firms sometimes appoint more than one outside director in a given year, we have 14,311 director-firm-year observations. The results of these regressions are presented in Table 4. We include year and industry fixed effects in the regressions and cluster standard errors by firm. All independent variables are standardized to have a unit variance. We begin by considering the total connectedness of the incoming outside directors; these results are presented column (1).

Under the director quality hypothesis, well-connected directors go where they are most needed. We have proposed three types of firms that would most benefit from well-connected directors' skills and/or connections: those with high growth opportunities, those that are performing poorly, and those whose existing directors are less connected. As proxies for growth opportunities we include Tobin's q and research and development expenditures; we expect these variables to be positively related to incoming director connectedness. Because Tobin's q is a measure of performance as well as a measure of growth opportunities, we split it into industry average Q and the firm's industry-adjusted Q . While not a clean split, we view industry average Q as being more a measure of the growth opportunities inherent in the firm's business and industry-adjusted Q as being more a measure of the individual firm's expected performance within that industry. We also include the return on the firm's stock over the two-year period ending in the last month of the fiscal year. Under the director quality hypothesis we expect a negative relation between connectedness and performance. Finally, we include the CEO's number of external connections and the average number of connections held by the firm's other outside directors as measures of the extent to which external connections are lacking in the firm. Under the director quality hypothesis we expect to find that these measures have a negative effect on the connectedness of incoming directors.

The regression results in model (1) provide strong support for the hypothesis that better-connected directors are more likely to be added to the boards of firms that have higher growth opportunities. The estimated coefficients indicate that a one standard deviation increase in a firm's spending on R&D increases the number of connections held by a new outside director by 6.1. A one standard deviation increase in a firm's industry Q increases the number of connections by 7.4, on average. Given that the median number of connections held by an outside director is 101, these are meaningful increases. These findings provide support for the director quality hypothesis in that growing firms, for whom directors' skills, information, and connections are all likely to be useful, both seek and are able to attract well-connected directors.

Our results do not support the hypothesis that better-connected directors are more likely to join the boards of firms that are in need of performance improvements. The coefficient on industry-adjusted Q in model (1) is positive and significant at the 1% level. Thus, while director skills, information, and connections would seem to be useful to firms whose performance is in need of improvement, such firms either do not seek or are not able to attract well-connected directors.

We also do not find support for the hypothesis that well-connected directors are more likely to join the boards of firms whose CEO and existing outside directors have fewer connections. The coefficients on the variables measuring the number of external connections held by the CEO and by the average existing outside director are positive and strongly statistically significant. The coefficients in model (1) indicate that a one-standard deviation increase in the average number of the existing outside director's external connections is associated with an increase of 13.2 in the number of external connections held by an incoming outside director. A one standard deviation increase in the number of CEO connections increases incoming director connections by 6.9. Thus, while adding a well-connected director to the board would seem to be especially useful for a firm whose existing directors have fewer external connections, such firms either do not seek or are not able to attract such directors.

Under the director quiet life hypothesis well-connected directors are busy people with reputations to protect and are therefore interested in joining boards for which the required time commitment and the risk of negative outcomes are lower. If this is true, then we expect

to find that the connectedness of incoming directors is positively related to firm performance. In addition, we expect to see that well-connected directors are more likely to join the boards of firms that are larger and less levered, and whose return variability is low. Thus, in addition to the performance measures described above we include firm size as measured by the log of the book value of assets, the book value leverage ratio, and the standard deviation of monthly stock returns over the most recent fiscal year.

The coefficients on the performance-related independent variables included in model (1) of Table 4, discussed above, are supportive of the director quiet life hypothesis. *Ceteris paribus*, well-connected directors are more likely to join the boards of relatively better-performing firms in higher performing industries. This may be because firms that are already performing well are likely to require less of a director's time and attention, or because a director's reputation is likely to be further enhanced by association with well-performing firms. To the extent that it is also more prestigious to be on the board of larger and presumably better known firms, the strongly positive and significant coefficient on firm size is also consistent with directors valuing prestige.

In addition to being interested in positions that enhance their reputations, directors may be specifically interested in avoiding positions that present a significant risk of problems that could detract from their reputations. To the extent that this risk is perceived to be lower for firms that are already performing well, the positive relation between firm performance and the connectedness of incoming outside directors is consistent with this possibility. We propose that the risk of problems is higher, *ceteris paribus*, for firms with higher leverage and with higher return variability. Consistent with this, we find a statistically significant negative relation between book leverage and incoming director connectedness. The coefficient on the standard deviation of monthly stock returns does not differ significantly from zero.

Finally, we include CEO tenure, board size, and the percentage of outside directors on the board as control variables. CEO tenure has a significant negative impact on the connectedness of incoming directors. The estimated coefficients on board size and the percentage of outside directors do not differ significantly from zero.

It is plausible that directors with more knowledge of the industry in which their firms operate are able to carry out their advising and monitoring duties with less effort and less risk

of negative surprises. If this is true we expect that, at the margin, outside directors will be less likely to seek the quiet life with respect to firms in industries in which they are better connected. To explore this possibility we estimate our Table 4 regression using same-industry connections and other connections as separate dependent variables; the results are presented as models (2) and (3) in Table 4.

