The Influence of Corporate Board Social Connections on Management Voluntary Financial Disclosures

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Abstract

We study how the pre-existing social network ties between the CEO and outside board members are associated with the firms' voluntary financial disclosure practices, proxied by management earnings guidance. We construct social network ties by considering the social ties in addition to the statutory ties. After controlling firm and year fixed effects, we find a substantially strong, negative relation between the likelihood of management earnings forecasts and the extend of outside directors' connection to the CEO. Moreover, firms with boards of fewer connections are less likely to issue precise forecasts, but the forecasts issued are more accurate, and less optimistically biased. Together, our empirical evidence suggests that the pre-existing social connections among outside directors are associated with lower financial disclosure quality, thereby implying that social network ties between the CEO and outside board members weaken monitoring effectiveness of the board.

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1. Introduction

Following the wave of corporate scandals to begin the decade, lawmakers mandated increases in the independence of corporate boards. In Recent corporate governance regulations, the U.S. Congress, the Securities and Exchange Commission (SEC), and the major stock exchanges focused on corporate boards as primary vehicles for improving the quality of financial information provided by firms. In particular, the Sarbanes–Oxley Act of 2002 required the independence of audit committees. Both the New York Stock Exchange and NASDAQ require the board of listed firms to have a majority of independent directors. All these regulations reflect the prevailing view that better governance and better monitoring are often identified with more independent board directors.

However, firm executives and outside board directors are linked in many ways. They may have worked together or they may have served together on the board of another company, either as employees or directors, in the past. They may play golf at the same country clubs, attend Business Roundtable meetings together, or serve as trustees for the same charitable organizations. Or, they may have graduated from the same universities. Several studies in venture capital and mutual fund industries show that pre-existing network connections between executives and fund managers may ease communication and facilitate mutual understanding, thereby fostering personal connections and experiencing better fund performance (Hochberg, Ljunquist and Lu (2007) and Cohen, Frazzini, Malloy (2008)). However, recent studies also show that shared characteristics and experiences with the CEO have the potential to sway an outside director's judgment, which could potentially undermine the outside board member's unbiased judgment and monitoring effectiveness intended in the recent governance reforms. Hwang and Kim (2009)

provide evidence that socially affiliated directors are associated with higher levels of total compensation, lower pay-performance sensitivity, and lower turnover-performance sensitivity. Similarly, Fracassi and Tate (2009) argue that firms with more CEO-director ties engage in more value-destroying acquisitions and generally reduce firm value.

In this paper, our purpose is to examine whether and how the role of social network connections affects the effectiveness of the board oversight function and firms' voluntary disclosure policy, in particular. Outside directors, by virtue of their position and presumed independence, are likely to possess greater incentives to ensure transparency when it is in the shareholders' interests, as compared with other directors. Directors who have network connections to the CEO may qualify as independent directors, but not perform the intended role as unbiased monitors. Therefore, the question remains as to what is constituted as independent-minded directors. Current listing standards classify board members as independent if they have neither financial nor familial ties to the firm/CEO. Absent from these guidelines, however, are social ties (i.e., education, former employment ties), which may play a significant role in setting the board governing dynamics (Mills and Clark (1982); Uzzi(1996)).

Prior work shows that disclosure is shown to be positively related to firm liquidity and negatively related to the cost of capital. Despite these benefits, managers have incentives to withhold information because lack of information hinders the ability of the capital and labor markets to monitor managers effectively. The existing studies on the effect of corporate governance on this disclosure agency problem generally show that boards with more outside directors are associated with higher quality of financial information disclosure. For example,

Klein [2002] shows the boards structured to be more independent of the CEO may be more effective in monitoring the corporate financial accounting process. Ajinkya, Bhojraj and Sengupta (2005) and Karamanou and Vafeas (2005) find that firms with more independent board structure are more likely to make earnings forecasts, and the forecasts are more conservative. However, these studies have all focused on the independence measure from the statutory or the conventional perspective. The effect of social connections between the outside board members and CEO in this disclosure agency problem has not been extensively examined in the literature. [1]

Like Ajinkya, Bhojraj and Sengupta (2005) and Karamanou and Vafeas (2005), we choose management forecasts as a testing stage for studying the relation between social connections and financial disclosures. This choice is advantageous in that unlike other more regulated forms of disclosure, management has considerable discretion in terms of whether to make a forecast, and in deciding its timing, form, and specificity. This discretion allows "good" managers to separate themselves more clearly from "bad" managers through their forecast choices. Empirically, given that forecasts contain several discrete and well-defined features pertaining to their timing, form, and specificity, the study of the link between disclosure choices and corporate governance practices is more feasible.

