Director Connectedness, Career Concerns, and Monitoring Efficacy*

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Abstract

We use a novel measure of connectedness to examine a specific channel by which director connectedness may improve monitoring in the firm: financial reporting quality. We find that the connectedness of independent, non-co-opted audit committee members has a positive effect on the quality of financial reporting and on accounting conservatism. The effect is positive but not significant for non-audit committee members or co-opted audit committee members. Our results are robust to multiple tests designed to mitigate self-selection issues. We also find that the market reaction to the death of a highly connected director is significantly more negative than for less connected directors. Further tests indicate that directors with greater connectedness have fewer career concerns, suggesting that they have greater incentives to monitor. Overall, our study highlights the role of director centrality in promoting shareholders' interests.

I. INTRODUCTION

The role of the board of directors is to monitor and advise management, and as such to protect the interests of shareholders. The extant literature has spent much time examining the effectiveness of boards in these duties. Early studies focus on the roles of inside vs. outside directors. Inside directors are presumed to specialize in knowledge of the firm while outside directors are considered to be independent of the CEO's influence and thus are better positioned to monitor management. Consequently, conventional wisdom suggests that having more outside directors increases firm value. Yet empirical studies provide mixed evidence on the effect of board independence on firm performance (Hermalin and Weisbach 1998, Bhagat and Black 1999). Against this backdrop, recent evidence suggests that directors who are conventionally independent may not be truly independent from CEO's influence, which can result in lower pay-performance sensitivity, worse firm performance, and reduced likelihood of CEO dismissal (Hwang and Kim 2009, Fracassi and Tate 2012, Coles, Daniel, and Naveen 2014).

Other studies on boards go beyond simply focusing on director independence, instead borrowing from the social networks literature to explore the social connections of directors, which is referred to as director "connectedness" or "centrality." Well-connected board members have access to superior information and therefore are presumed to have greater influence, which benefits the firm in the form of improved monitoring and strategic advice. Consistent with these benefits, Larcker, So, and Wang (2013) find that firms with well-connected boards earn higher abnormal returns.

Board connections also have a dark side. Prior work suggests that information spillover from interlocked boards may introduce value-decreasing management practices such as options backdating (Bizjak et al. 2009, Armstrong and Larcker 2009). Further, well-connected directors may be more concerned about maintaining their social status and reputation than about protecting shareholders' best interests (Fahlenbrach, Low, and Stulz 2014). In addition, directors with a large network may be too busy to effectively discipline the CEO (Fich and Shivdasani 2006). Therefore, the question of whether better board connections aid in monitoring and evaluation is an empirical one.

We examine the effect of director connectedness on their monitoring efficacy and career prospects. Although connectedness is conceptually distinct from other director characteristics, it still may reflect other observable or unobservable director properties, such as social links via director interlocks, director education, ability, or expertise. Prior studies largely ignore this issue, which dampens the interpretation of their empirical results. Thus we begin by calculating a novel measure of social connectedness that is orthogonal to other measures of director ability such as age, education, and the number of board seats. Our measure provides a cleaner interpretation on the effect of director's connectedness beyond their other characteristics.

Using this novel measure of connectedness, we examine the channels by which director connectedness may improve monitoring. In particular, we focus on the effect of connectedness on financial reporting quality and conservatism. Higher levels of connectedness may improve monitoring through a better incorporation of outside information regarding the firm's operations and an improved understanding of industry practice. However, while the entire board play a central role in monitoring, members of certain committees may be instrumental in specific aspects of monitoring. For example, Coles, Wang, and Zhu (2015) find that the connectedness of nominating committee members is a better predictor of CEO turnover than the connectedness of other board members. Similarly, because audit committee members are specifically charged with the oversight of financial reporting and thus are particularly concerned about the consequences of fraudulent reports, the connectedness of audit committee members may be particularly valuable in determining financial reporting quality. Consequently, we divide directors into three groups based on both their level of independence and whether they serve on the audit committee, and calculate the connectedness of each group separately. Using multiple measures of accruals, we find that the connectedness of independent, non-co-opted audit committee (AC) members is associated with lower earnings management (i.e., higher financial reporting quality) and with greater conservatism in financial

reporting.[1] In contrast, after controlling for the effect of non-co-opted AC connectedness, the connectedness of co-opted audit committee members and non-audit committee members has little effect on financial reporting quality.

We perform several additional tests designed to alleviate endogeneity concerns due to omitted variables or self-selection and to assist in establishing causality. First, we explore changes specifications around instances of unexpected director deaths. Our conclusions are similar; increases (decreases) in AC connectedness are associated with improvements (declines) in financial reporting quality and conservatism. In addition, we examine the effect of AC connectedness in subsamples of firms in which self-selection is less likely to occur, including small firms and those with "non-busy" directors. Large firms are more prestigious, which increases the likelihood that directors will self-select into them, while busy directors are more likely to have the discretion to choose to sit on the boards of more prestigious firms. We find that our results are stronger for both small firms and firms in which the majority of directors are not "busy," suggesting that self-selection is not the driving force behind our findings. Overall, our results continue to suggest that the net benefit of AC connectedness on monitoring is positive even after controlling for self-selection.

To further explore the importance of connectedness, we examine the market reaction to the death of an AC member, which represents an exogenous shock to the structure of the audit committee. Our evidence indicates that the market values connected directors; the loss of a director with a high level of connectedness is associated with a 2.8% lower announcement return than the loss of a less connected director. Further, the negative announcement returns associated with the loss of a highly connected AC member are exacerbated for firms with low overall audit committee connectedness and those with weaker governance structures.

[1] Our focus on independent, non-co-opted directors follows Coles et al. (2014), who find that as the fraction of board members appointed after the CEO assumed office (co-option) increases, board monitoring decreases. They suggest that co-option reduces director independence and may result in CEO entrenchment.

Having established that the connectedness of the audit committee improves financial reporting, we next examine whether connected board members are shielded from career concerns. Previous work shows that directors who sit on the boards of troubled firms face consequences in their future employability as directors. Fich and Shivdasani (2007) find that following financial misconduct lawsuits, outside directors experience a reduction in other board seats. Srinivasan (2005) finds that outside directors of firms that restate earnings lose reputational capital. Coles and Hoi (2003) and Harford (2003) show that outside directors obtain fewer new directorships if the board supports actions that are against shareholders' interests. We examine the career consequences to AC members after the detection of financial misconduct. Fraudulent reporting can result in lawsuits and SEC enforcement action. Such litigation may cause reputational damage and even director turnover. These consequences are of greatest concern to the audit committee, since they are in charge of the oversight of financial reporting and thus most likely to be held accountable.

We find that in general highly connected AC members are more likely to retain their board appointments; while director turnover increases in response to misconduct, in contrast to the above research, well-connected AC directors are less likely to experience turnover in the aftermath of misconduct when compared to AC members who are not well-connected. To address self-selection concerns (i.e., better firms are able to attract more connected directors), we use a propensity-score matching approach to control for the cross-sectional differences between firms with higher and lower connectedness and find similar results. Specifically, highly connected AC members are 15.5% less prone to turnover, and in the case of misconduct, they face a 7.7% lower chance of turnover than other directors. Further, in the three years following the detection of misconduct, well-connected AC members are more likely to obtain a board seat at another firm when compared to AC members who are not well-connected.

We also examine whether the impact of connectedness varies according to the degree of misconduct. Using both cumulative abnormal returns around the misconduct revelation date and the settlement amount to proxy for the severity of misconduct, we find that the likelihood of director turnover is higher in cases of severe misconduct. Likewise, directors lose seats on other boards in the three years following severe

misconduct. However, high director connectedness decreases the likelihood of turnover and mitigates the loss of board seats in these cases. Thus our results indicate that well-connected directors are less likely to experience turnover and have better career prospects.

Recent studies suggest a "darker" interpretation for directors with greater connectedness. They argue that these directors experience less turnover not because they are good monitors, but due to an "old boys club" effect (Brown et al. 2012, Engelberg et al. 2013). We do not definitively try to prove causality, but our empirical evidence is not consistent with such an interpretation. First, to the extent that this effect stems from the CEO's influence on director selection, our focus on independent, non-co-opted directors is less prone to such conflicts of interest (Barnea and Guedj 2014). Second, our director death analysis indicates that connected directors provide better monitoring and that the market values such directors; this is inconsistent with the notion that these directors are entrenched or are weak monitors as a result of their friendship with the CEO. Third, our measure of director connectedness extrapolates from other director characteristics that would be related to an "old boys club" effect.

Our paper is related to multiple studies in the director connectedness literature. Larcker et al. (2013) find that firms with more central boards of directors earn superior risk-adjusted stock returns. We extend their findings by providing evidence on a specific channel through which board connectedness aids in monitoring: the effect of AC connectedness on financial reporting quality. Coles, Wang, and Zhu (2015) find that the connections of the nominating committee better predict CEO turnover than the connections of other board members. They conclude that well-connected directors are better monitors due to their informational advantages. Rather than focusing on the effect of connectedness on CEO dismissal, we explore another channel by which director connectedness may improve monitoring. Our results also complement other studies that find that industry, legal, or financial expertise of the committee members results in reduced earnings management and financial misconduct (Wang, Xie, and Zhu 2013, Krishnan, Wen, and Zhao 2011, DeFond, Hann, and Hu 2005).

Our paper is also closely related to Omer, Shelley, and Tice (2016). While their focus is on the likelihood of restatements, we look more broadly at the effect of connectedness on financial reporting

quality as measured by accrual management and accounting conservatism. After showing that connectedness improves reporting quality, we show that better connected directors are rewarded with better career prospects, as measured by a reduced likelihood of turnover after the detection of fraud and an increased number of future board seats. More importantly, our connectedness measure captures director connections through their historical interactions with prior overlapping board services, working experiences, social clubs/organizations, as well as their educational experience. These connections arguably are as strong as, if not stronger than, board member connections through contemporaneous board service, which is the scope of director connections in Omer et al. (2016). In addition, our measure of connectedness not only focuses on non-co-opted board members, it also extrapolates from other director characteristics that could be related to director quality and reputation. Lastly, we find that our results are robust in a sample subject to an exogenous shock (i.e., director deaths) and in other samples designed to alleviate sample selection bias.[2] Overall, our paper fills a gap in the literature by explicitly examining the relation between director connectedness, director career consequences, and financial reporting quality.

Last of all, our paper complements several contemporaneous papers that examine director turnover and career concerns. Fahlenbrach, Low, and Stulz (2014) examine director turnover and argue that outside directors have incentives to resign when they anticipate that a firm on whose board they sit will experience negative future performance. Consistent with their predictions, they find that following surprise director departures, firms have worse stock and operating performance and are more likely to restate earnings and be involved in fraud. Bates, Becher, and Wilson (2015) examine whether directors face the threat of turnover from their board positions for past poor performance. They find that directors are disciplined for poor performance, but this relation manifests itself only in the idiosyncratic portion of stock returns. Cashman, Gillan, and Whitby (2010) find that directors with better professional connections, through both

[2] Omer et al. (2016) attempt to control for endogeneity by using average industry connectedness to instrument for firm connectedness. However, Gormley and Matsa (2014) raise concerns about using a group average to instrument for an endogenous variable, since the exclusion restriction is violated whenever an unobserved group-level factor is correlated with the regressor.

common board appointments and overlapping work experience, are more likely to receive additional board seats and less likely to suffer if they are on the board of a firm that restates its financials.

The remainder of this paper is organized as follows. Section II provides a literature review and develops our predictions. Section III discusses our measures of social connectedness and other variables of interest. Section IV presents our empirical findings and section V concludes.

II. MOTIVATION

Director Connectedness and Monitoring Effectiveness

Fama (1980) and Fama and Jensen (1983) posit that a critical function of the board, and specifically outside directors, is to monitor managers to ensure that they act in the best interests of shareholders. Monitoring effectiveness depends on the independence of the directors, however. For example, Hermalin and Weisbach (1998) suggest that a director's willingness to monitor (and potentially replace) the CEO depends on the director's independence. Other studies examine director monitoring effectiveness by focusing on the conflicts of interest between managers and independent directors. Shivdasani and Yermack (1999) document that investors react less positively to the appointment of independent directors selected by the CEO, and Coles et al. (2014) find that monitoring effectiveness is compromised when supposedly independent directors are appointed by the same CEO that they are expected to evaluate. Hwang and Kim (2009) find that directors who have social connections to the CEO grant higher levels of CEO pay that is unrelated to performance. Cohen et al. (2012) provide evidence that firms appoint independent directors who are overly sympathetic to management; following these appointments, firms significantly increase their earnings management activities and CEO compensation. In sum, these studies suggest that director affiliation with management may compromise monitoring diligence.

Independent, well-connected directors should have the experience, knowledge, and external connections necessary to effectively monitor and advise top managers. Adams and Ferreira (2007) argue that it is imperative for directors to have sufficient information and knowledge about the firm's operations, while Dass et al. (2014) document that directors' industry experience promotes monitoring effectiveness.

Further, regulatory reforms enacted as part of the Sarbanes-Oxley Act call for financial expertise on the audit committee to ensure that members have sufficient skills to detect financial reporting misconduct (DeFond et al. 2005). Given the complexity of information disclosed by managers to the board, the ability to access external information about market trends, industry development, and other relevant information is vital in enabling directors to analyze and understand this information. Thus, experience and access to external information is a valuable resource that assists the directors' effectiveness.