The results reveal potentially important differences in the determinants of the same-industry and other connectedness of incoming outside directors. Outside directors with more industry connections are more likely to join the boards of firms with high-growth opportunities, as measured by R&D. However, these directors do not appear to consider firm performance or leverage in determining whether to accept directorships that are offered to them. In contrast, outside directors with higher other connectedness are more likely to avoid joining the boards of poorly-performing firms or firms with high leverage. These results suggest that outside directors are less likely to seek the director quiet life in firms for which they have industry-relevant connections.

Finally, as a robustness test we repeat the model (1) regression using only the incoming directors' professional connections. These connections may be considered more directly relevant, given that they were forged through mutual employment or board service. The results, presented as model (4), indicate that the relations documented between directors' total external connections and the various firm and board characteristics generally hold when considering only professional connections. The exceptions are that the coefficient on leverage remains negative but is no longer statistically significant and that the negative coefficient on board size becomes significant at the 0.01 level.

The Table 4 results suggest that outside directors who are well-connected overall seek the quiet life with respect to board service for firms in whose industries they are not well-connected, but not with respect to firms for which they have strong same-industry connections. These findings are consistent with the hypothesis that well-connected directors seek to protect their valuable time and reputations. In the following sections we further explore the role of director reputation in board service.

5. Director Connectedness and Reputation

If well-connected directors are particularly concerned about their reputations we expect that, once appointed to boards, they will seek to avoid being associated with firm outcomes that could be particularly damaging to their reputations. We propose three such outcomes: extended poor firm performance, failure to discharge a poorly-performing CEO, and accounting fraud. Prior evidence suggests that the relative presence of outside directors on boards impacts firm performance, CEO turnover, and the incidence of accounting fraud; we seek to determine the extent to which the connectedness of these directors has additional impact.²

5.1 Director Departures

We examine outside director departures from our sample firms during the sample period, focusing on the relative connectedness of the directors that depart the firms and the extent to which this varies with recent firm performance. For each outside director firm year we specify a dummy variable that equals 1 if the director departs the firm in that year and 0 otherwise. We regress this variable on firm performance, the director's connectedness rank among all outside directors on the board in question, and the interaction of these two variables. In addition, we control for the number of corporate directorships held by the director during that firm year, the number of years the director has been on the firm's board, and the number of years until the director will be of retirement age, defined as the firm's mandatory retirement age for directors if one is specified and 70 years old if no age is specified. All independent variables are measured as of year $t-1$.

Within each firm year we assign each outside director a rank from 1 to n , where n is the number of outside directors in the firm and the outside director with the highest number of external connections is ranked 1. In order to standardize this ranking across firms we divide (director connection rank – 1) by $(n-1)$ and subtract the result from 1. Thus, by construction, the outside director in a firm who has the smallest number of external connections has a connection rank of 0 and the one with the greatest number of external connections has a connection rank of 1.

² See, for example, Fahlenbrach, Low, and Stulz (2013) for firm performance, Weisbach (1988) and Huson, Parinno, and Starks (2001) for CEO turnover, and Beasley (1996) and Klein (2002) for accounting fraud.

In order to capture the firm's performance over a recent but reasonably sustained period of time, we use as our performance measure the decile ranking of the firm's stock return during the 36-month period ending in the last month of fiscal year $t-1$. Because of this, director-firm-year observations for which the director has been on the board in question for less than three years are eliminated from the sample.

The results of Probit regressions are presented in Table 5. The results in model (1) indicate that the coefficients on both the performance and connection rank variables are negative and significant at the 1% level. Thus, outside directors are unconditionally more likely to depart a board the lower has been the firm's three-year stock return; and well-connected outside directors are unconditionally less likely to depart than are less-connected outside directors. The coefficients on the control variables indicate that outside directors are more likely to depart the fewer the number of other boards on which they serve, the longer they have been on the board in question, and the closer they are to retirement.

In model (2) we add an interaction term calculated by multiplying stock return decile by connection rank. The results indicate that performance continues to have a negative impact on the likelihood that an outside director will depart the firm. The connection rank variable, however, has a positive coefficient, suggesting that well-connected directors are unconditionally more likely to depart; this coefficient is significant at the 10% level. The coefficient on the interaction term between performance and connection rank is negative, implying that as performance declines, well-connected outside directors become relatively more likely to depart the board than do less-connected outside directors. Combining these effects we find that in deciles 1-3, i.e. the three lowest stock return deciles, director connectedness increases the likelihood that an outside director will depart the board; while in deciles 4-10 it has the opposite effect.

We do not know the extent to which director departures are initiated by the board versus by the departing directors. One plausible interpretation of the table 5 results, however, is that they provide further support for the hypothesis that well-connected directors seek to minimize damage to their reputations by departing from the boards of firms that are performing poorly. This result complements the results in Fahlenbrach, Low, and Stulz (2013), who find that outside directors in general are more likely to resign from the boards of firms who are

performing poorly. Our results suggest that this behavior is more prevalent among well-connected directors who presumably have more reputation at risk.