Using a panel data set of 3063 firms during post-SOX period, from 2003 to 2009, we measure the prevalence and the impact of CEO-director ties in corporate voluntary disclosure policy. We construct several proxies for network connections following Fracassi and Tate (2011) and using

[1] Hwang and Kim (2011) is the only existing working paper that examines the pre-existing social connections and their impact on earnings management.

detailed biographical information on CEOs and directors. In each year, we consider the employment histories, by identifying outside directors who share and have shared an employment connection outside the firm (excluding the current employer in question) with the CEO (including external directorships). In addition, we identify directors who are active participants in the same non-professional organizations as the CEO (e.g. golf clubs or charities). We identify directors who shared memberships in professional organizations with the CEO, and directors who attended the same educational institutions as the CEO. For our main analyses, we construct an aggregate measure of social network connection index which sums the connections of all types between each director and the CEO from the above-mentioned respects. We also form an alternative measure of independence by subtracting the connected outside directors from the conventionally/statutorily defined independence measure.

The findings in this paper are consistent with the view that the pre-existing social networks between CEO and independent directors weaken the monitoring role of the independent directors. In particular, we find that the probability of the occurrence of management earnings forecasts is negatively associated with the CEO-director tie measures, and this negative association holds for both good news and bad news years, after controls of firm and year fixed effects and other firm, and governance control variables. The results also show that companies with outside directors less connected with CEOs make more accurate and less optimistically biased earnings forecasts. We also find that firms with more connections issue more specific guidance than firms with fewer social connections, which could be attributable to the managers in less-well-connected boards fear of greater subsequent monitoring pressure that might result from more precise forecasts. Consistently, we find that firms with less well connected audit committee make more

accurate but less specific forecasts. However, the social connections on the audit committee are not associated with the likelihood of management forecasts.

Another notable finding is that the alternative measure of board independence better predicts management earnings forecast characteristics than the conventionally defined measure. This is especially interesting given the backdrop of the recent efforts to regulate the structure and operations of corporate boards. Therefore, some of the findings in this study are likely to be of interest to policy makers in that certain outside director attributes that have been ignored in the current statutory definitions are associated with the quality of financial disclosure, especially given that the existing regulations stress the importance of the monitoring role played by the outside directors. Second, the results presented in this paper extend the academic research by furthering our understanding of the link between financial disclosure and board governance by exploring and providing further evidence on the role of the pre-existing social network between independent directors and CEOs, and its impact on financial disclosure. Our results broadly support the view that pre-existing social network connections between directors and CEOs are important in shaping firms' disclosure policies. In order to improve board monitoring role in the financial reporting process, just improving independence by adding more outside directors is not enough, more refined definitions or restrictions should be imposed on the definition of director independence to make the recent regulations more meaningful and effective.

The article proceeds as follows. In section 2, we discuss the relevant literature and develop the hypotheses. Section 3 describes the sample, our data sources, and construction of social network measure and alternative independence measure. In section 4, we examine the empirical results on

the role of pre-existing social network in determining the characteristics of management earnings forecasts. We conclude in section 5.

2. Hypotheses Development

In this section we review the relevant literature on corporate governance and management forecasts and develop arguments linking management forecasts to the CEO-director social network connections.

Previous literature has documented that it is beneficial for the firms to issue forecasts. Trueman (1986) argues that management forecasts can reduce firms' cost of capital. Skinner (1994) suggests that management forecasts can protect management against potential litigation risks. Frankel, McNichols, and Wilson (1995) document that management earnings forecasts can help reduce the cost of financing.

Nevertheless, casual observations suggest that most firms do not issue earnings guidance. One of the major objectives of recent corporate governance regulations is to heighten the corporate board independence by installing more outside directors and charge the independent boards with overseeing the integrity of the financial reporting process. Outside directors are better suited to complete this task since they are presumably more likely to be objectively monitoring and disciplining CEOs (Fama and Jensen (1983)). Traditionally, a director's independent-mindedness, or lack thereof, has been defined by the presence of financial or familial ties between the director and the CEO. Karamanou and Vafeas (2005) and Ajinkya, Bhojraj and Sengupta (2005) document that during the pre-SOX period, firms with boards composed of more outside directors

are more likely to issue management forecasts, and the forecasts are more accurate and less optimistically biased.