On the other hand, some studies find evidence that connectedness can compromise board monitoring efficacy. For example, results in Bizjak et al. (2009) and Armstrong and Larcker (2009) suggest that information exchange from director connections can assist in the spread of value-decreasing management practices such as option backdating. Chiu et al. (2013) find that board interlocks facilitate contagion of earnings management practice. Other studies have shown that a director's "busyness," defined as the number of board seats a director holds, is negatively associated with monitoring and shareholder wealth (Core et al. 1999, Loderer and Peyer 2002, Fich and Shivdasani 2006, Masulis and Mobbs 2014).[3] Therefore, the question of whether better board connections aid in monitoring and evaluation is an empirical one. The above discussion leads to our first hypothesis in the null form:

H1: All else equal, better connected independent directors will be more effective monitors.

Director Connectedness and Career Concerns

While early studies of boards focus on the role of inside vs. outside directors, recent studies in both management and financial economics explore the external connections of directors. Better connections offer a number of advantages. For example, directors with better connections are perceived to have elevated levels of social power that promotes their career prospects (Liu 2014). While board members generally value their positions, members with greater connectedness may feel less dependent upon any given board seat and less obligated to any particular CEO (Belliveau et al. 1996). In addition, better connected directors

[3] While a busy director will tend to have more connections, our connectedness measure encompasses more than just the number of connections, so a well-connected director is not necessarily busy. In fact, we find that the correlation between connectedness and busyness is only 0.37. We control for busyness in our empirical tests, nevertheless.

should be highly respected by other members of the board, creating a well-defined informational hierarchy that can improve the efficiency of board interactions (He and Huang 2011). For these reasons, directors with greater connectedness should be more shielded from career concerns and therefore less likely to experience turnover.

H2: All else equal, better connected directors will have fewer career concerns.

III. DATA

In order to measure board connectedness, we use the social network database from BoardEx of Management Diagnostics Ltd., which provides detailed demographic information about the directors and top five disclosed earners of publicly traded U.S. companies.[4] BoardEx covers more than 559,667 unique individuals from over 150,473 unique entities, including private and public companies, universities, and other non-profit organizations, with common employment histories going back as far as 1926. BoardEx covers relational links among directors and other corporate officials through cross-referencing their employment history, educational experience, and professional qualifications/experience. Our sample starts in 2001 and ends in 2010. We extract data on each executive/director and their links with all other executives and directors in the database in each year in order to calculate their social connections. Our definitions of social connections are similar to Liu (2014) and Fracassi (2014). A connection between two individuals is established if they have worked in the same company historically (both as executives, both as directors, or one as executive and one as director). We also include their connections via other mechanisms such as civil services in social clubs, charity organizations, and non-profit entities. We only

[4] BoardEx is commonly used to gauge the social network or connectedness of corporate executives and members of the board of directors (e.g., Fracassi and Tate 2012, Chidambaran, Kedia, and Prabhala 2012, Cohen, Frazzini, and Malloy 2012). BoardEx has two potential data biases. First, BoardEx expands its coverage in 2006 but does not back-fill the missing information for the new firms (Larcker, So, and Wang 2013). Second, even though BoardEx covers both professional affiliations and other social interactions between executives and directors, it is conceivable that alternative channels through which individuals can establish social connections exist and are not included in BoardEx (e.g., marital connections). We address these concerns in robustness tests. For instance, we find similar results when restricting our sample to firms that exist in the database in every year. In addition, to the extent that the bias is related to certain firm characteristics, we utilize a propensity-score matching sample and find similar results.

count connections where the date information is not missing. Further, we count their connections if they obtain their undergraduate or graduate degrees from the same school and graduate within 2 years of each other.[5] We calculate connections for all directors in each year, as the cross-reference may change for two reasons. First, newly added individuals may have connections with existing individuals already in the database. Second, new connections will be established or severed as a result of executives/directors changing firm affiliations. We find that 49% of independent directors are non-co-opted and therefore "truly" independent (i.e., independent directors who were not appointed by the incumbent CEO), which is comparable to the 47% reported in Coles et al. (2014). We also calculate connectedness for co-opted directors.

Measures of Director Connectedness

We calculate four common centrality measures developed in network theory that capture not only social ties but, more importantly, the quality of those connections: degree, betweenness, closeness, and eigenvector centrality. In the interest of brevity, detailed explanations of each measure is provided in Appendix A, while in Appendix B we provide an example of a simple network to show how the measures are calculated. Summary statistics of the director-level centrality measures are in Panel A of Appendix C. Although each centrality measure focuses on a distinct aspect of the individual's importance in the network, the correlation matrix in Panel B shows that all measures are positively correlated with each other. We use factor analysis to extract the common latent factor that explains the variation across these measures, and use the factor score as our director-level connectedness measure. [6] Panel C of Appendix C shows that the

[5] These measures assume that individuals in the network are connected via the shortest paths between them. In reality, people often contact those with whom they shared more important experiences. For example, a board member may contact a colleague who he has known for years, rather than someone with whom he recently shared a charity board experience. It is difficult to agree upon a parsimonious measure to rank such connections (e.g., are corporate board connections ranked higher than social boards such as charities, foundations, academic institutions?). In robustness tests, we examine how long two people shared experience and assume that the longer two people share a common experience, (a) the stronger the connection and (b) the higher the likelihood that they contact each other in order to transfer information. We then use the common time between two persons as the weight to rank the connection. Results are robust to using the weighted version of each measure.

[6] Based on this measure, the most connected directors include Douglas Alexander Warner III (Chair of the audit committee at GE and former CEO of J.P. Morgan Chase), Kevin W. Sharer (director at 3M, former CEO of Amgen, lecturer at Harvard, US Naval Academy graduate), John Fellows Akers (director at New York Times, former CEO of

factor analysis loads on one factor that has an Eigen value bigger than 1, which explains 63% of the variation.

The director-level connectedness measure captures the relative importance of individual directors in the entire social network. Conceptually, it is distinct from director linkage measures that proxy for other director characteristics. However, it is conceivable that our measure may capture some of these other characteristics. For instance, a director with a high level of intelligence or expertise may be able to achieve a higher level of connectedness. Consequently, we explicitly control for director characteristics that may be correlated with their connectedness. For each director we control for (1) number of external board seats; (2) educational background, as prior studies indicate that directors with degrees from prominent institutions are more likely to have a successful career and develop more social connections;[7] (3) number of high-level career appointments that are greater than vice president, since career success can reflect intelligence and expertise, which leads to greater reputation (Chemmanur and Paeglis 2005); and (4) age, which helps to proxy for unobservable characteristics that are accumulated with increased experience. To mitigate the concern that connectedness is confounded with director-specific characteristics, we orthogonalize our director-level connectedness measure with the above four characteristics.[8] Orthogonalization also mitigates the concern that director connectedness increases over time as additional connections accumulate over time mechanically.

To reflect the overall connectedness of directors within a firm, we average the residual values at the board/committee level in each year. We develop three AC/Board connectedness measures for our multivariate tests. First, we average the values for all independent, non-co-opted audit committee directors within each firm-year to obtain the AC-level connectedness (*AC Connectedness*). Second, we develop a

IBM), Tim D. Cook (director at Nike, COO of Apple, and eventual successor to Steve Jobs), and Walter (Jim) James McNerney Jr. (Chairman of the Board at P&G, CEO of Boeing, CEO of 3Com).

[7] We consider a director to have prominent education if they obtain their undergraduate or graduate degree(s) from Brown, Chicago, Columbia, Cornell, Dartmouth, Duke, Harvard, MIT, Northwestern, Penn, Princeton, Stanford, UCLA, UC Berkeley, or Yale.

[8] OLS regression results in Panel D of Appendix C indicate that these characteristics are significantly related to connectedness.

similar measure for co-opted (i.e., non-independent) AC members (*AC_Other Connectedness*). Finally, we repeat this for the non-AC board members (*Non-AC Connectedness*). Including all three measures in our tests provides us with a richer understanding of the importance of different groups of directors in monitoring. We examine the audit committee separately from other board members because audit committee members are specifically charged with the oversight of financial reporting. Our focus on independent, non-co-opted AC directors follows Coles et al. (2014), who find that as the fraction of board members appointed after the CEO assumed office (co-option) increases, board monitoring decreases.

As an alternative to our orthogonalized connectedness measure, we follow Larcker et al. (2013) and rank directors into quintiles by degree, closeness, betweenness, and eigenvector centrality, and use the average ranking to measure overall centrality. The correlation between our factor score and the "N-score" of Larcker et al. is 0.68. Our findings are robust to the use of the N-score measurement approach.

Board and CEO Characteristics

We control for several other board and CEO characteristics. First, we denote *Busy AC* by the proportion of busy directors on the audit committee. We define a busy director as an independent, non-co-opted director who serves on 4 or more public firms' boards (Fich and Shivdasani 2006). We also include an indicator variable (*Staggered Board*) if the board has a staggered election system, as prior studies indicate that staggered boards are associated with poor monitoring and lower firm value (Cohen and Wang 2013, Gompers et al. 2003). Since the ability of the board to monitor depends on the relative power of the CEO versus that of the board (Hermalin and Weisbach 1998, Morse, Nanda, and Seru 2011), we include CEO connectedness as a control for CEO power (El-Khatib et al. 2015).[9]

CEOs may share common experiences even with non-co-opted directors. These connections may enhance the communications and information sharing between the CEO and the board, suggesting that the board may be better able to monitor managers (Adams and Ferreira 2007, Engelberg, Gao, and Parsons

[9] Alternatively, we use the factor score based on three proxies for CEO power: CEO tenure, CEO equity ownership, and CEO/chairman duality. This approach significantly decreases sample size due to CEO specific data availability, particularly on equity ownership. Regardless, we find similar results in the smaller sample if we include CEO power as a control variable or if we use the three proxies separately.

2012). On the other hand, recent evidence suggests that these links are problematic and result in higher compensation, lower pay-performance sensitivity, worse firm performance, and reduced likelihood of CEO dismissal (Hwang and Kim 2009, Nguyen 2012, Fracassi and Tate 2012, Coles et al. 2014). Further, Chidambaran, Kedia, and Prabhala (2012) and Khanna et al. (2015) find that CEO-director connections have a positive and significant effect on the probability that the firm commits fraud. In order to control for these connections, we identify overlapping mutual work experience (as directors and/or executives) between the CEO and each independent, non-co-opted AC member, which includes both current (i.e., interlock) and historical overlapping experience (Fich and Shivdasani 2006). We then divide the number of independent, non-co-opted AC members who have a connection to the CEO by the total number of independent, non-co-opted AC members (*CEO/AC Overlap Ratio)*.

Financial Misconduct and Financial Reporting Quality Measures

We use the Audit Analytics legal case database to proxy for misconduct within our sample of firms and to identify the period in which the firms are alleged to be involved in financial misconduct. Specifically, we create a dummy variable (*Misconduct*) to identify legal actions related to accounting malpractice, financial reporting, fraud, and AAER suits. Our misconduct variable identifies the fraudulent activity as of the time that the public becomes aware of the misconduct, not the time that the alleged misconduct occurred.[10] Further, we collect the monetary settlement information for all the misconduct cases. Among the 1,032 cases in our sample, the settlement amount ranges from zero to roughly $68 million, with median of zero and mean of about $1.5 million. Alternatively, we calculate the cumulative announcement return around the announcement date of misconduct to gauge the severity of the misconduct. The average CAR during (-2, +2) window is -6.38% and the median is -4.93%.

[10] As with any work examining legal action, our litigation sample does not capture all possible cases. For instance, the Public Company Accounting Oversight Board (PCAOB), which was created by the Sarbanes-Oxley Act, can prosecute firms for misconduct but only has to disclose winning cases. On the other hand, SEC/DOJ cases are exposed no matter the outcome of the litigation. Nonetheless, by using actual legal actions, we are unable to identify firms that commit undiscovered financial misconduct or cases where firms are innocent and misclassified as offenders.

We use three accruals-based measures that are commonly used in accounting studies to proxy for firm's financial reporting quality. Our first accruals based measure (*Hribar*) is defined as the absolute value of abnormal accruals based on Hribar and Nichols (2007). The second measure (*DGLS*) is the error term from the estimation of accruals calculated as the industry-adjusted absolute value of the Dechow and Dichev (2002) residual, based on the cross-sectional adaptation of the model in Dechow et al. (2011). Our third measure (*AQ*) is the Kothari et al. (2005) performance-matched signed discretionary accruals estimate as used by Ashbaugh et al. (2003). Detailed descriptions of each measure are in Appendix D.

As an additional measure of reporting quality, we examine accounting conservatism. Watts (2003) and Holthausen and Watts (2001) suggest that conservatism in accounting has persisted because it alleviates agency problems. We gauge accounting conservatism using two commonly used measures: (1) the *Cscore* measure developed by Khan and Watts (2009), which is based on an augmented Basu (1997) model and (2) the difference between the skewness of cash flows from operations and the skewness of earnings before extraordinary items (*Skew*) (Givoly and Hayn 2000, Beatty et al. 2008).