In columns (3) and (4) we present the results of estimating the column (2) regression separately for same-industry vs. other connections. The coefficients on the interaction of return and connection rank are negative for both types of connection; however, they are only significant for other connections. Thus, just as outside directors are less concerned about firm performance when joining the boards of firms in industries in which they are well-connected, they are also less relatively quick to depart the board when performance has been suffering.

5.2 CEO Turnover and Replacement

In order to examine whether director connectedness affects the likelihood of CEO turnover we define a dummy variable, CEO Departure, that equals one if a CEO departs in a given firm year and zero otherwise and regress this variable on our dummy variable for highly connected outside directors, two-year market-adjusted stock return, and the interaction between them, as well as a number of control variables. Given that we do not have any hypothesis for why director connectedness should affect normal turnover, we do not attempt to separate forced from normal turnover. We do, however, control for whether the CEO is of normal retirement age, which we define to be 64-66 years of age. We limit the sample to those firm years in which the current CEO has been in place for at least two years.

The results of Probit regressions using total, same-industry, and other connections as the dependent variable are presented in columns (1), (2), and (3) of Table 6, respectively. The coefficient on FG_OD_High is positive overall, suggesting that the departure of a CEO is more likely in a firm whose outside directors are well-connected. However, this result is driven by same-industry connectedness; firms whose outside directors have strong other connectedness are not unconditionally more likely to experience CEO turnover. Not surprisingly, CEO turnover, measured using market-adjusted stock return over the year of and the year prior to the CEO departure, is strongly negatively related to firm performance across all three regressions. Of more interest are the coefficients on the interaction term between firm performance and the outside director connection dummy. This coefficient is negative and significant in all three regressions, albeit at varying levels of significance. Overall the findings reported in Table 6

suggest that the sensitivity of turnover to performance is stronger in firms whose outside directors are better connected; i.e. better-connected outside directors appear to be more reluctant to leave a poorly-performing CEO in place. This result is consistent with a concern for reputation, although it is also consistent with well-connected directors' skill, access to information, or connections to outside executives allowing them to better assess managerial performance or identify replacement CEOs.

5.3 Accounting Fraud

We examine instances of accounting irregularities and SEC enforcement action in our sample firms. We use restatement data from Audit Analytics to construct a dummy variable, *Irregularity*, which is equal to 1 if a firm issues a restatements that are accounting related, have a negative (adverse) effect on earnings and/or assets, and are flagged as fraud or subject to SEC investigation. We use data provided by the Center for Financial Reporting and Management at the University of California Berkeley to construct a dummy variable labeled *AAER*, which takes a value of 1 if the SEC issues an accounting and auditing enforcement release regarding the firm. We regress these dummy variables on the total connectedness of the outside directors in place at the time of the occurrences and on control variables using Probit models. The results are presented in Table 7.

The model (1) results using total connections indicate that accounting irregularities are less likely to occur in firms whose outside directors are better connected; this result is significant at the 0.05 level. The incidence of SEC investigation is not significantly related to outside director connectedness. Separate examination of same-industry and other connections indicates that same-industry connectedness is strongly associated with a lower incidence of irregularity and of investigation by the SEC; these results are significant at the 0.05 level for irregularities and at the 0.01 level for SEC enforcement action.³ Both coefficients are also negative using other

³ These findings are consistent with those of Omer, Shelley, and Tice (2014), who find that firms with well-connected directors are less likely to restate earnings, and Wang, Xie, and Zhu (2013), who find that having independent directors with industry expertise on the audit committee is associated with reduced earnings management and financial fraud. Wang et al examine industry expertise rather than industry connections. However, the correlation between the number of same-industry connections and industry expertise for the directors in our sample is 0.4830.

connections; however the irregularity is significant only at the 0.10 level and the SEC investigation coefficient is insignificant.

The Table 7 results suggest that well-connected directors are associated with a greater avoidance of accounting fraud, consistent with a concern for their reputations. While the stronger results for same-industry connectedness are consistent with a greater concern for reputation on the part of outside directors with industry connections, it could also be that their industry connections allow them to better or more quickly anticipate and forestall opportunities for accounting fraud.

6. Conclusion

We provide evidence on the role that director connections to external senior corporate executives and board members play in the matching of outside directors to firm boards. We assume that more connected outside directors have some combination of greater skill, more potentially valuable information, and greater ability to broker relationships for the boards on which they serve. Given this, well-connected directors are likely to be in greater demand and have a greater number of board opportunities from which to choose.

We examine two primary hypotheses regarding the type of firms upon whose boards well-connected outside directors will serve. Under the director quality hypothesis, well-connected directors are more likely to serve on the boards of firms for which their higher skill, information, or connections is likely to be more valuable. Under the director quiet life hypothesis, well-connected directors are busy people who value their reputations and, therefore, prefer board positions that provide greater prestige, require less time commitment, and present a lower risk of problems that could damage their reputations.