However, largely ignored in the disclosure literature is how other attributes associated with board director might affect the monitoring role played by the outside directors in shaping the firms' disclosure policies. Especially important is the deviation between the economic notion of independence and the types of directors which fulfill the statutory independence requirements. A good example is pre-existing social connections which can significantly affect an outside director's independent-mindedness and sway his or her unbiased monitoring role. Drawn from the large sociology and management literature (Uzzi (1996); Ingram and roberts (2000)), social ties can foster favorable communication and mutual trust between parties and can help establish better information flow and reduce informational uncertainty. However, a growing body in finance literature has shown that socially affiliated outside directors may weaken board monitoring role. Consistent with this notion, Hwang and Kim (2009) provide evidence that firms with more socially affiliated directors are more associated with higher levels of total compensation, lower pay-performance sensitivity, and lower turnover-performance sensitivity. Schmidt (2009) shows that firms with more socially-tied directors are associated with poorer merger and acquisition decisions especially when monitoring needs are high. Similarly, Fracassi and Tate (2011) show that firms with more CEO-director ties engage in more value-destroying acquisitions that reduce firm values. Along this line of reasoning, we construct an aggregate measure of connectedness which sums the connections of all types between each director and the CEO. We also form an alternative measure of independence by subtracting the connected outside

directors from the set of conventionally/statutorily defined independent directors. We form our hypotheses as follows.

Hypothesis 1: The likelihood of management earnings forecasts is higher for firms with fewer socially-connected outside directors. This association holds for both good news and bad news years. The alternative independence measure better captures the incentive for the board to monitor the CEO. Therefore, the alternative measure better predicts the likelihood of management earnings forecasts than the conventionally-defined independence measure.

Hypothesis 2: The precision of a management earnings forecast is associated with the level of social connections between directors and CEOs. The alternative independence measure better predicts the precision of management earnings forecasts than the conventional measure.

Hypothesis 3a: The management earnings forecasts are more conservatively formed for firms with boards associated with fewer director-CEO connections. The alternative independence measure better predicts the bias of management earnings forecasts.

Hypothesis 3b: The accuracy of a management earnings forecasts is higher for firms with fewer director-CEO connections. The alternative independence measure better predicts the accuracy of management earnings forecasts.

3. Sample and Data

3.1. Sample Construction

The core of our data set is biographical information on the directors and top five disclosed earners of publicly-traded U.S. companies, obtained from the BoardEx database of Management Diagnostics Ltd. Our sample contains information on 3063 firms during post-SOX period

between 2003 and 2009.[2] For each fiscal year during the sample period, we observe demographic, professional and leisure activities information on each of the firms' directors and top earners, including place of employment and job title and all corporate boards and board committees on which they serve. In addition, we have detailed information on their employment histories, including organizations in which they work, the roles, role descriptions, and years of employment. Outside of the professional realm, we observe other organizations to which they belong, including information on charities and leisure clubs and the roles they perform in those organizations and the years in which they are members. Finally, we observe their educational histories, including institutions attended, graduation years, and degrees earned.

We obtain management earnings guidance data from the Corporate Issued Guidelines (CIG) database, which is maintained by the First Call. The CIG database includes point, range, one-sided directional, and qualitative management earnings forecasts. We begin our sample from post-FD and post-SOX period 2003 to ensure that our results are not contaminated by the private communication between firm managers and selected analysts during the pre-Regulation-FD period and any structural changes towards disclosure after Enron scandals.[3] In this study, we focus on one-year-ahead earnings guidance only.[4]

[2] We choose the post-SOX period for two main reasons. First, 2003 is the starting year for Boardex to collect director and officer biographical information. Second, one of the major issues investigated in this study is to examine how effective is the recent regulatory enforcement in corporate board independence.

[3] Regulation Fair Disclosure (FD), effective October 2000, has changed corporate earnings guidance practice by prohibiting private communication between firm managers and select market participants (see, e.g., Heflin et al., 2003).

[4] Ajinkya et al. (2005, 350) conclude that CIG is a comprehensive source of management forecast information, after performing two small-sample tests (in 1997 and in 2000) matching CIG forecasts with those identified in a keyword search of Factiva (formerly the Dow Jones News Retrieval Service). They found more management forecasts in the CIG database than in their search of Factiva. Choi and Ziebart (2004) also report that CIG provides a more complete set of management forecasts than the Dow Jones News Retrieval System over the period 1993-1996.

We select our sample as follows. Initially, we select all the firms in the First Call database that has actual EPS from year 2003 to year 2009 and at least one management forecast made during the years covered by the First Call. We exclude those firms with earnings announcement dates 60 days after the fiscal year ending date. This leads to 15717 firm-year observations. The observations that satisfy the preceding criteria are then matched with the Boardex data. Firms that do not have information on either database are deleted. This leaves us with a final dataset of 3063 firms making management earnings guidance.