Summary Statistics

Table 1 presents summary statistics on the main variables used in our analysis. All variables are winsorized at the 1% and 99% levels. Independent, non-co-opted, audit committee members experience an average annual turnover rate of 8.9% in the full sample and 12.7% in the misconduct sample. On average, directors obtain one (two) new board seat(s) during the next three years, in the full sample (the misconduct sample). We find that the average (median) reporting quality as measured by *Hribar/DGLS/AQ* are comparable to previous studies (Hribar and Nichols 2007, Dechow et al. 2011, Ashbaugh et al. 2003). For the two measures for accounting conservatism, we observe again that the average and the median of *Cscore* and *Skew* measure exhibit similar values as reported in previous research (Khan and Watts 2009, Beatty et al. 2008).

The next section examines audit committee (AC) characteristics. Although our connectedness measures have no intuitive explanation due to our factor analysis and orthogonalization procedure, the means, medians, and standard deviations are similar, regardless of whether we examine the connectedness

of the non-co-opted AC members, co-opted AC members, non-AC members or CEO. Roughly 9.9% of the independent non-co-opted directors have social connections/interlock with the CEO. We find that 24.2% of the independent non-co-opted audit committee members are busy directors. The median audit committee has 3 members while the mean AC independence (based on non-co-opted directors) is approximately 63%. As an important factor for audit committee monitoring, we see that on average 25.7% of the audit committee members are accounting experts. Roughly 6.5% of non-co-opted AC members have degrees from prominent schools and on average they obtain 2.8 high-level positions during their career. They are approximately 62 years old and the average number of external board seats is 2.6.

The last section of Table 1 examines other firm characteristics. Our average firm has total assets of $4.1 billion, with the top (bottom) quartile at $1,749 ($128) million, suggesting a wide coverage of firms in our sample. The mean (median) ROA is 1% (4.6%). On average, firms have leverage of 17.5% and a market-to-book ratio of 2.6. Nearly 48% of the common equity of our sample firms is owned by institutional investors and there are on average 9 analysts following each firm. 38.1% of the firm observations have a staggered board system. The mean (median) prior return over the previous 3 years is 16.4% (2.2%).

IV. MULTIVARIATE TESTS

Audit Committee Connectedness and Financial Reporting Quality

In this section, we explore a specific channel by which director connectedness may promote shareholders' interests by examining the effect of connectedness on financial reporting quality. Financial reporting quality is crucially important to the firm's information environment and investor risk. In the wake of recent accounting misconduct, the Sarbanes-Oxley Act and Regulation Fair Disclosure focus on strengthening the audit committee and increasing the committee's responsibilities and authority. Although recent studies focus solely on the audit committee (Bédard et al. 2004, Carcello et al. 2011, Dhaliwal et al. 2010, Bédard et al. 2004, Carcello et al. 2011, Dhaliwal et al. 2010), we extend our analysis to include the rest of the board, which allows us to test whether director connectedness outside of the audit committee significantly affects our variables of interest. Given that managers often withhold information from the

board in an attempt to mitigate diligent monitoring (Adams and Ferreira 2007), director connectedness may substitute for such incomplete managerial disclosure by incorporating outside information regarding the firm's operations and industry practice obtained through the committee's connections. Such information helps directors to better understand financial statements and improve corporate governance. Therefore, we propose that better connectedness is associated with improved monitoring and higher quality financial reporting.

We measure financial reporting quality using the accruals measures and the proxies for conservatism explained in Section III. Our basic regression specification includes control variables used in prior studies (e.g., Dechow, Ge, and Schrand 2010, Givoly and Hayn 2000, Khan and Watts 2009). In addition, we calculate the connectedness measure for three separate groups: non-co-opted AC members (*AC Connectedness*), co-opted AC members (*AC Other Connectedness*), and non-AC members (*Non-AC Connectedness*). We control for AC accounting expertise (*Acct Expertise*), as prior studies show that it is the SEC's narrowly-defined accounting expertise, rather than the broader financial expertise of members, that drives the committee's monitoring effectiveness (DeFond et al. 2005, Krishnan and Visvanathan 2008).[11] We also control for AC size, independence, and the proportion of audit committee members that are busy (*Busy AC*) to capture the quality of the committee (Anderson et al. 2004, Klein 2002, Bédard et al. 2004). Finally, we control for industry, firm, and year fixed effects when feasible.[12]

Table 2 presents our results. Panel A shows the results using accruals based measures for reporting quality. In Columns 1-3, we use OLS to examine the relation between director connectedness and the three accruals measures. All three regressions show significant coefficient estimates on Audit Committee (AC) connectedness, suggesting that higher AC connectedness is associated with lower earnings management (i.e., higher financial reporting quality). Economically, a one standard deviation increase in *AC*

[11] More specifically, we examine the prior work experience and qualifications of each independent, non-co-opted AC member using BoardEx. We classify as accounting experts those individuals who currently hold or have held the position of CFO, CPA/CFA, controller, comptroller, treasurer, or any other position that is financial reporting related.
[12] We use historical SIC code for firm's industry affiliation. In addition, we find similar results when excluding firm fixed effects.

Connectedness is associated with a 14% to 38% increase in financial reporting quality, depending on the accruals measure used. In contrast, we observe insignificant coefficients on *AC Other Connectedness* and *Non-AC Connectedness*. These findings suggest that the connectedness of the audit committee is most important in the determination of financial reporting quality and that co-opted directors are less likely to be effective monitors. We also find that accounting expertise (*Acct Expertise*) is positively associated with financial reporting quality, albeit marginally. Audit committee size is positively associated with financial reporting quality, consistent with the notion that larger audit committees have more or better "eyes" with which to monitor managers. Audit committee independence (*AC Independence*) is unrelated to financial reporting quality, which is not surprising given that independence is less of a concern post-SOX due to the 100% independence requirement for audit committee membership. *Busy AC* is positive and significant for two of the three accruals measures, indicating that busy ACs are less effective monitors. The measures for director ability, CEO connectedness, and CEO/AC Overlap are not significantly related to audit quality.

In order to alleviate self-selection concerns, we restrict the sample to include only exogenous shocks to the audit committee in the form of member deaths. Board member deaths are identified by *Audit Analytics Director and Officer Changes* database, which indicates the reason for director committee membership and their turnover details. In order to quantify the effect of this shock, we calculate the change (year t+1 minus year t-1) in each variable relative to the year of the director death (t = 0). Results are provided in Columns 4-6 of Table 2. For the sample of 122 audit committee member deaths, the coefficient on the change in audit committee connectedness (*ΔAC Connectedness*) is negative and significant, indicating that increases (decreases) in AC connectedness are associated with improvements (declines) in financial reporting quality. In untabulated tests, we find that the Non-AC member deaths have no effect on audit quality.

In Panel B, we present the results using the two measures of accounting conservatism. We find that all specifications yield similar inferences (i.e., audit committee connectedness is positively associated with conservatism). More specifically, relying on the results in Column 1 and 2, we find that a one standard deviation increase in audit committee connectedness is associated with a 5.9% (11.2%) increase in

conservatism using the *Cscore* (*Skew*) measure, respectively. As in Panel A, busy audit committees are less effective monitors. Further, in Columns 3-4 we use audit committee member deaths for identification, and find that the change in audit committee connectedness after the exogenous shock is positively related to the change in *Cscore* and *Skew*. Overall, Table 2 show that director connectedness positively impacts financial reporting quality and conservatism, which supports our hypothesis 1. This effect is strongest for non-co-opted members of the audit committee.

Market Reactions to the Death of an Audit Committee Member

So far we have established that well-connected audit committees are better monitors and are associated with high financial reporting quality, consistent with the notion that the audit committee is instrumental in financial reporting quality and integrity. In this section, we provide further evidence on the value of connectedness by examining the market reaction to the news of an exogenous shock to the structure of the board, in particular the death of an audit committee member. Using our sample of 122 AC member deaths, we proxy for the value of director connectedness by calculating the market reaction to the announcement of the death. We compare the reaction to the loss of high and low connectedness directors, controlling for other director and firm characteristics. The CAR is calculated as the raw daily return minus the value-weighted market return over a (-2, +2) window surrounding the announcement of the death; our results are robust to the use of other windows. The mean (median) CAR during the (-2, +2) window is -1.4% (-0.4%).

The results are in Table 3. In Column 1, we find that the dummy variable *High Director Connectedness* (indicating that director connectedness is in the top quartile) is negative and significant, suggesting that the loss of a director with high level of connectedness is associated with a 2.8% lower announcement return than loss of a less connectedness director. In Column 2, we interact *High Director Connectedness* with *Low AC Connectedness*, defined as an audit committee in the bottom quartile of connectedness in the year prior to the death, in order to examine whether the death of a highly connected director is particularly harmful in an audit committee with low overall connectedness. We find that *High Director Connectedness* is still negative and significant while the interaction term is also negative and

significant, suggesting that the loss of a highly connected director in an audit committee with low connectedness generates an even more negative investor reaction. Similarly, in Column 3 we interact *High Director Connectedness* with a dummy variable that indicates the level of the corporate governance. In particular, *Poor Governance* is a dummy variable indicating the firm is in the top quartile in terms of anti-takeover clauses according to the Gompers et al. (2003) GIM index. *High Director Connectedness* is negative and significant. The interaction term between connectedness and poor governance is also negative and significant, suggesting that in a poor governance environment, the negative effect of the loss of a highly connected director is more pronounced. In our tests we control for a number of director-specific factors, including age, gender, tenure, and board seats held before their death. In addition, we include a dummy variable for accounting expertise, isolating the effect from their professional expertise. Overall, our evidence supports the notion that director connectedness is valued by the investors, consistent with hypothesis 1.

Further Check on Self-Selection Bias

Previous sections use instances of director death to establish identification. In this section, we further address the issue of self-selection between directors and the firms that hire them by considering additional firm characteristics that affect the ability of directors to self-select. First, we split our firms into large and small subsamples, where a large firm is defined as a firm in the top quartile based on size. We argue that large firms are more prestigious and provide higher director compensation. Consequently, if well-connected directors are self-selecting, then they are more likely to choose to sit on larger rather than smaller firms. Knyazeva, Knyazeva, and Masulis (2013) suggest that more qualified directors tend to join larger firms that offer more visibility and greater director reputation benefits. Furthermore, large firms are more visible, retain higher quality auditors, and have higher analyst following, which suggests that they are less likely to manage earnings to begin with. Directors in small firms should have fewer directorship opportunities and thus be less likely to self-select into high quality firms. In Panel A of Table 4, we revisit our analysis on financial reporting quality by separating our sample into large (Columns 1-3) and small (Columns 4-6) firms. Results show that the effect of high AC connectedness is more pronounced for small

firms. These results indicate that a highly connected AC member on a smaller firm is more likely to be influential and thus is more likely to prevent earnings management.

Second, we split our sample into busy and non-busy audit committees, where a busy audit committee is one in which more than half of the members sit on four or more boards. Busy directors are likely in greater demand and thus have more choices in the labor market than less busy directors. Therefore, we expect directors that are less busy to have fewer directorship opportunities and thus be less likely to self-select into high quality firms. Panel B of Table 4 shows that the effect of AC connectedness on reporting quality is only significant in non-busy audit committees.

Finally, untabulated results show that the effect of AC Connectedness is significantly larger in firms with low levels of institutional ownership. To the extent that institutional ownership is associated with more diligent corporate governance, these findings provide further evidence that our main findings are not driven by self-selection bias. Overall, the results in this section indicate that our main findings are not likely to be influenced by self-selection bias.

Director Connectedness and Career Consequences

Having established that AC connectedness improves financial reporting quality, we next examine whether connected AC members are better shielded from career concerns. We use cases of detected misconduct as the platform to test this notion. Misleading financial reporting can result in lawsuits and SEC action.[13] Srinivasan (2005) and Marcel and Cowen (2014) show that such litigation is a source of career concerns and leads to director turnover and reputation damage. These career concerns are strongest for AC members since they are specifically charged with the oversight of financial reporting. Moreover, in the previous section we find that AC connectedness has the greatest impact on financial reporting quality.

[13] DuCharme et al. (2004) find that earnings management around stock offers is positively associated with the probability of subsequent litigation. Palmrose and Scholz (2004, 145) document that ''core and pervasive restatements increase the likelihood and severity of lawsuits, incremental to other litigation factors including fraud, the impact of the restatement on net income, and stock prices." Further, a PricewaterhouseCoopers (2000) survey suggests that accounting issues related to revenue recognition are positively associated with class action lawsuits.

Consequently, in the following tests we focus on independent, non-co-opted audit committee members and examine both director turnover following misconduct and the procurement of subsequent board seats.