We test these hypotheses using a sample of 35,641 firm years over the period 2000-2010. The sample firms have total assets of at least \$50 million in 2010 dollars and are included in both the BoardEx and Compustat databases. Our matching tests focus on 12,059 new appointments of outside directors made by these firms during these years. We regress the number of external connections held by incoming outside directors on variables suggested by our hypotheses. Because greater same-industry connections may allow outside directors to

discharge their duties with less effort or exposure to risk, we examine same-industry and other connectedness separately, in addition to examining total connectedness.

We propose that three main types of firms could most benefit from the attributes that well-connected directors' possess: firms with significant growth opportunities, firms that are currently performing poorly, and firms' whose existing directors are not well-connected. Our evidence suggests that, *ceteris paribus*, high growth firms are more likely to seek out and attract well-connected directors; the external connectedness of incoming outside directors is positively related to measures of firm growth opportunities. However, we do not find evidence that either lower performance firms or firms whose current directors are not well-connected both seek and attract well-connected directors. The external connectedness of incoming directors is positively related to firm performance and to the connectedness of firms' CEOs and existing outside directors.

We find stronger support for the director quiet life hypothesis. Better connected outside directors are more likely to join the boards of firms that are larger, are performing well within higher performance industries, and have lower leverage. These results are consistent with well-connected directors favoring service on the boards of firms that are more prestigious and present lower risks of time-consuming and potentially reputation-damaging problems. However, we also find that the significant associations of connectedness with performance and leverage are confined to connectedness with people outside firms' industries. Firm performance and leverage are not significant determinants of the same-industry connectedness of incoming outside directors.

We further explore the role of outside director reputation by examining whether outside director connectedness affects the likelihood of director departure following extended periods of poor performance, the sensitivity of CEO turnover to performance, and the incidence of accounting fraud. We find that well-connected directors are more likely to depart boards following poor performance and that boards whose directors are better connected are associated with more performance-sensitive CEO turnover and reduced incidences of accounting fraud. Here also we find interesting differences for same-industry versus other connectedness. In particular, outside directors with greater same-industry connectedness are

not significantly more likely to depart the board following poor performance and the firms on which they serve are less likely to engage in accounting fraud.

Overall our results favor the director quiet life hypothesis, in which well-connected directors favor service on boards that allow them to protect their valuable time and reputations. We find some support for the director quality hypothesis among outside directors who have higher same-industry connections. Our results are consistent with such directors being more willing to join boards for which their skills and connections are more useful.

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**Appendix
Variable Definitions**

Variable Name	Description
<i>AAER</i>	1 if a firm is subject to an accounting and auditing enforcement release action by the Securities and Exchange Commission (SEC) for allegedly misstating their financial statements, and 0 otherwise.
<i>Board_Size</i>	# of directors on a board
<i>Cash Flow Volatility</i>	Standard deviation of cash flow during the 3-year period ending in fiscal year <i>t</i> . Cash flow is defined as <i>oancf/at</i> , where <i>oancf</i> and <i>at</i> are the Compustat variable names for cash flow from operating activities and total assets, respectively
<i>CEO_Chairman</i>	1 if a firm's CEO also holds the title of board chairman, 0 otherwise
<i>CEO Departure</i>	1 if the CEO departs from a given firm, 0 otherwise
<i>CEO_Equity_Ownership</i>	The percentage of equity held by the CEO
<i>CEO Network (DG_CEO)</i>	CEO's external connections
<i>CEO-Outside Director Connections (Fraction) (CEO_OD)</i>	X/Y where X = (# of connected CEO-outside director pairs) and Y= (# of CEOs)*(# of outside directors). Usually, (# of CEOs) = 1.
<i>CEO Retirement</i>	1 if the CEO's age is 64, 65 or 66 years, 0 otherwise
<i>CEO_Tenure</i>	CEO's tenure at the firm
<i>Connection_Rank</i>	$1 - [(\text{Outside director's within-firm connection rank} - 1) / (\text{Number of outside directors} - 1)]$
<i>Departure</i>	1 if the director departs from a given firm, 0 otherwise
<i>DG_OD_Remaining</i>	Average external connections of remaining outside directors
<i>Directorships</i>	Number of corporate boards on which an outside director serves
<i>Gross Network (FG)</i>	Sum of each director's external connections
<i>Gross Network Per Director (DG)</i>	$FG / (\text{board size})$
<i>Gross Outsider Director Network (FG_OD)</i>	Sum of each outside director's external connections
<i>Gross Network Per Outside Director (DG_OD)</i>	$FG_OD / (\text{\# of outside directors})$