We investigate several attributes of management earnings forecasts: forecast probability, forecast precision, direction of forecast bias relative to actual earnings, and forecast accuracy. For each of the firm year observation, if there exists First-call reported realized EPS and management provided guidance, we code the forecast as 1, and 0 if there is EPS but no guidance provided. We code the forecast precision as point and non-point forecasts. We measure good and bad news years using the difference between the actual EPS and the prevailing median analyst forecast right before the first management earnings guidance each year. If realized EPS is higher, we define the year as good news year, vice versa. We measure forecast bias by comparing the management forecast (using point forecasts only) to ex post actual EPS. Finally, we measure the forecast accuracy as the absolute value of the difference between the management earnings forecast (using point forecasts only) and realized EPS.

We obtain other firm level information from several other sources. The financial data for the firms come from Compustat and CRSP. Data on institutional holdings are provided by Thomson Reuters's CDA/Spectrum database. All institutional money managers filing 13F reports with the Securities and Exchange Commission are covered in the CDA/Spectrum database. Information on corporate boards is obtained directly from the Boardex database.

3.2. Social Network Index (SNI)

We use our core biographical data from BoardEx to construct several measures of network connections between outside directors and the CEOs of their firms. We consider connections of five types: employment in publicly firms (SNI_pub) (including the current and prior employment associations), employment in private firms or organizations (SNI_pri), education (SNI_edu), not-for-profit organizations (SNI_nfp), and other activities (SNI_OA). Employment in publicly-listed firms (SNI_pub) captures overlapping employment in any publicly-listed firm excluding the firm for which we are measuring social ties between the CEO and the board director. The SNI_pub measure includes both the external directorship and the employment relationship in another publicly traded company.[5] SNI_pri captures both the shared employment relationship and directorship in another non-publicly traded company. Education connections (SNI_edu) require that the director and the CEO attended the same university and graduated within 2 years of each other. Other activities connections (SNI_OA) are shared memberships in clubs, organizations, or charities. Also included are connections in not-for-profit or professional organizations (SNI_nfp) like the American Heart Association. This connection might capture a connection through specific expertise.

Following Fracasai and Tate (2011), we construct the main measure of network ties, Social Network Index (SNI), aggregates the number of connections of all five types between the outside director and the CEO. In Panel A of Table I, we provide director-level summary statistics for the overall sample and subsamples of directors with at least 1 social network connection to the CEO and unconnected directors. In Table 1 and Panel B, we observe that in roughly 20% of director-

[5] The external directorship captured in the SNI_pub and SNI_pri measures are more general than traditional "interlocking directorship", since the director need not be an executive of an external firm in which he works with the CEO to qualify as connected (directorship is sufficient).

years, the director shares at least one connection with the CEO (SNI>0), consistent with what has been documented in an S&P 1500 sample of firms examined in Fracasai and Tate (2011). Table 1 of Panel B shows that the most common sources of network connections are employment in public and private firms and other activities and the least common are connections in education and not-for-profit organizations. In the main regression analyses, in order to separate the impact of the statutory independence from network ties, we control for statutory independence and focus on connections among outside directors.

To conduct firm-level analyses, we compute the total number of connections between all the outside directors and the CEOs, and the percentage of outside directors who have at least one network tie to the CEO. In Table 2 Panel A, we report firm-level summary statistics for the overall sample firms. We find that on average the statutory independence level is 65% above the 50% threshold level imposed by the recent governance regulations. However, the alternative measure of board independence, constructed by excluding the percentage of the outside directors with connections with CEOs, shows on average 53% of board independence.

In Table 2 Panel B, we report firm-level summary statistics for firms with connection levels above and below the sample median.[6] We find that connected boards are of larger firms, larger boards and directors with shorter tenure, consistent with the statistics reported in Fracassi and Tate (2011). The last column of Table 2 Panel B reports p-values for t-tests of the significance of cross-sample differences in means. Notably, for the connected boards, the alternative measure of independence drops to 43%, significantly different from the sample mean of 64% for

[6] The median level of percentage of directors sharing connections with CEO is 0. Therefore, Table 2 Panel B is essentially comparing subsamples of connected and unconnected boards.

unconnected boards. However, for the two subsamples, the statutory measure of board independence shows similar economic magnitude, even though the statutory independence for the connected boards is statistically higher than that for the unconnected board sample.

4. Discussion of Results

4.1. Network Ties and the Probability of Management Earnings Guidance

Recent governance reforms have mandated increased director independence, presumably to strengthen monitoring. Yet, there is very little empirical evidence during post-SOX period examining how the enacted independence imposed by the SOX affect the firm's disclosure quality. To assess whether the role of connections between the outside directors and CEOs undermines the link between independence and disclosure practices, we re-define independence by subtracting the percentage of outside directors with at least one SNI connection to the CEO from the statutory independence measure.