We begin by examining the likelihood of director turnover in the year following the discovery of fraudulent activity. We include control variables examined in prior studies (e.g., Yermack 2004, Srinivasan 2005, Fahlenbrach et al. 2014). Given that our prior results suggest that higher AC connectedness improves monitoring ability and thus financial reporting quality, we predict that when compared to other directors, well connected AC members will be less penalized by the labor market when a monitoring failure occurs. Panel A of Table 5 presents director-level regressions in which the dependent variable is equal to 1 if director turnover occurs. In Column 1, we use our entire sample of independent, non-co-opted audit committee director observations and include annual controls for fraudulent activity (*Misconduct*), an indicator set to one if the connectedness of the director is in the top quartile of connectedness of all directors (*High Director Connectedness*), and an interaction term between *High Director Connectedness* and *Misconduct*. We control for director's overlapping with the CEO, the number of high-level positions, their educational background, and the external board seats. We also control for director age and tenure, and an indicator variable if the director is female, as prior studies suggest that older directors suffer more turnover and female directors experience less turnover than their male counterparts. Further, we control for staggered boards, since an individual director on a staggered board is generally up for election only every three years, as opposed to every year on a unitary board. Lastly, we control for industry, firm, and year fixed effects. Consistent with our predictions and with prior studies, the coefficient on *Misconduct* is positive and significant, indicating that fraudulent activity is associated with a higher likelihood of audit committee member turnover. The negative and significant coefficient on *High Director Connectedness* suggests that, overall, highly connected directors are less likely to be dismissed from the board. Further, the coefficient on *Misconduct * High Director Connectedness* is also negative and significant, indicating that when misconduct occurs, audit committee members with greater connectedness face less turnover than less connected members. An F-test on the sum of *Misconduct* and *Misconduct * High Director Connectedness* is not significant. The economic significance of our findings is also strong as indicated by the marginal

effects; highly connected audit committee members have a 26.7% lower chance of turnover. Additionally, when misconduct occurs, these directors have a 15.5% lower likelihood of turnover.[14] An F-test indicates that the sum of *High Director Connectedness* and its interaction with *Misconduct* is significantly different from zero.

In order to alleviate the concern that certain audit committee members choose to serve on the boards of specific types of firms (self-selection), we utilize a propensity score matched sample and report the results in Column 2. We match firms with detected misconduct to firms without using one-to-one matching with a caliper of 0.1% without replacement. Firms are matched in the year prior to the detection of misconduct based on the following variables: firm size, ROA, CEO tenure, CEO connectedness, volatility, institutional ownership, analyst following, audit committee size, audit committee independence, average audit committee director tenure, average audit committee director age, audit committee female ratio, and industry and year controls. More importantly, we also match on the Dechow et al. (2011) fraud score (Fscore) to mitigate the possibility that better connected directors choose to sit on the boards of firms that have a lower likelihood of engaging in fraudulent activity.[15] Similar to our Column 1 findings, the matched sample results suggest that (1) audit committee members with a high level of connectedness are 23.9% less prone to turnover, and (2) in the case of misconduct, audit committee members with greater connectedness face 13.7% less chance of turnover than other directors. In Column 3 we limit the sample to firms who

[14] An alternative interpretation of our findings is that AC members from firms that have at least one well-connected AC member are less likely to be punished following fraud. In other words, our results could be driven by the firm-level effect instead of the director effect. To investigate such a possibility, we split our sample firms by the median level of AC connectedness and repeat our test for each subsample. We find that the effect of AC director connectedness on their turnover is more pronounced in the firms that have lower AC connectedness, suggesting that it is the individual director's connectedness that drives our findings.

[15] In particular, we construct a fraud score (*FScore*) using the coefficients from Dechow et al. (2011), who use data on legal actions from the SEC's Accounting and Auditing Enforcement Releases to develop a prediction model for accounting fraud. See Appendix D for the model and variable definitions. Dechow et al. (2011, 61) suggest that the ratio of the computed predicted probabilities of misstatements from their model to the unconditional probability of misstatements can be used as a measure of fraud likelihood relative to a random firm taken from the population. However, the unconditional probability is specific to the time period of their study (1982-2005). Because our time period does not correspond to theirs, we use the predicted probabilities and use its sample distribution to demarcate situations of high- and low-likelihood of potential misstatements. In untabulated results, we use litigation risk (defined in Appendix E) to proxy for the reputational concerns of directors and find similar results to *FScore*.

experience fraudulent activity; the results are consistent with those in Columns 1 and 2. On average, an audit committee member with high connectedness is 27.8% less likely to experience turnover after misconduct.

In Panel B of Table 5, we further examine the career prospects of directors by studying the likelihood of audit committee members obtaining board seats at other firms following the detection of misconduct. Our dependent variable is the change in the total number of board seats held by the director in the three years following the detection of fraudulent activity. We utilize a Tobit model to account for the censored nature of the dependent variable.[16] As in Panel A, we report results on the full, matched, and misconduct only samples in Columns 1-3, respectively. Examination of the full sample indicates that on average, audit committee members lose board seats following misconduct, which is consistent with Srinivasan (2005) and Fich and Shivdasani (2007). The positive and significant coefficient on *High Director Connectedness* suggests that better connected audit committee members obtain additional future board seats, all else equal. Moreover, after the discovery of misconduct, these directors obtain relatively more board seats than audit committee members with low connectedness, as shown by the positive and significant coefficient on the *Misconduct * High Director Connectedness* interaction. An F-test on the sum of *Misconduct* and *Misconduct * High Director Connectedness* is positive and significant, indicating that unlike less connected directors, highly connected directors tend to gain, rather than lose, board seats after the detection of misconduct. Results in Columns 2-3 provide similar evidence. These findings are consistent with the idea that better connected directors have more external opportunities and are less likely to be punished by the labor market after a monitoring failure is detected. Alternatively, as noted in Fich and Shivdasani (2007), these directors may have discovered the fraudulent activity, which constitutes a positive signal to the labor market.[17]

[16] To ensure that our results are not driven by potential outliers, we use a dummy variable to identify an increase in the number of board seats held over the three years following the detection of fraud. In untabulated analysis we find similar results when using this measure.

[17] Dyck, Morse, and Zingales (2008) find that more than 34% of corporate fraud is discovered due to the revelation by the corporate insiders including managers and directors.

Finally, we explore the notion that the effect of director connectedness on their career varies with the severity of misconduct. The reputation hypothesis suggests that diligent directors establish better reputations in the labor market (Fama 1980, Fama and Jensen 1983). Financial misconduct is a signal of a monitoring failure by the audit committee; this failure may subsequently hinder the members' prospects in obtaining additional board seats. We use two measures of the severity of financial misconduct. The first proxy is the cumulative abnormal returns during the five-day window (-2, +2) surrounding the misconduct revelation date. The second uses the case settlement amount to capture the severity of the misconduct (Fich and Shivdasani 2007).[18] Table 6 shows that the likelihood of both turnover and losing board seats increases with the severity of the fraud. Furthermore, in cases of severe misconduct, (1) the likelihood of turnover for highly connected directors is significantly lower than for less connected directors (i.e., director connectedness helps the director retain the job even when the misconduct is a serious offense), and (2) highly connected directors are less likely to lose additional board seats than less connected directors. Overall, the evidence in Tables 5-6 provides strong support for hypothesis 2, in that directors with greater connectedness are less prone to career concerns relative to their less connected counterparts.

Robustness Tests

Firm Fixed Effects

In our main tests, we control for firm-fixed effects to mitigate firm-level time-invariant omitted variable bias. Doing so results in focusing on time-series variations within each firm, rather than cross-sectional comparison between firms. In addition, Greene (2004) cautions about applying fixed-effects in non-linear models such as logit regressions.[19] As such, we repeat our main tests without firm fixed-effects to examine cross-sectional variations between firms more explicitly and to check whether fixed-effects alter our logit model results. Untabulated tests without controlling for firm fixed effects reveal results

[18] In the misconduct sample, the average CAR is -6.38% and the lower quartile is -12.41%. For settlement amount, the average is roughly $1.5 million and the top quartile is $2.65 million. We classify the misconduct to be severe if the CAR is in the bottom quartile or the settlement is in the top quartile.

[19] Our unbalanced panel data has an average t longer than 3 years, which according to Greene (2004) should decrease this concern dramatically.

comparable to the main findings *with* firm fixed effects, indicating that firm fixed effects do not alter our main inferences.

Director Accounting Expertise and Connectedness

In this section, we examine the importance of accounting expertise relative to director connectedness in terms of how these characteristics influence monitoring effectiveness and career concerns. Regulatory reforms enacted as part of the Sarbanes-Oxley Act call for an audit committee with sufficient financial expertise to ensure that members possess the knowledge to detect financial reporting misconduct.

Using the SEC's narrow definition of accounting expertise as individuals who have education and/or experience in accounting or auditing (e.g., auditor, CFO, controller, or accounting officer), we find that 25.7% of audit committee members are classified as accounting experts. In Table 7, we revisit our analysis on financial reporting quality (Panel A), director turnover (Panel B), and future board seats (Panel C). Specifically, we use a dummy variable to identify accounting expert status (*Accounting Expert*) and interact this variable with our *High Director Connectedness* identifier in order to examine the combined effect of these two important board member characteristics. In each model we include the controls previously identified in Table 2 and Table 5, respectively.

The importance of the combined effect of accounting expertise and director connectedness is observed when we examine its effect on financial reporting quality, as shown in Panel A. Using the same three proxies for accruals reported in Table 2, we find that high levels of member connectedness continues to be associated with better financial reporting quality. Further, accounting expertise is weakly related to better reporting quality, as shown by the negative and significant coefficient on *Accounting Expert* in Column 1 of Panel A. More importantly, we find that the interaction of AC member connectedness and accounting expertise is positively associated with financial reporting quality for all three proxies for accounting quality measures. These results suggest that accounting expertise and audit committee connectedness complement each other; executives who are shielded from career concerns (i.e., highly connected members) and who are also accounting experts are better able to monitor the firm.

Turning to Panels B and C of Table 7, the negative and significant coefficients on *High Director Connectedness* support our prediction that well-connected AC members are shielded from career concerns. The lack of a significant effect of accounting expertise on turnover or future board seats indicates that the same is not true for accounting experts after controlling for connectedness. The interaction term (*Accounting Expert * High Director Connectedness*) is insignificant, suggesting that highly connected directors who are also accounting experts does not have any predictive power over simple connectedness when it comes to the career concerns of directors. These results are consistent across our full, matched, and financial misconduct samples, reported in Columns 1-3, respectively.

Corporate Governance and Director Connectedness

A firm's existing governance practices may also substitute for or complement the effect of director connectedness. Prior studies find that stronger governance helps to mitigate managerial opportunistic behavior and misconduct (Shleifer and Vishny 1997). In a strong governance environment, the monitoring effect from director connectedness may not be as prominent when compared to its effect for firms with weaker governance structures. Alternatively, director connectedness provides external information such as market trends or industry practice to monitoring, which complements other governance mechanisms. To explore this empirical question, we include the corporate governance index (*GIM Index*) developed in Gompers et al. (2003) as an additional control. We present the findings in Table 8.[20] In sum, we find that the governance index has no significant predictive power in explaining either turnover or future board seats. In addition, the interaction term is insignificant in all specifications, suggesting that there is no substitutional or complementary effect between corporate governance and director connectedness.

Individual Measures of Director Connectedness

Recall that our connectedness measure incorporates all four centrality metrics: degree, betweenness, closeness, and eigenvector. Given that each measure examines a different, but highly correlated, aspect of the importance of an individual in the network, it may be that one connectedness variable has more

[20] The GIM index is compiled so that high values indicate stronger governance (i.e., fewer anti-takeover restrictions). Alternatively, we use the measure in Dhaliwal et al. (2006) for AC governance strength and we find similar inferences.

predictive power over another. To test this prediction, we revisit our director turnover and future board seat analysis using each of the four centrality measures rather than the overall connectedness. Untabulated results show that each measure has similar predictive power in our regressions, which is not surprising given the correlation across each measure (reported in Panel B of Appendix C). Further, when all four metrics are used simultaneously, degree is insignificant, while the other three remain significant at 10% level.

Continuous Measure for Director Connectedness

When examining the effect of director connectedness on director career consequences, to facilitate interpretation, we use a dummy variable based on the sample distribution of director connectedness as the independent variable, where a highly connected director is one in the top quartile of connectedness. To rule out the possibility that our results are driven by this particular form of measure, we replicate our analysis using a continuous measure of director connectedness. Untabulated results show that using the continuous measure yields similar inferences as our main results.

V. CONCLUSION

Using a novel measure of connectedness, we examine a specific channel by which director connectedness may improve monitoring in the firm: financial reporting quality. Using various measures of accruals, we find that the connectedness of independent, non-co-opted audit committee members has a positive effect on the quality of financial reporting and on accounting conservatism. The same effect is not seen when examining non-audit committee members or co-opted audit committee members, indicating that members of certain committees may be more instrumental in certain aspects of monitoring. Our results are robust to an examination of exogenous changes in board structure caused by member deaths. We also find that our results are stronger in small firms and firms with less busy AC directors, indicating that self-selection is not driving our results.

We also examine the market reaction to the deaths of audit committee members, and find that the loss of a director with high connectedness is associated with a 2.8% lower announcement return than loss

of a less connectedness director. The observed negative announcement returns associated with the death of a well-connected director is exacerbated for firms with an otherwise less connected audit committee and for firms with weaker internal governance structures. While regulators have been pushing for greater board independence, our evidence suggests that social connectedness of directors is also important in monitoring the firm and promoting shareholders' interests.

Finally, we examine the effect of corporate misconduct on directors' career paths, focusing specifically on independent, non-co-opted members of the audit committee. We find that highly connected AC members are less likely to experience turnover in the aftermath of misconduct when compared to AC members who are not well-connected. Further, within the three years following the detection of misconduct, well-connected AC members are less likely to lose a board seat at another firm when compared to AC members who are not well-connected. Overall, our results indicate that director connectedness has a positive impact on their monitoring ability. As a result, connected directors are less likely to be fired and have greater career prospects.