Appendix – Continued

Variable Name	Description
<i>Ind Q</i>	Average value of Q within each industry group based on two-digit SIC code
<i>Ind-Adj Q</i>	Industry-adjusted Q defined as $(Q - Ind\ Q)$
<i>Irregularity</i>	1 if a firm's accounting numbers for year t are adversely restated and the restatement disclosure identifies financial fraud, irregularities and misrepresentations or the SEC investigation of the registrant, and 0 otherwise
<i>Leverage</i>	$(dlc+dltt)/at$ where <i>dlc</i> and <i>dltt</i> are the Compustat variable names for debt in current liabilities and long-term debt, respectively (<i>dlc</i> =0 if <i>dlc</i> is missing, <i>dltt</i> =0 if <i>dltt</i> is missing)
<i>Log(Assets)</i>	$\text{Log}(1+at*1000,000)$
<i>MA_Ret_2yr</i>	Market-adjusted stock return over the 24-month period ending in fiscal year-end month where the CRSP value-weighted index is used as the market index
<i>#ODs</i>	# of outside directors on a board
<i>%ODs</i>	$\#ODs / Board_Size$
<i>OD_Busy</i>	$(\# \text{ of outside directors with at least three directorships}) / (\#ODs)$
<i>OD_Incoming</i>	External connections of newly appointed outside directors
<i>Q</i>	$(at-ceq-txdb+prcc_f*cshe)/at$ where <i>at</i> , <i>ceq</i> , <i>txdb</i> , <i>prcc_f</i> and <i>cshe</i> are the Compustat variable names for total assets, book value of common equity, deferred taxes, stock price at fiscal year end and the number of shares outstanding, respectively. (<i>txdb</i> =0 if <i>txdb</i> is missing)
<i>R&D</i>	xrd/at where <i>xrd</i> is the Compustat variable name for research and development expense (<i>xrd</i> =0 if <i>xrd</i> is missing)
<i>Ret_2yr / Ret_3yr</i>	Stock return over the 24/36-month period ending in fiscal year-end month
<i>Ret_3yr_Decile</i>	Decile rank based on <i>Ret_3yr</i>
<i>StdDev(Ret)</i>	Standard deviation of monthly stock returns over the 12-month period ending in fiscal year-end month
<i>Time on board</i>	Number of years an outside director has been on a firm's board
<i>Time to retirement</i>	Number of years until outside director reaches firm's mandatory retirement age. If no age is specified, years until director turns 70

Table 1
Sample Description and Summary Statistics

Panel A indicates the number of firms in each sample year and provides summary statistics on total assets. Panel B provides summary statistics board structure, CEO characteristics, and firm characteristics. The sample period is from 2000 to 2010. Variable definitions are provided in Appendix.

Panel A: # of firms in each sample year

Fiscal Year	# of Firms	Total Assets (in million dollars)		
		Mean	Std Dev	Median
2000	1,556	10,064	45,871	1,429
2001	1,755	11,324	54,289	1,421
2002	1,823	11,727	57,835	1,478
2003	3,294	7,812	49,348	693
2004	3,714	7,999	55,506	653
2005	3,990	8,132	56,336	687
2006	4,078	8,883	63,945	748
2007	4,203	9,519	71,187	783
2008	4,076	9,160	71,456	832
2009	3,825	9,442	72,183	881
2010	3,327	11,864	97,299	1,034
Total	35,641	9,370	66,351	844

Panel B: Univariate statistics of explanatory/control variables

	N	Mean	Std Dev	Median
<i>Board_Size</i>	35,641	8.85	2.76	8
<i>#OD</i>	35,441	6.34	2.53	6
<i>Directorships</i>	224,602	1.62	1.02	1
<i>Time on board</i>	224,216	7.08	6.57	5.2
<i>Time to retirement</i>	221,613	9.13	8.91	8.5
<i>CEO_Tenure</i>	34,231	5.38	5.84	3.6
<i>CEO_Chairman</i>	34,323	0.51	0.50	1
<i>CEO Equity Ownership</i>	34,323	0.008	0.471	0
<i>CEO_OD</i>	34,145	0.195	0.290	0
<i>Q</i>	35,314	1.787	1.424	1.316
<i>Log(Asset)</i>	35,641	20.722	1.796	20.554
<i>R&D</i>	35,641	0.033	0.083	0
<i>StdDev(Ret)</i>	32,968	0.127	0.090	0.105
<i>Leverage</i>	35,641	0.230	0.237	0.180

Table 2
Univariate Statistics on Connection Variables

This table provides univariate statistics on connection variables. *FG* is the sum of each firm board member's external connections. *DG* is calculated by dividing *FG* by board size. *FG_OD* is the sum of each outside director's external connections, and *DG_OD* is equal to *FG_OD* divided by the number of outside directors. *DG_CEO* is the number of CEO's external connections. In Panel A, we provide statistics on total external connections. In Panel B, we decompose external connections by type of connection. In Panel C, we separate external connections based on the industry experience of connected individuals. See Appendix and Section 3 for more details of the definitions of these variables.