Firms' disclosure choices are sticky over time (Healy et al. 1999; Lang 1999) but as Hirst et al. (2008) point out, empirical models leave most of the cross-sectional variation in voluntary disclosure unexplained. This suggests that unidentified firm characteristics likely affect firms' disclosure choices. Because firms are associated with both the key independent variable (managers) and the dependent variables (disclosure choices), it is necessary to control for firm-specific fixed effects to avoid misattributing firm effects to board characteristics.

In table 3, we present results from the logistic regression model with firm and year fixed effects controlled. This model is estimated 3 times with different measures of board independence and

board connections. Focusing first on the forecast likelihood using the statutory measure of board independence, we find that firms are more likely to make a forecast when their boards are composed of more outside directors, consistent with what has been documented in the literature for the pre-SOX period (Karamanou and Vafeas (2005) and Ajinkya et.al (2005)). However, the significance level is lower when compared to the alternative definition of board independence (measured as statutory independence – all the connections) as reported in the column 2 in Table 3 Panel A. In the last column, we directly use the social connection measure. We find a negative association between the likelihood of earnings forecast and the connection measure, indicating that the higher the level of connections between the outside director and the CEO is, the less likely the firm makes earnings guidance. Notably, with the board connections in control, the coefficient of statutory definition of board independence in model 3 becomes more significant both statistically and in economical magnitude.

Results on control variables are in general consistent across all three models. Firms are more likely to issue earnings forecasts, in firms with bigger boards, when institutions own a greater fraction of the firm's stock, in firms with greater analyst following and when analyst forecasts are less dispersed. When anticipating bad news, firms are less likely to issue a forecast. However, CEOs with longer tenure are more likely to issue guidance. These results in general are consistent with what has been documented in the literature.

In sum, the results generally agree with the first proposition and the notion that the network ties between directors and CEOs undermine outside director independence. Firms with more connection between outside board members and CEOs show a weakened board monitoring and

are on average associated with providing less information from management to shareholders. The evidence suggests that more refined definitions or restrictions on independence should be imposed to make the statutory independence enacted in recent regulations more effective.

Next, in Table 3 Panel B and Panel C, we further present results from the logistic regression models on bad news and good news subsamples, respectively. We classify the bad and good news year by comparing the realized EPS with the prevailing analyst forecast consensus at the time when the first management forecast for the year is issued. If the realized EPS is lower, we classify a bad news year, and a good news year otherwise. When there is more than one forecast in a year we consider the first forecast of the year to determine the good and bad news year.

In Table 3 Panel B and C, We find that of the two board independence measures, the statutory independence measure is no longer significant in explaining the likelihood of management earnings guidance in both good news years and bad news years. In contrast, our self-constructed more refined independence measure constructed by subtracting the board member connections with CEO from the statutory independence is significantly and positively associated with the likelihood of management forecasts in both good and bad news years. When directly using the connection measure in the subsample analyses, we find that the connection measure is significant in predicting the likelihood of a forecast in bad news years but not in the good news years. Results on the control variables are not only consistent across the three models in the subsample analyses but also consistent with overall sample results as presented in Table 3 Panel A.

The results from Table 3 therefore supports the hypothesis that connected outside directors provide weaker monitoring. Also, the legal definition of board independence in place greatly reduces the ability to detect a reliable association between the conventional measure and the disclosure outcome during the post-SOX period, while the alternative measure by excluding the connections from the statutory measure is a more robust measure. This alternative board independence measure shows a positive and significant association with the likelihood of earnings guidance not only in the overall sample but also in the good and bad news subsamples. Therefore, in order to install a more effective board to monitor the firm to provide more transparent information to shareholders, it is necessary to implement a more stringent definition on independence.

4.2. Network Ties and the Precision of Management Earnings Forecasts

Focusing next on forecast precision, we partition the 6,900 forecasts in our sample into 900 forecasts that make a point estimate of the firm's future earnings and 6,000 forecasts that do not. (These include range forecasts that specify upper and lower bounds for future earnings, open-ended forecasts that specify either of the bounds but not both, and qualitative forecasts that do not provide any numeric guidance on future earnings.) We first focus on the full sample. The logistic regression results in Table 4 Panel A show that the conventional measure of independence is not associated with the likelihood of issuing point forecasts. Results with the alternative measure of independence show a negative association. Directly using the connection measure, we find a stronger positive association with the likelihood of issuing a point forecast.

Next, in the subsample analyses, we divide the full sample of earnings forecasts into the good news and bad news sample. In the bad news sample, we have a total of 3058 forecasts, and 375 forecasts out of which are point forecasts. In the good news sample, we have 450 out of total of 3733 forecasts are point forecasts. We observe that the full-sample results with the self-constructed measure and the connection measure are driven by the forecasts made in the bad news subsample. Specifically, results in Table 4 Panel B show that firms with more connected boards issue more precise forecasts in the face of bad news. Or, in sum, we find that less precise forecasts are more likely among firms with less-connected boards conveying negative news to investors.