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Appendix A: Centrality Measures

Newman (2003) notes that it is important to address the impact of an individual in the entire network (i.e., identify which individuals are most connected to others or have the most influence). Consequently, our connectedness measure includes four centrality measures developed in network theory that capture not only social ties but, more importantly, the quality of those connections: degree, betweenness, closeness, and eigenvector centrality, as introduced in Proctor and Loomis (1951), Freeman (1977), Sabidussi (1966), and Bonacich (1972), respectively. While there is no theory as to which measure is superior, each measure captures distinct aspects of the relative importance of every individual in the entire network.

Degree captures the number of direct links an individual has with other individuals in the network. The more connections the individual has, the more important she is in the network. The average number of connections of the directors on the board/committee is our board/committee level measure of degree. While simple to construct, degree does not incorporate sources of information obtained through indirect links.

Betweenness represents the importance of an individual serving as the shortest information bridge or intermediary for other members (Freeman 1977). Individuals with a higher betweenness measure have access to richer and more differentiated information. Betweenness is the sum of the shortest paths between all pairs of other individuals that pass through a person, scaled by the total number of shortest paths between the same pair of individuals. We standardize the measure by (n-1)(n-2)/2, where n is the number of members.

Closeness measures how quickly directors can access other directors in the network. It is defined as the inverse of the sum of an individual's distances to all other members (Sabidussi 1966). The "closer" an individual is, the lower her total distance to all other members. Intuitively, having closer connections to more people makes information exchange quicker and more readily available, thus resulting in greater influence on others and higher social power.

Eigenvector centrality is based on the notion that not all individuals connected to a given person are equally important. Essentially it is a weighted degree measure, with the weights based on how well connected each direct link is. Google's PageRank is a variant of this measure, which takes into account the

relative importance or popularity of connected webpages. A person who is connected with more important individuals is herself more important in the information dissemination channel and will have higher Eigenvector centrality, all else equal. We use the Perron-Frobenius theorem to ensure that all Eigenvectors are positive and that only the greatest Eigenvalue results in the desired centrality measure.

Suppose there are N directors (nodes) in the entire network and the connections between them. We define their degree, betweenness, closeness, and eigenvector centrality as follows:

1. Degree: let the number of connections that director A has with all the other directors, denoted as $C_D(A)$. A director's degree centrality is defined as $C_D(A) = C_D(A)/(N - 1)$.

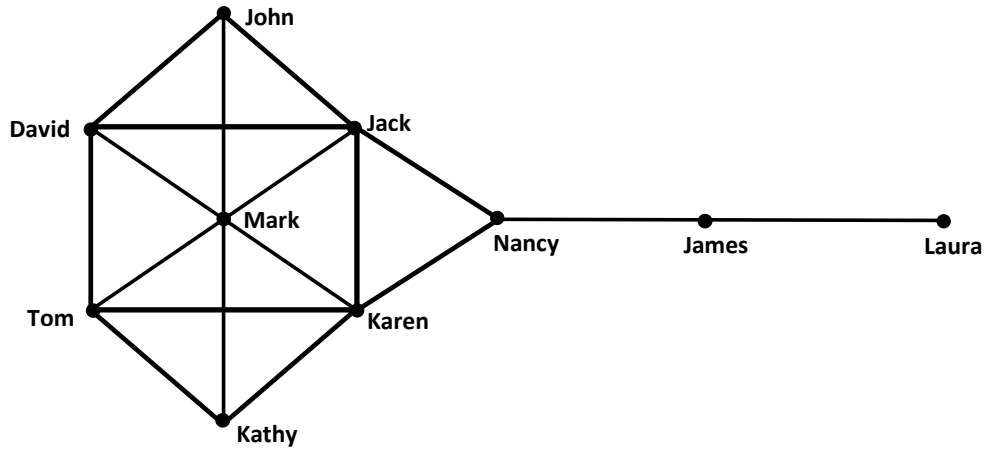
2. Let the director C's $C_B(C) = \sum_{A<B} \frac{m(A,B;C)}{m(A,B)}$, where m(A, B; C) is the number of shortest paths between director A and B through director C, and m(A, B) is the number of shortest paths between A and B. The director's betweenness is defined as $C_B(C) = \frac{C_B(C)}{(N-1)(N-2)/2}$.

3. Let director A's absolute closeness be $C_C'(A) = \frac{1}{\sum_{A \in N} d(A,B)}$, where N represents the entire network, and d(A,B) is the number of connections in a shortest path connecting directors A and B. Directors A's closeness is defined as $C_C(A) = (N-1) \times C_C'(A)$.

4. Suppose the m × m matrix M be the adjacency matrix of the network, i.e., $M_{ij} = 1$ if there is a link between director/node *i* and director/node *j*, and $M_{ij} = 0$ otherwise. Also suppose the m × 1 vector p satisfy the following two conditions: a. $Mp = ap$, where a is the largest eigenvalue of M; b. $max_i(p_i) = 1$. Eigenvector centrality of director A $C_E(A)$ is defined as the A^{th} element of p.

Not every pair of directors in the network is connected directly. In this case, multiple components of the network occur. Each component is defined as a subset of directors that can be reached from one another by connections between them indirectly. Betweenness and Closeness as defined above are not calculable if the network has multiple components. Following the approach by Sabidussi (1966), we solve this problem by first calculating $C_B(A)$ and $C_C(A)$ over the component to which director A belongs, and then scaling them by the ratio of the size of this component over N.

Appendix B: An Illustration of Director Network



This simple network has ten directors. Each director is connected with every other director either directly or indirectly. We describe the calculations of the four centrality metrics for representative directors. The measures for all directors are summarized in Table B. Mark has the highest degree centrality because he is directly connected to 6 other directors. His degree metric is calculated as 6/(10-1) = 0.667. However, his closeness metric is not the highest because it takes four steps for him to reach Laura, three steps to James, two steps to Nancy and one step to the rest directors. As such, his closeness centrality is (10-1) * (1/(4+3+2+1*6)) = 0.6. Jack and Karen have the highest closeness measure as they can quickly reach other members of the network, considering all direct and indirect links.

Betweenness estimates the shortest path between all other pairs of the network. For example, there are 36 pairs of other directors in the network and David is one of the two shortest paths between Tom and John. Also, David lies on one of the three shortest paths between Tom and Jack. No other shortest path passes through him. Therefore, we calculate his betweenness as (1/2 + 1/3)/36 = 0.023. By this logic, we find that Nancy actually has the highest betweenness metric. In other words, she serves as a crucial information flow broker of the network.

Closeness is the inverse of the sum of an individual's distances to all other members. Take John for example. Count his connections with all the other members and sum them up yields (1 + 2 + 1 + 2 + 1

+ 2 + 2 + 3 + 4) = 18. Total number of nodes minus 1 in this case is 10 - 1 = 9. John's closeness is thus 9/18 = 0.5.

Eigenvector centrality is a weighted sum of the degree measure. John and Nancy have the same degree metric (i.e., 0.333). However, John connects to David, Mark, and Jack, while Nancy connects to Jack, Karen, and James. Considering the degree measures of the six connected directors, we can see that (1) David's degree is higher than James' and (2) Mark's degree is higher than Karen's. As such, John connects to directors with higher degree than Nancy does. The difference is reflected in the Eigenvector measure: John's Eigenvector centrality is 0.594 and Nancy's is 0.407.

Summary of Centrality Measures of the Directors in the Network

Director	Degree	Betweenness	Closeness	Eigenvector
David	0.444	0.023	0.529	0.732
Tom	0.444	0.023	0.529	0.732
John	0.333	0.000	0.500	0.594
Mark	0.667	0.102	0.600	1.000
Kathy	0.333	0.000	0.500	0.594
Jack	0.556	0.231	0.643	0.827
Karen	0.556	0.231	0.643	0.827
Nancy	0.333	0.389	0.600	0.407
James	0.222	0.222	0.429	0.100
Laura	0.111	0.000	0.310	0.023

Appendix C: Director Centrality Summary Statistics

This appendix presents the summary statistics of director level centrality measures. *Degree* and *Betweenness* are multiplied by 10^4 and *Closeness* and *Eigenvector* are multiplied by 10^2.

Panel A: Director-Level Centrality Measures

	Mean	**Median**	**Std. Dev.**	**Lower Quartile**	**Upper Quartile**	**Skew**
Degree	3.031	2.446	3.665	0.529	5.215	3.228
Closeness	13.252	15.011	9.256	2.785	21.662	-0.772
Betweenness	0.530	0.000	2.147	0.000	0.190	10.320
Eigenvector	1.256	0.117	4.753	0.020	0.585	8.073

Panel B: Correlations between Centrality Measures

	Degree	*Closeness*	*Betweenness*	*Eigenvector*
Degree	1.000			
Closeness	0.855	1.000		
Betweenness	0.809	0.815	1.000	
Eigenvector	0.811	0.889	0.762	1.000

Panel C: Factor Analysis

	Factor 1	*Factor 2*	*Factor 3*	*Factor 4*
Degree	0.622	0.021	-0.172	-0.602
Closeness	0.317	0.678	0.020	0.119
Betweenness	0.559	-0.211	-0.310	0.239
Eigenvector	0.592	-0.149	0.693	0.211
Eigenvalue	2.410	0.805	0.465	0.138
% variance explained	63.1	21.1	12.2	3.6

Panel D: Orthogonalization of Director Connectedness

	Coefficient	*t-stat*
Education	1.365	54.19
Age	0.003	5.54
Number of Board Seats	0.081	35.07
Number of High Positions	0.055	22.26

Appendix D: Financial Reporting Quality and Conservatism Measures

Hribar: Unsigned Abnormal Accruals (Hribar and Nichols, 2007)

We first estimate the following regression for each year and Fama-French industry:

$$TACC = \alpha + \beta_1 \Delta REV + \beta_2 PPE + \xi$$

where TACC is total accruals, defined as income before extraordinary items minus cash from operations divided by lagged total assets. ΔREV is the change in sales adjusted for the change in receivables, divided by lagged total assets. PPE is gross property, plant, and equipment, scaled by lagged total assets. We then calculate the abnormal accruals as the residual term in the regression, i.e., $TACC - (\alpha + \beta_1 \Delta REV + \beta_2 PPE)$, and Hribar is the absolute value of the residual (abnormal accruals).

DGLS: Industry-Adjusted Absolute Value of DD Residual (Dechow et al., 2011)

We first regress working capital accruals (WC_ACC) on operating cash flows in the current year (OCF_t), the preceding year (OCF_{t-1}), and the following year (OCF_{t+1}):

$$WC\_ACC_{i,t} = \alpha_{0,i} + \beta_{1,i}\, OCF_{i,t-1} + \beta_{2,i}\, OCF_{i,t} + \beta_{3,I}\, OCF_{i,t+}1 + \nu_{i,t}$$

where WC_ACC = ΔCA - ΔCL - ΔCASH + ΔSTDEBT + ΔTAXES, where ΔCA = change in current assets between year *t-1* and *t*, ΔCL = change in current liabilities between year *t-1* and *t*, ΔCASH = change in cash and Short-Term Investments between year *t-1* and *t*, ΔSTDEBT = change in short-term debt between year *t-1* and *t,* and ΔTAXES = change in taxes payable between year *t-1* and *t*.

All variables are scaled by average total assets and winsorized at the 1 percent and 99 percent levels. We estimate the equation by year for each of the two-digit SIC industry groups. DGLS is the absolute value of each firm's residual less the average absolute value for the corresponding industry.

AQ: Performance-Matched Discretional Accruals (Kothari et al., 2005)

We estimate abnormal accruals for each firm-year and subtract the value from the discretionary-accruals of the performance-matched firm. The modified Jones model of abnormal accruals model is estimated cross-sectionally each year using all firm-year observations in the same Fama-French industry.

$$TA_{i,t} = \beta_0 + \beta_1(1/ASSETS_{i,t-1}) + \beta_2(\Delta SALES_{i,t} - \Delta AR_{i,t}) + \beta_3 PPE_{i,t} + \xi_{i,t}$$

where TA (total accruals) is the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization, scaled by lagged total assets; $\Delta SALES_{i,t}$ is change in sales; $\Delta AR_{i,t}$ is change in account receivable; and $PPE_{i,t}$ is gross property, plant and equipment, all scaled using lagged total assets, $ASSETS_{i,t-1}$. We use total assets as the deflator to mitigate heteroscedasticity in the residuals.

Residuals from the annual cross-sectional industry regression model in the modified Jones model are used to measure estimated abnormal accruals. We then match each firm-year observation with another firm from the same Fama-French industry and year with the closest return on assets in the current year, $ROA_{i,t}$ (net income divided by total assets). We define the AQ for firm i in year t as the abnormal accrual in year t minus the performance-matched abnormal accrual for year t.

CScore (Khan and Watts 2009):

Khan and Watts (2009) develop a firm-specific estimation of the timeliness of bad news and document evidence consistent with conservatism increasing in the measure (CScore). We use annual cross-section regression to obtain CScore following Ahmed and Duellman (2013) page 10.

Skew (Beatty 2008):

For each firm-year, we calculate Skew as the negative of the difference in the skewness of earnings and the skewness of cash flows over three years prior to current year.