Panel A: Statistics on External Connections

		N	Mean	Std Dev	Min	P10	Median	P90	Max
Total Connections	<i>FG</i>	35,641	969	858	0	172	739	2,047	8,119
	<i>DG</i>	35,641	105	75	0	23	91	207	557
CEO Connections	<i>DG_CEO</i>	34,323	76	94	0	3	40	199	1,096
Outside Director (OD) Connections	<i>FG_OD</i>	35,442	780	745	0	102	569	1,727	7,073
	<i>DG_OD</i>	35,442	117	86	0	22	101	232	746

Panel B: External Connections by Type*

Connection Type	Total Connections (N=35,641)		CEO Connections (N=34,323)		Outside Director (OD) Connections (N=35,442)		
	Mean	Median	Mean	Median	Mean	Median	
<i>FG</i>	Corporate Board (i)	138.4	93	-	-	113.2	72
	Corporate Employment(ii)	393.4	291	-	-	314.7	219
	Professional =(i+ii)	510.0	383	-	-	410.9	294
	Education (iii)	204.4	167	-	-	156.5	122
	Other (iv)	266.6	127	-	-	222.5	91
	Social (=iii+iv)	464.6	316	-	-	373.8	239
<i>DG</i>	Corporate Board (i)	14.6	11.5	9.3	4	16.1	12.8
	Corporate Employment(ii)	43.5	35.3	33.8	10	47.8	38.1
	Professional =(i+ii)	55.8	46.5	41.2	16	61.5	51.8
	Education (iii)	22.7	20.3	20.2	6	24.2	21.1
	Other (iv)	28.2	15	14.7	1	32.6	15.3
	Social (=iii+iv)	50.2	38	34.5	11	56	40.8

*Note that a given external person may be connected to a particular director through more than one avenue. Thus, professional connections + social connections > total connections, board connections + employment connections > professional connections, and education + other connections > social connections.

Table 2 – Continued

Panel C: External Connections by Industry Experience

Connection Type		Total Connections (N=35,641)		CEO Connections (N=34,323)		Outside Director (OD) Connections (N=35,442)	
		Mean	Median	Mean	Median	Mean	Median
<i>FG</i>	Same-industry	163.8	102	-	-	124.2	73
	Other	805.7	605	-	-	656.2	469
	# Distinct Industries	40.5	42	-	-	39.4	42
<i>DG</i>	Same-industry	18.0	11.9	18.5	9.0	18.5	12.0
	Other	87.5	74.8	57.0	25.0	98.4	84.0
	# Distinct Industries	24.7	26.1	22.5	24	25.9	27.8

Table 3
Descriptive Statistics on Changes in Outside Directors

This table provides summary statistics on the addition of new directors and the departure of existing directors. A firm has a change in outside directors in year t if at least one outside director either joins or departs from the firm's board. A zero net change in outside directors in year t indicates that the firm has the same number of additions and departures in year t.

Year	# of Firms	# of Firms with Year t-1 Board Information	Change in ODs		New ODs		ODs Departed	
			# of Firms with Change in ODs	Median Net Change in #OD	# Firms that add an OD	Median # ODs added by those firms	# Firms that have an OD depart	Median # ODs departing from those firms
2000	1,556							
2001	1,755	1,530	666	1	635	1	32	1
2002	1,823	1,730	780	1	723	1	67	1
2003	3,294	1,768	997	1	926	1	164	1
2004	3,714	3,212	1,839	1	1,545	1	910	1
2005	3,990	3,582	2,063	0	1,573	1	1,268	1
2006	4,078	3,704	2,031	0	1,509	1	1,244	1
2007	4,203	3,740	2,014	0	1,466	1	1,299	1
2008	4,076	3,740	1,943	0	1,347	1	1,257	1
2009	3,825	3,692	1,919	0	1,281	1	1,244	1
2010	3,327	3,104	1,552	0	1,054	1	1,002	1
Total	35,641	29,802	15,804	0	12,059	1	8,487	1

Table 4
Determinants of External Connectedness of Incoming Outside Directors

We regress each incoming outside director's external connections on variables related to our hypotheses using director-firm-year observations. The dependent variable is *OD_Incoming*, which is the number of external connections of outside director who is newly appointed in year t. *DG_OD_Remaining* is the average number of external connections of outside directors who serve on the board in both year t-1 and year t. *DG_CEO* is the number of external connections of the CEO in office at the end of year t-1. All the connection variables are measured at the end of year t-1. In column (1), we measure *OD_Incoming*, *DG_OD_Remaining* and *DG_CEO* using total external connections, while we use components of their external connections in other columns. In columns (2) and (3), we use same-industry and other connections, respectively. In column (4), we use professional external connections via corporate board or employment. All other variables used in this table are also measured during year t-1 or at the end of year t-1, and their definitions are provided in Appendix. All independent variables are standardized such that they have a unit variance. In all columns of this table, the standard errors are clustered at the firm level, and the t-stats are shown in parentheses. *, **, and *** denote the statistical significance at the 10%-, 5%-, and 1%-level, respectively.