4.3. Social Ties and the Accuracy and Bias of Management Forecasts

In this section, we present results of OLS regressions with firm fixed effects addressing the link between forecast bias and accuracy to the independence and social connection measures. To obtain precise measures of the forecast bias and forecast error, we follow Karamanou and Vafeas (2005) and focus on the 900 point forecasts in our sample for which data are available.[7] We measure management forecast bias as the difference between the management issued earnings guidance and the realized EPS. Forecast error is constructed as the absolute value of the difference between the management issued earnings guidance and realized EPS.

Table 5 shows results from the sample of point forecasts suggesting that the management forecast bias is not associated with the conventional measure of independence, consistent with what has been documented in the point forecast analyses. However, forecast bias declines with

[7] Alternatively, employing both point and range forecasts in the tests produced qualitatively similar results.

extend to the alternative independence measure when the connected outside board members are excluded from the measurement of independence. The test by directly using the connection measure is also consistent with our third research proposition that firms with boards having higher fraction of connected outside directors, make more optimistically biased earnings forecasts. Results on the control variables show that firms are more likely to issue more optimistically biased forecasts when the firms are smaller, have smaller board size, with fewer analysts following, but with more institutional investors holding the firms' stocks. The results pertaining to our third proposition suggest that unconnectedness is a better measure of effective boards and the higher level of unconnetedness leads to more conservative earnings guidance.

In Table 6, we find little impact of the conventional measure of independence on the forecast accuracy. To assess the role of connections in undermining the role between the forecast accuracy and independence, we re-estimate the regression using the alternative definition of independence. Removing directors with social network ties to the CEO from the set of the independent directors reveals a significant negative relation between independence and forecast accuracy measure. Control variables suggest that management forecasts are more accurate for firms with smaller firms, firms with smaller boards, CEOs with shorter tenure, firms with analysts with less forecast dispersion, and for firms with a shorter time from the forecast to the end of the reporting period. In sum, the results suggest that unconnectedness captures true independence (and incentives to monitor) better than the statutory measure of independence, and is consistent with our third proposition that unconnectedness leads to more accurate earnings guidance.

4.4. Social Ties in Audit Committee and Management Earnings Forecasts

In the above analyses, we have focused on the unconnectedness in the overall board structure. In this section, we similarly construct the social network connection for the audit committee by aggregating the number of socially connected outside directors that sit on the audit committees. We also construct the alternative independence measure for the audit committees by subtracting the connected outside audit committee board members from the statutory defined independent measure. In the untabulated results, however, we find no association between the social network connections in the audit committees and the likelihood of management earnings forecasts. We also find no evidence of the alternative independence measure in audit committees associated with the occurrence of management earnings forecasts. This evidence is more or less consistent with the existing evidence on no audit committee attributes as determinants of management earnings forecasts as documented in Karamanou and Vafeas (2005).

Nevertheless, after controlling for firm fixed effects, firm-level, CEO-level characteristics, earnings attributes and other audit committee attributes including audit committee size, the average tenure, we find that the firms with less socially connected outside directors are more likely to issue less precise and more pessimistically biased earnings guidance. This evidence is in general consistent with what we have documented for the social connections measured for the overall board.

5. Conclusions and Discussion

A well-functioning board of directors provides both valuable advice to management and a check on its practices. An effective director should not just “rubber stamp” management’s actions, but

should take act in the interest of the firm's shareholders and take an independent judgment on firm's strategies and policies. Thus, it is important to identify director characteristics which affect their ability or willingness to bring valuable advising and monitoring role into the firm. Recent regulations also only focused on installing outside directors to the board without considering certain board member attributes that could potentially undermine the intensity of the monitoring role played by the director. In this paper, we follow Fracassi and Tate (2011) and investigate several major types of social network connections ranging from past employment connections, education connections to connections through not-for-profit organizations. We aggregate these network ties to form a social network index and construct an alternative measure of independence by excluding the connected outside directors from the set of statutory independent directors. In this study, we use this set of new measures to study the relation between the pre-existing social connections in the overall board and audit committee level with the corporate voluntary disclosure practices. To be specific, we study their relation with the occurrence, precision, bias and accuracy of management earnings guidance.

We find that firms with lower percentage of independent directors having external network ties to the CEO are more likely to make a management forecast. We also find that firms with lower percentage of connectedness are more strongly related to the likelihood of a management forecast in the face of both good and bad news. This evidence is consistent with the notion that the level of board member connectedness to the CEO matters and less connected boards are associated with less information asymmetry between the management and shareholders. The evidence on bad news in particular, when shareholders are at most risk of suffering wealth losses,

suggests that less connected boards can help management shape their disclosure policy to protect shareholders' interests.