FScore: (Dechow et al. 2011)

Based on the model in Dechow et al. (2011, 61). Fraudscore = -7.893 x rsst_acc + 2.518 x ch_rec + 1.191 x ch_inv + 1.979 x soft_assets + 0.171 x ch_cs - 0.932 x ch_roa + 1.029 x issue.

Where rsst_acc = (ΔWC + ΔNCO + ΔFIN)/average total assets, where WC = [Current Assets – Cash and Short-term Investments]–[Current Liabilities – Debt in Current Liabilities]; NCO = [Total Assets – Current Assets - Investments and Advances] – [Total Liabilities – Current Liabilities – Long-term Debt]; FIN = [Short-term Investments + Long-term Investments] – [Long-term Debt + Debt in Current Liabilities + Preferred Stock]; ch_rec =change in accounts receivable scaled by average total assets; ch_inv = change in inventory scaled by average total assets; soft_assets = (total assets - net property, plant and equipment –

cash and cash equivalents)/total assets; ch_cs = percentage change in cash sales, i.e., sales minus change in accounts receivable; ch_roa = current year ROA minus last year ROA; ROA is earnings before extraordinary items scaled by the average of this year and last year total assets; issue = 1 if the firm issued securities during the current year.

Appendix E: Additional Variables of Interest

Variable Name	Definition
AC Age	The average age of non-co-opted AC members;
Accounting Expert	A dummy variable equals to 1 if the director is considered an "expert," where experts are those who currently hold or have held the position of CFO, CPA/CFA, controller, comptroller, treasurer or any other position that are financial reporting related;
Acct Expertise	Percentage of audit committee members that are considered "experts," where experts are those who currently hold or have held the position of CFO, CPA/CFA, controller, comptroller, treasurer or any other position that are financial reporting related;
Analyst Following	Log number of analysts following the firm during the year;
AC Connectedness	The average of factor score of independent, non-co-opted audit committee members; Factor score is based on all directors' degree, betweenness, closeness, and eigenvector centrality;
AC High Education	The proportion of non-co-opted AC members that have obtained degrees from prominent undergraduate or MBA programs;
AC High Position	The average number of high-level positions (defined as higher than vice president) that the non-co-opted AC members have obtained during their career;
AC Independence	The number of independent audit committee members scaled by total number of audit committee members;
AC Other Connectedness	The average of factor score of independent, co-opted audit committee members; Factor score is based on all directors' degree, betweenness, closeness, and eigenvector centrality;
AC Size	Log of the total number of audit committee members;
Board Seats	Number of external board seats for the director during prior year;
Busy AC	The proportion of independent, non-coopted audit committee members sitting on 4 or more public firms' boards;
CAR	The cumulative abnormal returns during the (-2, +2) window around the audit committee member death announcement date;
Cash	Cash scaled by book value of total assets;
Cashflow	Operating cash flow divided by book value of total assets;
CEO Connectedness	Factor score based on CEOs' degree, betweenness, closeness, and eigenvector centrality;
CEO Power	Calculated using factor analysis to extract the common underlying latent variable, using CEO tenure, CEO equity ownership, and CEO/Chairman duality;
CEO/AC Overlap Ratio	Percentage of independent, non-co-opted audit committee members that have overlapping historical and current experience with the CEO;
CEO/Director Overlap	a dummy variable indicating whether the non-co-opted audit committee member has overlapping historical and current experience with the CEO;
Cscore	Measure of accounting conservatism in Khan and Watts (2009);
Director Age	Age of the director;
Director Tenure	Number of years the director is on the audit committee;
Director Turnover	A dummy variable equals 1 if the director is dismissed from the board;
Female Director	Dummy equal to one if the director is female;
Firm Size	Log of total assets;
FScore	Predicted probability of firm committing fraud based on Dechow et al. (2011). See Appendix D;
Future Boards	Change in number of board seats the director obtains in the future 3 years;
High AC Connectedness	A dummy variable equals to 1 if the audit committee connectedness in the top quartile of the sample firms;
High Director Connectedness	A dummy variable equals to 1 if the audit committee member connectedness is in the top quartile among all the AC directors;

High Education	A dummy variable indicating whether the director has obtained degree from a prominent undergraduate or MBA program;
High-level Position	Number of high-level positions (defined as higher than vice president) that the director has obtained during his career;
Institutional Ownership	The proportion of common equity owned by institutional investors;
Leverage	Book value of long-term debt divided by total assets;
Litigation Risk	Estimated probability of litigation based on Model (3) in Kim and Skinner (2012, 302), calculated as eSUE/(1+eSUE), where SUE_t = -7.883 + 0.566 x FPS_t + 0.518 x $Assets_{t-1}$ + 0.982 x Sales $Growth_{t-1}$ + 0.379 x $Return_{t-1}$ - 0.108 x $Returnskewness_{t-1}$ + 25.635 x $Returnstddev_{t-1}$ + 0.00007 x $Turnover_{t-1}$. FPS = 1 if the firm is in the biotech (SIC codes 2833-2836 and 8731-8734), computer (3570-3577 and 7370-7374), electronics (3600-3674), or retail (5200-5961) industry, and 0 otherwise; Assets = log of total assets; Return = Market-adjusted 12-month stock return; Returnskewness = skewness of the firm's 12-month return; Returnstddev = standard deviation of the firm's 12-month returns. Sales Growth is current year sales less last year sales scaled by beginning of current year total assets; Turnover = daily trading volume accumulated over the fiscal year scaled by beginning of the year's shares outstanding (in thousands);
Low AC Connectedness	A dummy variable equals to 1 if the audit committee connectedness is in the bottom quartile.
Market-to-book	Market value of common equity plus book value of long-term debt divided by total assets;
Misconduct	A dummy variable equals to 1 when the public becomes aware of any fraudulent activity committed by the firm, as evidenced by SEC/DOJ legal actions related to accounting malpractice, mergers & acquisitions, securities law, financial reporting, fraud, AAER, class action, stockholder suits, and initial public offerings (IPOs);
Non-AC Connectedness	The average of factor score of non-audit committee board members; Factor score is based on all directors' degree, betweenness, closeness, and eigenvector centrality;
Opercycle	Operating cycle, defined as days in account receivables + days in inventory;
Poor Governance	A dummy variable indicating the firm is in the top quartile in terms of number of anti-takeover clauses as in Gompers et al. (2003);
Prior Return	Buy and hold return during the prior 3 years;
ROA	Earnings before extraordinary items divided by total assets;
Severe Misconduct	A dummy variable equals to 1 if the misconduct settlement amount is in the top quartile or if the announcement CAR is in the bottom quartile;
Skew	The difference between the skewness in the firm's cash flows (scaled by total assets) and the firm's earnings (scaled by total assets) based on previous 20 quarters;
Staggered Board	A dummy variable equals 1 if the firm has a staggered board;
Volatility	The standard deviation of stock return calculated over prior 60 months;
σ(OCF)	Standard deviation of operating cash flow, measured over the previous 10 years;
σ(Sales)	Standard deviation of sales, measured over the previous 10 years;

Table 1 Descriptive Statistics

This table shows the summary statistics of our variables of interest. Connectedness measures are reported based on their factor scores. Appendix C presents the summary statistics of director level centrality measures. See Appendix D and E for all variable definitions.

	Mean	Median	Std. Dev.	Bottom Quartile	Top Quartile
Dependent Variables:					
Director Turnover (full sample)	0.089	0.000	0.284	0.000	0.000
Director Turnover (matched sample)	0.111	0.000	0.314	0.000	0.000
Director Turnover (misconduct only)	0.127	0.000	0.333	0.000	0.000
Future Boards (full sample)	1.338	1.000	3.145	-1.000	3.000
Future Boards (matched sample)	1.858	1.000	3.638	-1.000	4.000
Future Boards (misconduct only)	1.767	1.000	3.615	-1.000	4.000
Hribar	0.053	0.036	0.055	0.016	0.069
DGLS	0.004	0.004	0.076	-0.026	0.034
AQ	-0.009	-0.004	0.285	-0.079	0.081
Cscore	0.118	0.113	0.111	0.053	0.178
Skew	0.733	0.866	0.383	0.400	1.061
Audit Committee Variables:					
AC Connectedness	0.000	-0.193	1.000	-0.343	0.013
AC_Other Connectedness	0.001	-0.150	0.998	-0.307	0.021
Non-AC Connectedness	0.000	-0.105	0.999	-0.278	0.055
CEO Connectedness	-0.000	-0.257	0.998	-0.372	0.084
High AC Connectedness	0.252	0.000	0.266	0.000	1.000
CEO/AC Overlap Ratio	0.099	0.079	0.166	0.000	0.172
Busy AC	0.242	0.000	0.349	0.000	0.500
AC Size	3.625	3.000	0.928	3.000	4.000
AC Independence	0.632	0.650	0.296	0.333	1.000
Acct Expertise	0.257	0.250	0.239	0.000	0.333
AC High Education	0.065	0.000	0.096	0.000	0.125
AC High Position	2.858	2.000	1.975	1.000	4.000
AC Age	61.640	62.000	9.276	56.000	68.000
AC Number of External Boards	2.584	2.000	3.220	0.000	4.000
Other Controls:					
Firm Size ($million)	4,077.700	485.370	18,619.120	128.240	1,749.109
ROA	0.010	0.046	0.501	0.007	0.099
Leverage	0.175	0.104	0.247	0.004	0.270
Market-to-book	2.619	1.864	3.841	1.182	3.101
Institutional Ownership	0.484	0.525	0.344	0.136	0.801
Analyst Following	9.106	7.000	7.623	3.000	13.000
Staggered Board	0.381	0.000	0.283	0.000	0.000
Prior Return	0.164	0.022	0.817	-0.241	0.315

Table 2 Audit Committee Connectedness and Financial Reporting Quality and Accounting Conservatism

This table examines the effect of audit committee connectedness on financial reporting quality in Panel A and conservatism in Panel B. See Appendix D and E for variable definitions. In Panel A (B), columns 1-3 (1-2) provide full sample OLS results and Columns 4-6 (3-4) report change regressions based on firms with audit committee member deaths. All changes variables are year t+1 minus year t-1 values, with year t being the death year. The t-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

Panel A: Accruals-based Measures Financial Reporting Quality

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS			*AC Member Deaths (OLS)*		
Dependent Variable:	**Hribar**	**DGLS**	**AQ**	**ΔHribar**	**ΔDGLS**	**ΔAQ**
Constant	0.060*	0.010	0.024	0.023	0.002	-0.005
	(1.83)	(1.00)	(1.26)	(0.52)	(0.25)	(-0.31)
AC Connectedness	**-0.002****	**-0.001****	**-0.003****	-	-	-
	(-2.28)	**(-2.09)**	**(-2.31)**			
ΔAC Connectedness	**-**	**-**	**-**	**-0.015****	**-0.031****	**-0.033****
				(-2.52)	**(-2.12)**	**(-2.38)**
AC Other Connectedness	-0.001	-0.000	-0.001	-0.003	-0.010	-0.010
	(-1.03)	(-0.99)	(-1.30)	(-1.12)	(-1.09)	(-0.89)
Non-AC Connectedness	-0.001	-0.001	-0.001	-0.001	-0.003	-0.002
	(-0.88)	(-0.89)	(-1.19)	(-0.23)	(-0.54)	(-0.23)
High Position (AC)	-0.001	-0.000	-0.001	-0.004	-0.008	-0.005
	(-0.67)	(-0.90)	(-0.67)	(-0.78)	(-1.23)	(-0.45)
Education (AC)	-0.001	-0.001	-0.001	-0.006	-0.003	-0.005
	(-0.70)	(-0.60)	(-0.90)	(-0.99)	(-0.56)	(-0.67)
Board Seats (AC)	-0.001	-0.001	-0.001	-0.011	-0.005	-0.002
	(-0.70)	(-1.00)	(-1.25)	(-0.87)	(-1.45)	(-0.39)
Acct Expertise	-0.019**	-0.002*	-0.006*	-0.122	-0.026	-0.021
	(-2.32)	(-1.85)	(-1.81)	(-1.50)	(-1.29)	(-1.32)
AC Size	-0.000	-0.000	0.000	-0.012	-0.016	-0.011
	(-0.33)	(-0.55)	(0.31)	(-1.55)	(-1.39)	(-1.21)
AC Independence	-0.001	-0.001	-0.010	-0.009	-0.005	-0.009
	(-1.33)	(-0.60)	(-0.90)	(-0.32)	(-0.55)	(-0.71)
Busy AC	0.002*	0.003**	0.001	0.010	0.009	0.007
	(1.68)	(2.24)	(1.23)	(1.23)	(1.02)	(1.21)
CEO Connectedness	0.001	0.000	0.000	-0.004	-0.012	-0.009
	(1.30)	(0.78)	(0.33)	(-0.32)	(-0.36)	(-0.37)
CEO/AC Overlap Ratio	0.008	0.001	0.001	-0.003	-0.005	-0.005
	(1.14)	(0.11)	(0.22)	(-0.56)	(-0.70)	(-0.60)
Firm size	0.002	0.001	-0.001	0.076*	0.010*	0.028*
	(0.84)	(1.59)	(-0.23)	(1.67)	(1.92)	(1.66)
ROA	0.027*	0.016*	0.050*	-0.035	-0.031	-0.059
	(1.76)	(1.91)	(1.81)	(-0.54)	(-1.17)	(-1.44)
Leverage	0.031	0.005	0.019	0.155	0.022	0.108**
	(1.46)	(1.09)	(1.43)	(1.25)	(1.05)	(2.06)
Institutional Ownership	-0.002**	-0.001	-0.001	-0.157	-0.009	-0.023
	(-2.05)	(-1.37)	(-1.19)	(-0.66)	(-1.16)	(-1.21)
Market-to-book	0.001	-0.000	0.000	-0.023	-0.002	-0.007*
	(1.17)	(-0.85)	(1.07)	(-1.26)	(-0.92)	(-1.95)
Analyst Following	-0.001***	-0.000**	-0.001***	-0.007	-0.002	-0.003
	(-3.18)	(-2.52)	(-3.24)	(-0.76)	(-0.75)	(-0.60)
Litigation risk	0.005**	0.001*	0.008**	-0.063	-0.002	-0.003
	(2.09)	(1.85)	(2.42)	(-1.43)	(-0.33)	(-0.19)
σ(Sales)	0.031**	0.003**	0.007*	0.236*	0.037*	0.109*
	(2.45)	(1.99)	(1.69)	(1.93)	(1.72)	(1.72)
σ(OCF)	0.025***	0.003*	0.008**	1.108*	0.584**	0.158*
	(3.38)	(1.74)	(2.20)	(1.89)	(2.29)	(1.69)
Operating Cycle	0.007*	0.002*	0.002*	0.356	0.110**	0.194***