	(1)	(2)	(3)	(4)
	Total Connection	Same-industry Connection	Other Connection	Professional Connection
<i>DG_OD_Remaining</i>	13.232 ^{***} (9.26)	5.693 ^{***} (13.02)	11.853 ^{***} (9.46)	6.121 ^{***} (6.22)
<i>DG_CEO</i>	6.875 ^{***} (5.23)	1.324 ^{***} (3.39)	6.922 ^{***} (6.16)	3.903 ^{***} (4.31)
<i>R&D</i>	6.120 ^{***} (4.25)	4.207 ^{***} (9.38)	0.513 (0.40)	5.345 ^{***} (5.42)
<i>Ind Q</i>	7.434 [*] (2.19)	-0.048 (-0.08)	6.844 ^{**} (2.19)	6.177 ^{***} (2.60)
<i>Ind-Adj Q</i>	5.513 ^{***} (4.46)	-0.125 (-0.42)	5.606 ^{***} (5.05)	3.666 ^{***} (4.30)
<i>Ret_2yr</i>	1.059 (0.75)	0.051 (0.20)	1.268 (0.98)	-0.898 (-0.97)
<i>StdDev(Ret)</i>	-0.760 (-0.63)	0.508 (1.75)	-1.561 (-1.44)	1.216 (1.43)
<i>Leverage</i>	-2.962 ^{**} (-2.33)	-0.156 (-0.53)	-2.515 ^{**} (-2.16)	-1.391 (-1.60)
<i>Log(Asset)</i>	28.471 ^{***} (16.22)	1.228 ^{***} (3.29)	25.275 ^{***} (16.42)	17.336 ^{***} (15.05)
<i>CEO_Tenure</i>	-2.090 ^{**} (-2.18)	-0.442 ^{**} (-2.54)	-1.642 [*] (-1.85)	-2.272 ^{***} (-3.50)
<i>Board_Size</i>	-1.097 (-0.80)	-0.776 ^{***} (-2.95)	-0.018 (-0.01)	-2.062 ^{**} (-2.21)
<i>%ODs</i>	0.889 (0.71)	0.130 (0.58)	0.302 (0.26)	1.089 (1.26)
Fixed Effects		Year and Industry (SIC2)		
Clustering by		Firm (GVKEY)		
N	14,311	14,311	14,311	14,311
R ²	0.1467	0.2255	0.1437	0.1055

Table 5
Determinants of Outside Director Departure

The dependent variable is *Departure*, which is a dummy variable taking a value of one if the outside director departs from the firm's board in year *t* and zero otherwise. *Ret_3yr_Decile* is the decile rank based on the stock return during the 36-month period ending in the last month of fiscal year *t-1*. *Connection_Rank* is the standardized director connection rank within the firm's board. By construction, the outside director in a firm who holds the smallest (largest) number of external connections has *Connection_Rank* equal to zero (one). In columns (1) and (2), we construct *Connection_Rank* using total external connections, while we use same-industry and other connections in columns (3) and (4), respectively. *Directorships* is the number of corporate directorships held by the director. *Time_on_Board* is the number of years the outside director has been on the firm's board. *Time_to_Retirement* is the number of years until the outside director will be of retirement age, defined as the firm's mandatory retirement age for directors if one is specified and 70 years old if no age is specified. All independent variables are measured at the end of year *t-1*. Standard errors are clustered at the firm level, and the *t*-stats are shown in parentheses. *, **, and *** denote the statistical significance at the 10%-, 5%-, and 1%-level, respectively.

	(1)	(2)	(3)	(4)
	Total Connection		Same-industry Connection	Other Connection
<i>Ret_3Yr_Decile</i>	-0.0298*** (-11.28)	-0.0137** (-2.51)	-0.0219*** (-3.72)	-0.0151*** (-2.69)
<i>Connection_Rank</i>	-0.0599*** (-2.87)	0.0815* (1.73)	0.0359 (0.73)	0.0922* (1.92)
<i>Ret_3yr_Decile * Connection_Rank</i>		-0.0253*** (-3.35)	-0.0118 (-1.49)	-0.0228*** (-2.95)
<i>Directorships</i>	-0.0188*** (-2.74)	-0.0187*** (-2.73)	-0.0210*** (-3.09)	-0.0203*** (-2.97)
<i>Time_on_Board</i>	0.0053*** (5.19)	0.0053*** (5.16)	0.0055*** (5.34)	0.0053*** (5.21)
<i>Time_to_Retirement</i>	-0.0177*** (-18.37)	-0.0177*** (-18.36)	-0.0178*** (-18.45)	-0.0177*** (-18.40)
Fixed Effects		Year and Industry (SIC2)		
Clustering by		Firm (GVKEY)		
Model		Probit		
N	111,976	111,976	111,976	111,976
Pseudo R ²	0.0466	0.0468	0.0466	0.0467

Table 6
External Connectedness and CEO Turnover

The dependent variable is *CEO Departure*, which takes a value of one if the CEO departs from a given firm in year *t* and zero otherwise. *FG_OD_High* takes a value of one if *FG_OD* is greater than or equal to its sample median, and zero otherwise. *MA_Ret_2yr* is the market-adjusted stock return over the 24-month period ending in fiscal year-end month. All other independent variables are defined in Appendix. All the independent variables are measured during or at the end of year *t-1*. All independent variables are standardized such that they have a unit variance. Standard errors are clustered at the firm level, and the t-stats are shown in parentheses. *, **, and *** denote the statistical significance at the 10%-, 5%-, and 1%-level, respectively.