We also find that among forecasting firms, forecast precision decreases with the degree of unconnectedness in the overall boards and the audit committees, but only when bad news is conveyed. The possible explanation for this result is that firms with less-connected boards are more mindful of their obligation not to mislead shareholders when facing disclosing bad news. Issuing more vague forecasts reduces such danger of misleading investors. The finding of less precise forecasts by firms with less connected boards could also be coupled with the earlier finding that this group of firms is more likely to make forecasts, especially in the presence of bad news. Therefore, although firms with less-connected boards are more likely to voluntarily disclose bad news to shareholders, given the added risk managers face when disclosing bad news, they can sacrifice some precision in making these additional disclosures.

We also find that firms with lower fraction of outside directors connected to CEOs are related to less optimistically biased forecasts and greater forecast accuracy. This evidence suggests that boards with fewer connections can help managers to form better disclosure policy to ensure high-quality information flowing from management to investors.

Finally, we find some weak evidence that the level of connectedness in the audit committee also affects the management earnings forecast characteristics. In particular, we find that firms with less connected boards are likely to issue more accurate but less precise forecasts.

The results from these tests generally support the notion that having outside but connected directors on board weakens the effectiveness of corporate governance. Another notable observation is that although the conventional/statutory independence is positively associated with the likelihood of management making earnings forecasts, after controlling for firm and year fixed effects, there is no such reliable association in either the good news or bad news subsamples. Also, the statutory measure is not associated with other management earnings guidance characteristics, particularly, the management forecast precision, bias or accuracy, as documented in Karamanou and Vafeas (2005) and Ajinkya et al. (2005). Part of the difference could be driven by the sample periods studied. In our study, the sample period starts from 2003 and ends in 2009, covering the post-SOX period, while those two studies mostly investigate the pre-SOX period. One possible explanation of the difference in results is that the governance reform mandated by SOX have had a significant impact on the prevalence of CEO-director ties which fall outside the scope of the formal definition of the independence especially during the post-SX period, and which may help to drive away the results associated with the statutory definition of the independence measure documented in previous studies. Another possible explanation is that the alternative measure of independence by excluding connected outside directors from the conventional independence measure better captures the incentive to monitor. Therefore, all these evidence implies that board composition should be a continuing target of regulatory reforms. Future academic research on the implication of director independence for corporate disclosure policies should consider carefully the deviation between the economic notion of independence and the types of directors which fulfill the statutory independence requirement.

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Appendix

Guidance Varaibles

Forecast likelihood (update) = 1 if management issued at least one earnings forecast in the year, and 0 otherwise.

Point forecast = 1 for point forecasts, and 0 for range, open-ended, and qualitative forecasts.

Forecast accuracy (bias) = the absolute difference (signed difference) between actual earnings and the management forecast .

Forecast Horizon = The number of days between the forecast date and the end of the fiscal year of the forecasted earnings number.

Firm Governance Variables

Independence (Statutory definition) = the fraction of outside directors to total directors.

SNI = the sum of prior Employment Connection, Education connection, and Other Activity Connection and connection through not-for-profit organizations. Employment connection indicates that both the director and CEO currently serve externally in at least one common firm. Education Connection indicates that the director and CEO attended the same school at the same time. Other Activity Connection indicates that the director and CEO share active membership in at least one non-professional organization. Not-for-Profit connection indicates that the director and CEO share active membership in at least one professional organization.

Alternative Independence = the fraction of outside directors (statutory definition) – all the outside directors with at least one connection to the CEO.

Board size = the total number of corporate directors on the proxy statement date

CEO Tenure = years the CEO serve in the firm

Average number of other boards served = the average number of other boards (including both boards of public firms and private firms) held by the directors.

Average Time Director Serving on Board = Average years that each director serve on the firm's board.

Institutional ownership = the fraction of common stock owned by institutions.

Number of Analyst Following = number of analysts right before each management earnings forecast.

Analyst Forecast Dispersion = analyst forecast dispersion before each management earnings forecast.

Other Control Variables

News = measured as the difference between the actual EPS (or midpoint of the range forecast) and the prevailing median analyst forecast right before the first management forecasts. Defined as 1 if actual EPS is lower, 0 otherwise.

Loss = An indicator variable that equals 1 if firm reports a loss for year and 0 otherwise.

Market to Book = The market value of firm i's common equity divided by the book value of its total assets, at the end of year t.

Size = Total Assets (in millions).