	(1.84)	(1.86)	(1.69)	(1.64)	(2.01)	(3.42)
Industry, Firm, and Year dummy	Yes	Yes	Yes	No	No	No
Observations	20,421	20,421	19,345	122	122	122
Adjusted/Pseudo R^2	0.153	0.116	0.121	0.411	0.241	0.470

Panel B: Conservatism

	(1)	(2)	(3)	(4)
	OLS		*AC Member Deaths (OLS)*	
Dependent Variable:	**Cscore**	**Skew**	**ΔCscore**	**ΔSkew**
Constant	0.226***	-0.580***	0.023*	0.090*
	(22.16)	(-33.14)	(1.91)	(1.66)
AC Connectedness	**0.007*** **	**0.082*** **	-	-
	(2.59)	**(2.89)**		
ΔAC Connectedness	-	-	**0.013** **	**0.037** **
			(2.19)	**(2.46)**
AC Other Connectedness	0.003	0.012	0.002	0.009
	(1.12)	(1.09)	(0.33)	(0.41)
Non-AC Connectedness	0.003	0.022	0.007	0.011
	(1.20)	(1.28)	(1.11)	(0.78)
High Position (AC)	0.002	0.011	0.003	0.008
	(0.90)	(0.78)	(0.33)	(0.54)
Education (AC)	0.002	0.016	0.003	0.002
	(0.67)	(1.08)	(0.66)	(0.29)
Board Seats (AC)	0.003	0.007	0.003	0.006
	(0.55)	(0.35)	(0.35)	(0.76)
Acct Expertise	0.003	0.005*	0.051	0.335
	(0.79)	(1.82)	(0.64)	(0.87)
AC Size	0.002	0.002	0.022*	0.032*
	(1.00)	(0.67)	(1.77)	(1.89)
AC Independence	0.001	0.002	0.010	0.026
	(0.68)	(0.54)	(1.23)	(1.33)
Busy AC	-0.008**	-0.022***	-0.012	-0.022
	(-2.19)	(-3.03)	(-1.00)	(-1.12)
CEO Connectedness	-0.001	-0.001	-0.012	-0.068
	(-1.52)	(-0.72)	(-1.07)	(-0.84)
CEO/AC Overlap Ratio	-0.008	-0.002	-0.035	-0.389*
	(-0.89)	(-0.50)	(-1.07)	(-1.69)
Firm size	-0.020***	-0.012**	-0.027*	-0.192***
	(-24.42)	(-2.01)	(-1.74)	(-2.81)
ROA	-0.018**	-0.041***	-0.027*	-0.452**
	(-2.53)	(-2.75)	(-1.67)	(-2.26)
Leverage	0.030***	0.023***	0.046	0.515**
	(4.12)	(2.62)	(0.92)	(2.04)
Institutional Ownership	0.018***	0.015***	-0.117	-0.056
	(3.04)	(2.76)	(-1.50)	(-1.22)
Market-to-book	-0.004***	-0.001***	-0.004**	-0.012
	(-14.76)	(-3.77)	(-2.18)	(-1.04)
Analyst Following	-0.001***	-0.001**	-0.006*	-0.015
	(-2.98)	(-2.01)	(-1.85)	(-1.07)
Litigation risk	-0.008***	-0.003***	-0.002	-0.023
	(-11.13)	(-3.02)	(-0.22)	(-0.69)
σ(Sales)	-0.014**	-0.013***	-0.367***	-0.499*
	(-2.12)	(-2.67)	(-4.18)	(-1.88)
σ(OCF)	-0.022***	-0.031***	-0.325**	-0.075*
	(-4.12)	(-3.22)	(-2.01)	(-1.90)
Operating Cycle	-0.005***	-0.010***	-0.035**	-0.026*
	(-2.83)	(-5.21)	(-2.18)	(-1.80)
Industry, Firm, and Year dummy	Yes	Yes	No	No
Observations	20,421	20,421	122	122
Adjusted/Pseudo R^2	0.359	0.163	0.264	0.309

Table 3 Market Assessment of Director Connectedness: Evidence from Director Death

This table examines the market reaction to audit committee member death cases. We identify 122 announcements of audit committee member deaths. See Appendix E for variable definitions. The t-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

	(1)	(2)	(3)
Dependent Variable:		**CAR**	
Constant	0.042	0.055	0.061
	(0.66)	(0.90)	(1.35)
High Director Connectedness	**-0.028****	**-0.031****	**-0.028***
	(-2.50)	**(-2.32)**	**(-2.19)**
Low AC Connectedness	-	**-0.019**	-
		(-1.11)	
High Director Connectedness * Low AC Connectedness	-	**-0.012****	-
		(-2.02)	
Poor Governance	-	-	**-0.030**
			(-1.21)
High Director Connectedness * Poor Governance	-	-	**-0.022****
			(-2.28)
High Position	0.003	0.005	0.003
	(0.56)	(0.72)	(0.60)
Education	0.005	0.002	0.003
	(0.80)	(0.19)	(0.56)
Board Seats	0.010	0.009*	0.011*
	(1.39)	(1.67)	(1.82)
Director Age	-0.001	-0.002	-0.002
	(-0.23)	(-0.19)	(-0.28)
Director Tenure	0.007	0.005	0.005
	(0.33)	(0.40)	(0.38)
Board Seats	-0.002	-0.002	-0.001
	(-1.00)	(-0.90)	(-0.92)
Female	-0.028	-0.033	-0.030
	(-0.99)	(-1.19)	(-1.16)
Accounting Expert	-0.010*	-0.011*	-0.011*
	(-1.70)	(-1.69)	(-1.79)
AC Size	-0.002	-0.003	-0.002
	(-0.22)	(-0.30)	(-0.27)
CEO/Director Overlap	-0.011	-0.009	-0.010
	(-1.20)	(-1.32)	(-1.21)
Firm Size	-0.002	-0.003	-0.003
	(-0.50)	(-0.60)	(-0.66)
Volatility	-0.323**	-0.312**	-0.311**
	(-2.00)	(-2.18)	(-2.20)
Institutional Ownership	-0.007	-0.008	-0.010
	(-0.33)	(-0.37)	(-0.69)
Year Dummy	Yes	Yes	Yes
Observations	122	122	122
Adjusted R^2	0.119	0.102	0.118

Table 4 Firm Size, Director Busyness, and Director Connectedness

This table examines the effect of audit committee connectedness on financial reporting quality by separating the sample into Large and Small firms and boards with busy and non-busy audit committee members. *Large Firms* are those that are in the top quartile of firm size as measured by total assets and *Small Firms* are those that fall in the bottom three quartiles. *Busy AC* identifies busy audit committees, which are defined as firms with audit committees where more than half of the members sit on more than 4 boards. Control variables include the other variables in Table 2. See Appendix D and E for other variable definitions. The t-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

Panel A: Firm Size

	(1)	(2)	(3)	(4)	(5)	(6)
	Large Firms			*Small Firms*		
Dependent Variable:	**Hribar**	**DGLS**	**AQ**	**Hribar**	**DGLS**	**AQ**
Constant	0.019	0.022	0.020	0.090*	0.008	0.026
	(0.99)	(1.01)	(0.90)	(1.67)	(1.09)	(0.79)
High AC Connectedness	**-0.001**	**-0.000**	**-0.002**	**-0.004*** **	**-0.001** **	**-0.005** **
	(-1.00)	**(-1.45)**	**(-1.38)**	**(-2.88)**	**(-2.22)**	**(-2.39)**
AC_Other Connectedness	-0.001	-0.001	-0.000	-0.001	-0.001	-0.001
	(-0.33)	(-0.50)	(-0.33)	(-0.89)	(-0.77)	(-0.65)
Non-AC Connectedness	-0.001	-0.001	-0.001	-0.003	-0.003	-0.003
	(-0.33)	(-0.26)	(-0.42)	(-0.88)	(-0.90)	(-1.02)
Acct Expertise	-0.020	-0.003	-0.006	-0.018*	-0.002*	-0.007*
	(-1.56)	(-1.39)	(-1.55)	(-1.79)	(-1.90)	(-1.88)
CEO Connectedness	0.000	0.001	0.001	0.001	0.001	0.001
	(0.23)	(0.32)	(0.49)	(0.50)	(0.69)	(0.89)
CEO/AC Overlap Ratio	0.007	0.002	0.002	0.008	0.001	0.001
	(0.90)	(0.88)	(0.92)	(0.50)	(0.57)	(0.28)
Controls:	Yes	Yes	Yes	Yes	Yes	Yes
Industry, Firm, and Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,105	5,105	4,836	15,316	15,316	14,509
Adjusted R^2	0.167	0.122	0.137	0.140	0.106	0.110

Panel B: Director Busyness

	(1)	(2)	(3)	(4)	(5)	(6)
	Busy AC			*Non-Busy AC*		
Dependent Variable:	**Hribar**	**DGLS**	**AQ**	**Hribar**	**DGLS**	**AQ**
Constant	0.053	0.007	0.033	0.077	0.012	0.017
	(0.67)	(0.39)	(0.70)	(1.20)	(1.09)	(0.81)
High AC Connectedness	**-0.001**	**-0.000**	**-0.001**	**-0.004*** **	**-0.001** **	**-0.005** **
	(-0.78)	**(-1.21)**	**(-1.19)**	**(-2.69)**	**(-2.50)**	**(-2.45)**
AC_Other Connectedness	-0.001	-0.000	-0.001	-0.002	-0.002	-0.002
	(-0.33)	(-0.41)	(-0.72)	(-1.45)	(-1.19)	(-1.50)
Non-AC Connectedness	-0.001	-0.001	-0.001	-0.002	-0.002	-0.002
	(-0.80)	(-0.90)	(-0.67)	(-0.90)	(-0.88)	(-0.91)
Acct Expertise	-0.021**	-0.004*	-0.008*	-0.012*	-0.001*	-0.004**
	(-2.23)	(-1.89)	(-1.76)	(-1.70)	(-1.67)	(-2.00)
CEO Connectedness	0.001	0.001	0.001	0.001	0.000	0.000
	(1.33)	(0.90)	(1.12)	(0.89)	(1.23)	(1.43)
CEO/AC Overlap Ratio	0.005	0.001	0.002	0.008	0.001	0.001
	(0.34)	(0.27)	(0.45)	(1.45)	(1.33)	(1.29)
Controls:	Yes	Yes	Yes	Yes	Yes	Yes
Industry, Firm, and Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,289	5,289	5,010	15,132	15,132	14,335
Adjusted R^2	0.188	0.156	0.177	0.099	0.088	0.085

Table 5 Misconduct and Audit Committee Director Career Consequence

This table examines the effect of director connectedness on career consequences. Panel A examines the likelihood of director turnover. Panel B shows results on future board seats. *High Director Connectedness* is an indicator equal to one if director connectedness is in the top quartile of the sample. For the propensity score matched sample, we match firms with detected misconduct to firms without based on the following variables: firm size, CEO power, CEO tenure, ROA, volatility, institutional ownership, analyst following, audit committee size, audit committee independence, average audit committee director age, average director tenure, audit committee female ratio, *FScore*, industry and year dummy. See Appendix D for a detailed definition of *FScore* and Appendix E for all other variable definitions. The z(t)-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. Marginal effects at the mean are reported in brackets. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