	(1)	(2)	(3)
	Total Connection	Same-industry Connection	Other Connection
<i>FG_OD_High (A)</i>	0.0754* (1.95)	0.1276*** (3.29)	0.0511 (1.35)
<i>MA_Ret_2yr = B</i>	-0.0858*** (-3.65)	-0.0884*** (-3.66)	-0.0958*** (-3.96)
<i>Interaction (A*B)</i>	-0.0514** (-2.39)	-0.0430** (-1.98)	-0.0368* (-1.69)
<i>CEO_OD</i>	-0.0202 (-1.14)	-0.0189 (-1.07)	-0.0204 (-1.16)
<i>OD_BUSY</i>	0.0470*** (2.96)	0.0432*** (2.74)	0.0494*** (3.13)
<i>DG_CEO</i>	0.0097 (0.63)	0.0162 (1.05)	0.0080 (0.53)
<i>CEO_Tenure</i>	-0.0309** (-1.98)	-0.0295* (-1.88)	-0.0317*** (-2.03)
<i>CEO_Chairman</i>	0.0477*** (3.09)	0.0487*** (3.15)	0.0475*** (3.07)
<i>CEO Retirement</i>	0.4589*** (9.12)	0.4592*** (9.12)	0.4586*** (9.12)
<i>CEO Equity Ownership t</i>	-0.0071 (-0.45)	-0.0066 (-0.42)	-0.0072 (-0.46)
<i>Ind Q</i>	0.0942** (2.14)	0.0932** (2.11)	0.0931** (2.11)
<i>Ind-Adj Q</i>	0.0501*** (2.91)	0.0472*** (2.73)	0.0522*** (3.05)
<i>StdDev(Ret)</i>	0.0275 (1.28)	0.0187 (0.86)	0.0303 (1.42)
<i>Log(Asset)</i>	0.0992*** (5.08)	0.0934*** (4.79)	0.1020*** (5.23)
<i>Board_Size</i>	-0.0716*** (-4.12)	-0.0793*** (-4.55)	-0.0679*** (-3.94)
<i>%ODs</i>	0.0754* (1.95)	0.1276*** (3.29)	0.0511 (1.35)
Fixed Effects		Year and Industry (SIC2)	
Clustering by		Firm (GVKEY)	
Model		Probit	
N	16,393	16,393	16,393
Pseudo R ²	0.0411	0.0418	0.0406

Table 7
External Connectedness and Accounting Misstatement

In columns (1) to (3), the dependent variable is *Irregularity*, which takes a value of 1 if a firm's accounting numbers for year t are adversely restated and the restatement disclosure identifies fraud or SEC investigation of the firm, and zero otherwise. In columns (4) to (6), the dependent variable is AAER, which takes a value of 1 if a firm is subject to enforcement actions by the Securities and Exchange Commission (SEC) for allegedly misstating their financial statements for year t, and 0 otherwise. *FG_OD* is the sum of each outside director's external connections in year t. *DG_CEO* is the number of The CEO's external connections in year t. All other independent variables, defined in Appendix, are also measured during or at the end of year t-1. All independent variables are standardized such that they have a unit variance. Standard errors are clustered at the firm level, and the t-stats are shown in parentheses. *, **, and *** denote the statistical significance at the 10%, 5%, and 1%-level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Irregularity			AAER		
	Total Connection	Same-industry Connection	Other Connection	Total Connection	Same-industry Connection	Other Connection
<i>FG_OD</i>	-0.0810** (-2.03)	-0.1069** (-2.52)	-0.0656* (-1.72)	-0.0748 (-1.40)	-0.1321*** (-2.58)	-0.0584 (-1.13)
<i>DG_CEO</i>	0.0279 (0.94)	0.0713** (2.25)	0.0037 (0.12)	0.0041 (0.11)	0.0517 (1.45)	-0.0035 (-0.09)
<i>Board_Size</i>	-0.0384 (-1.03)	-0.0414 (-1.16)	-0.0425 (-1.14)	-0.0288 (-0.64)	-0.0249 (-0.56)	-0.0342 (-0.76)
<i>Log(Asset)</i>	0.1310*** (2.96)	0.1150*** (2.72)	0.1321*** (3.04)	0.2995*** (4.82)	0.2978*** (5.22)	0.2912*** (4.84)
<i>Q</i>	-0.0506 (-1.41)	-0.0510 (-1.43)	-0.0508 (-1.41)	-0.1281** (-2.55)	-0.1245** (-2.54)	-0.1304*** (-2.58)
<i>Cash Flow Volatility</i>	0.0316 (1.06)	0.0324 (1.09)	0.0310 (1.04)	0.0724* (1.85)	0.0728* (1.87)	0.0713* (1.81)
<i>Leverage</i>	0.0708** (2.29)	0.0713** (2.31)	0.0707** (2.28)	0.0854** (2.51)	0.0849** (2.49)	0.0859** (2.53)
Fixed Effects	Year and Industry (SIC2)			Year and Industry (SIC2)		
Clustering by	Firm (GVKEY)			Firm (GVKEY)		
Model	Probit			Probit		
N	27,792	27,792	27,792	24,835	24,835	24,835
Pseudo R ²	0.0564	0.0583	0.0558	0.1289	0.1318	0.1283