Panel A: Logistic Regressions of Director Turnover

	(1)	(2)	(3)
	Full Sample	*Matched Sample*	*Misconduct-Only*
Constant	-2.724***	-21.170***	-20.822***
	(-4.28)	(-22.28)	(-21.68)
Misconduct **(β_3)**	0.196* [0.231]	0.284** [0.335]	-
	(1.88)	(2.46)	
High Director Connectedness (β_1)	-0.457*** [-0.267]	-0.428** [-0.239]	-0.498*** [-0.278]
	(-18.33)	(-2.01)	(-2.95)
Misconduct * High Director Connectedness (β_2)	-0.123** [-0.155]	-0.210** [-0.137]	-
	(-2.36)	(-2.42)	
High Position	-0.035***	-0.033	-0.031
	(-5.43)	(-0.91)	(-0.70)
Education	-0.043	-0.147	-0.117
	(-0.76)	(-0.50)	(-0.33)
Board Seats	-1.409***	-1.262***	-1.847***
	(-3.81)	(-6.32)	(-6.95)
Director Age	0.012***	0.017***	0.006
	(15.04)	(2.74)	(1.08)
Female Director	-0.022	0.591***	0.676***
	(-0.49)	(2.98)	(2.83)
Director Tenure	0.093***	0.036	0.105
	(6.32)	(0.40)	(0.95)
AC Size	-0.005	-0.004	-0.007
	(-1.32)	(-1.56)	(-1.45)
AC Independence	0.155	0.341	0.552
	(1.55)	(1.41)	(1.33)
CEO Connectedness	0.034	0.013	0.067
	(1.23)	(0.65)	(0.77)
CEO/Director Overlap	-1.821***	-0.935	-1.120***
	(-7.26)	(-0.78)	(-2.65)
Firm Size	0.098***	0.237***	0.197***
	(13.55)	(4.87)	(3.42)
Staggered Board	-0.076*	-0.245*	-0.255*
	(-1.88)	(-1.90)	(-1.69)
Analyst Following	-0.001	-0.027**	-0.014
	(-0.75)	(-2.52)	(-1.19)
Volatility	0.516***	1.143	0.078
	(3.01)	(1.32)	(1.07)
Institutional Ownership	-0.058	-0.318	-0.141
	(-1.34)	(-0.95)	(-0.42)
Prior Return	-0.053***	-0.086	-0.172
	(-4.78)	(-1.09)	(-1.38)

F-test p-value: $\beta_1 + \beta_2 = 0$	0.000	0.000	-
F-test p-value: $\beta_2 + \beta_3 = 0$	0.377	0.467	-
Industry, Firm, and Year Dummy	Yes	Yes	Yes
Observations	164,915	13,528	5,598
Pseudo R^2	0.199	0.268	0.322

Panel B: Tobit Regressions of Future Board Seats

	(1)	(2)	(3)
	Full Sample	*Matched Sample*	*Misconduct-Only*
Constant	1.041***	2.692***	0.467
	(6.03)	(3.67)	(0.73)
Misconduct (**β_3**)	-0.130**	-0.086**	-
	(-2.25)	(-2.53)	
High Director Connectedness (β_1)	0.552***	0.528***	0.208**
	(3.23)	(2.94)	(2.50)
Misconduct * High Director Connectedness (β_2)	0.454***	0.412**	-
	(3.28)	(2.33)	
High Position	0.042***	0.037	0.045
	(2.92)	(1.10)	(1.21)
Education	0.494***	0.272	0.441
	(6.60)	(0.81)	(1.16)
Board Seats	0.474***	0.625***	0.673***
	(48.13)	(18.53)	(17.16)
Director Age	-0.012***	-0.013***	-0.005
	(-19.46)	(-3.16)	(-1.24)
Female Director	-0.034	-0.528**	-0.081
	(-0.71)	(-2.54)	(-0.36)
Director Tenure	-0.153**	-0.028	-0.051
	(-2.59)	(-0.30)	(-0.53)
AC Size	0.001*	0.001	0.001
	(1.90)	(0.42)	(0.70)
AC Independence	-0.423	-0.457*	-0.498
	(-1.51)	(-1.67)	(-1.58)
CEO Connectedness	0.033	0.026	0.019
	(0.67)	(0.56)	(0.48)
CEO/Director Overlap	0.355*	0.433	0.309
	(1.86)	(1.50)	(1.33)
Firm Size	0.098***	0.030	0.136**
	(3.72)	(1.64)	(2.23)
Analyst Following	0.018*	0.006	0.005
	(1.92)	(0.62)	(0.44)
Volatility	-3.372***	-3.874***	-0.691
	(-3.02)	(-4.98)	(-0.81)
Institutional Ownership	-0.423***	-0.447*	-0.184
	(-3.02)	(-1.69)	(-0.74)
F-test p-value: $\beta_1 + \beta_2 = 0$	0.000	0.000	-
F-test p-value: $\beta_2 + \beta_3 = 0$	0.002	0.011	-
Industry, Firm, and Year Dummy	Yes	Yes	Yes
Observations	164,915	13,528	5,598
Pseudo R^2	0.035	0.063	0.083

Table 6 Severity of Financial Misconduct and Director Connectedness

This table presents results of the effect of director connectedness on director turnover and future board seats after financial misconduct is detected at the firm level. In Column 1 and 3, we use the dummy variable based on the top quartile monetary settlement amount for the severity of misconduct. In Column 2 and 4, we use a dummy variable indicating top quartile announcement CAR to gauge the severity of the misconduct. In Column 1 and 2 we use logit regression and in Column 3 and 4 we use Tobit regression. See Appendix E for variable definitions. The z(t)-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. Marginal effects at the mean are reported in brackets. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

	(1)	(2)	(3)	(4)
	Misconduct-Only Sample			
Dependent Variable:	**Director Turnover**		**Future Boards**	
Constant	-18.213***	-20.882***	0.465	0.460
	(-20.98)	(-19.72)	(0.71)	(0.80)
Severe Misconduct Dummy **(β_3)**	0.258** [0.189]	0.211** [0.211]	-0.255**	-0.239**
	(2.38)	(2.41)	(-2.26)	(-2.40)
High Director Connectedness	**-0.215** [-0.195]**	**-0.258** [-0.275]**	**0.226****	**0.276*****
	(-2.30)	**(-2.29)**	**(2.33)**	**(2.67)**
High Director Connectedness * Severe Misconduct (β_2)	**-0.576** [-0.236]**	**-0.466** [-0.256]**	**0.271****	**0.225****
	(-2.19)	**(-2.32)**	**(2.12)**	**(2.36)**
High Position	-0.036	-0.010	0.045	0.042
	(-0.81)	(-0.22)	(1.20)	(1.31)
Education	-0.074	-0.023	0.415	0.417
	(-0.22)	(-0.07)	(1.00)	(1.02)
Board Seats	-1.859***	-1.846***	0.655***	0.651***
	(-7.00)	(-6.83)	(16.23)	(16.16)
Director Age	0.005	0.005	-0.005	-0.005
	(0.83)	(0.88)	(-1.20)	(-1.21)
Female Director	0.659***	0.675***	-0.078	-0.078
	(2.73)	(2.82)	(-0.40)	(-0.39)
Director Tenure	0.110	0.118	-0.055	-0.053
	(1.00)	(1.07)	(-0.60)	(-0.59)
AC Size	-0.005**	-0.004**	0.001	0.001
	(-2.21)	(-2.02)	(0.77)	(0.80)
AC Independence	0.870	0.973	-0.482	-0.488
	(1.32)	(1.53)	(-1.45)	(-1.41)
CEO Connectedness	0.058	0.056	0.020	0.022
	(0.87)	(0.90)	(0.67)	(0.70)
CEO/Director Overlap	-1.111**	-1.215**	0.322	0.331
	(-2.55)	(-2.20)	(1.21)	(1.23)
Firm Size	0.217***	0.220***	0.140**	0.142**
	(3.75)	(3.80)	(2.27)	(2.26)
Analyst Following	-0.012	-0.014	0.004	0.004
	(-1.01)	(-1.19)	(0.30)	(0.33)
Volatility	0.288	0.243	-0.666	-0.672
	(0.25)	(0.21)	(-0.90)	(-0.92)
Institutional Ownership	-0.083	-0.089	-0.175	-0.177
	(-0.24)	(-0.27)	(-0.80)	(-0.79)
Staggered Board	-0.239	-0.218	-	-
	(-1.59)	(-1.62)		
Prior Return	-0.147	-0.159	-	-
	(-1.17)	(-1.32)		
F-test p-value: $\beta_1 + \beta_2 = 0$	0.000	0.000	0.000	0.000
F-test p-value: $\beta_2 + \beta_3 = 0$	0.115	0.101	0.888	0.888
Industry, Firm, and Year Dummy	Yes	Yes	Yes	Yes
Observations	5,598	5,598	5,598	5,598
Pseudo R^2	0.335	0.301	0.083	0.082

Table 7 Accounting Expertise and Director Connectedness

This table examines the effect of accounting expertise on director turnover, future board seats and financial reporting quality. *Accounting Expert* is an indicator set equal to one if the director meets the SEC's narrow definition of experience in accounting or auditing, and is set to zero otherwise. Panel A examines the likelihood of director turnover, Panel B examines future board seats, and Panel C tests financial reporting quality. Control variables included in each model come from Table 2 for Panels A and Table 5 for Panel B and C. Variable definitions are in Appendix D and E and details on the propensity score matched sample are in Table 2. The t(z)-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

Panel A: Financial Reporting Quality

	(1)	(2)	(3)
Dependent Variable:	**Hribar**	**DGLS**	**AQ**
Accounting Expert	**-0.005***	**-0.005***	**-0.005***
	(-1.80)	**(-1.88)**	**(-1.89)**
High Director Connectedness	**-0.003****	**-0.003****	**-0.004****
	(-2.29)	**(-2.28)**	**(-2.39)**
Accounting Expert * High Director Connectedness	**-0.003***	**-0.002***	**-0.002***
	(-1.88)	**(-1.90)**	**(-1.76)**
Controls:	Yes	Yes	Yes
Industry, Firm, and Year dummy	Yes	Yes	Yes
Observations	20,421	20,421	19,345
Adjusted/Pseudo R^2	0.153	0.115	0.122

Panel B: Director Turnover

	(1)	(2)	(3)
	Full Sample	*Matched Sample*	*Misconduct-Only*
Dependent Variable:	**Director Turnover**		
Accounting Expert	**-0.121**	**-0.155**	**-0.111**
	(-1.09)	**(-1.30)**	**(-1.12)**
High Director Connectedness	**-0.428*****	**-0.409****	**-0.492*****
	(-18.30)	**(-2.32)**	**(-2.82)**
Accounting Expert * High Director Connectedness	**-0.133**	**-0.166**	**-0.133**
	(-1.32)	**(-1.49)**	**(-1.32)**
Controls:	Yes	Yes	Yes
Industry, Firm, and Year Dummy	Yes	Yes	Yes
Observations	164,915	13,528	5,598
Pseudo R^2	0.198	0.268	0.322

Panel C: Future Boards

	(1)	(2)	(3)
	Full Sample	*Matched*	*Misconduct-Only*
Dependent Variable:	**Future Boards**		
Accounting Expert	**0.121***	**0.102**	**0.078**
	(1.92)	**(1.50)**	**(1.33)**
High Director Connectedness	**0.547*****	**0.518*****	**0.211****
	(2.89)	**(2.90)**	**(2.51)**
Accounting Expert * High Director Connectedness	**0.156**	**0.152**	**0.169**
	(1.33)	**(1.55)**	**(1.39)**
Controls:	Yes	Yes	Yes
Industry, Firm, and Year Dummy	Yes	Yes	Yes
Observations	164,915	13,528	5,598
Pseudo R^2	0.035	0.063	0.082

Table 8 Corporate Governance and Director Connectedness

This table examines the effect of corporate governance on director turnover and future board seats. *GIM* Index comes from Gompers et al. (2003). Panel A examines the likelihood of director turnover and Panel B shows results on the directors' future board seats. Control variables included in each model and details on the propensity score matched sample are provided in Table 2. Variable definitions are provided in Appendix D and E. The z(t)-statistics (in parentheses) are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are corrected for clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% level using two-tailed tests, respectively.

Panel A: Director Turnover

	(1)	(2)	(3)
	Full Sample	*Matched Sample*	*Misconduct-Only*
Dependent Variable:		**Director Turnover**	
GIM Index	**0.020**	**0.024**	**0.082**
	(1.50)	**(0.38)**	**(0.99)**
High Director Connectedness	**-0.433*** **	**-0.422** **	**-0.469*** **
	(-15.90)	**(-2.10)**	**(-2.80)**
GIM Index* High Director Connectedness	**-0.004**	**-0.024**	**-0.199**
	(-1.25)	**(-0.90)**	**(-1.19)**
Controls:	Yes	Yes	Yes
Industry and Year Dummy	Yes	Yes	Yes
Observations	21,871	2,638	1,225
Pseudo R^2	0.167	0.212	0.255

Panel B: Future Boards

	(1)	(2)	(3)
	Full Sample	*Matched Sample*	*Misconduct-Only*
Dependent Variable:		**Future Boards**	
GIM Index	**0.013**	**0.085***	**0.125** **
	(1.33)	**(1.86)**	**(2.18)**
High Director Connectedness	**0.512*** **	**0.520*** **	**0.220** **
	(2.90)	**(2.77)**	**(2.45)**
GIM Index * High Director Connectedness	**-0.068**	**-0.067**	**-0.070**
	(-0.97)	**(-1.07)**	**(-0.91)**
Controls:	Yes	Yes	Yes
Industry and Year Dummy	Yes	Yes	Yes
Observations	21,871	2,638	1,225
Pseudo R^2	0.030	0.055	0.072