Table 1 Panel A

Summary Statistics on Board Directors on the Overall Sample and on the Connected Director and Unconnected Director Samples

Variable	N	Mean	Std Dev	25%	50%	75%	N	Mean	Std Dev	25%	50%	75%	N	Mean	Std Dev	25%	50%	75%
	Full Sample						Connected Sample						Unconnected Sample					
Average years serving on other boards	114570	4.06	4.99	0	2.7	6.1	23384	4.62	5.43	0	3.2	7	91186	3.92	4.86	0	2.6	6
Number of education qualifications	116571	1.89	1.19	1	2	3	23777	1.83	1.20	1	2	2	92794	1.91	1.19	1	2	3
Average years serving on the board in question	116571	7.43	6.97	2.5	5.5	10.1	23777	7.28	6.43	2.6	5.6	9.9	92794	7.47	7.10	2.4	5.4	10.2
Average years till retirement	116368	9.61	8.84	3.5	9	15.4	23736	8.91	8.64	3	8.5	14.4	92632	9.79	8.89	3.5	9.3	15.5
Total number of other boards of publicly traded companies currently serving	116546	2.06	1.46	1	2	3	23775	2.15	1.53	1	2	3	92771	2.04	1.44	1	2	3
Total number of other boards of non-publicly traded companies currently serving	65900	2.23	2.17	1	1	3	16250	2.33	2.27	1	2	3	49650	2.19	2.13	1	1	3
Total number of other boards of publicly traded companies currently serving or previously served	116561	3.18	2.62	1	2	4	23776	3.32	2.74	1	2	4	92785	3.14	2.58	1	2	4
Total number of other boards of non-publicly traded companies currently serving or previously served	8357	1.15	0.45	1	1	1	1918	1.13	0.44	1	1	1	6439	1.16	0.45	1	1	1

Table 1. Panel B.

Summary Statistics on SNI and Its Components

SNI = the sum of prior Employment Connection, Education connection, and Other Activity Connection and connection through not-for-profit organizations. Employment connection indicates that both the director and CEO currently serve externally in at least one common firm. Education Connection indicates that the director and CEO attended the same school at the same time. Other Activity Connection indicates that the director and CEO share active membership in at least one non-professional organization. Not-for-Profit connection indicates that the director and CEO share active membership in at least one professional organization.

Variable	N	Mean	Std Dev	25%	50%	75%
Outside Director share at least one connection with CEO through prior employment in publicly-traded company (SNI_pub)	116571	0.070464	0.255928	0	0	0
Outside Director share at least one connection with CEO through prior employment in non-publicly-traded company (SNI_pri)	116571	0.120733	0.325819	0	0	0
Outside Director share at least one connection with CEO by graduating from the same university within two years (SNI_edu)	116571	0.006511	0.080428	0	0	0
Outside Director share at least one connection with CEO through non-professional organizations (SNI_oth)	116571	0.029347	0.168778	0	0	0
Outside Director share at least one connection with CEO through professional organizations (SNI_nfp)	116571	0.005842	0.076209	0	0	0
Outside director total network connections with CEO	116571	0.232897	0.491553	0	0	0
Outside director sharing at least one connection with CEO (SNI)	116571	0.20397	0.402949	0	0	0

Table 2:

Summary Statistics at Firm Level on the Overall Sample and on the Firms with Connected Board and Firms with No Connected Board Samples

Panel A Full Sample

Variable	N	Mean	Std Dev	25%	50%	75%
Statutory measure of board independence	15717	0.65	0.13	0.57	0.64	0.72
Alternative measure of board independence	15717	0.53	0.20	0.43	0.55	0.64
Board size	15717	11.47	3.49	9.00	11.00	14.00
CEO tenure	15717	12.81	9.99	5.00	9.90	18.90
Average years an outside director on board	15717	8.57	4.37	5.30	8.00	11.20
Average number other boards held by directors	15717	2.56	1.50	1.60	2.50	3.50
size	15717	9495.81	63071.06	319.98	1056.83	3622.72
Market to Book	15717	0.68	23.66	0.01	0.07	0.32
EPS	15540	1.02	3.14	0.16	1.02	1.95
Number of analyst following	15717	7.77	6.14	3.00	6.00	11.00
Analyst forecast accuracy	15717	0.22	2.04	-0.07	0.01	0.23
Analyst forecast dispersion	15717	0.10	0.38	0.01	0.04	0.09
Institutional holding	15717	0.67	0.29	0.50	0.73	0.88

Panel B	**Boards with connections**				**Boards with no connections**				
Variable	**N**	**Mean**	**Std Dev**	**50%**	**N**	**Mean**	**Std Dev**	**50%**	p-value (C-U)
Statutory measure of board independece	8338	0.67	0.12	0.64	7379	0.64	0.13	0.62	<0.0001
Alternative measure of board independence	8338	0.43	0.19	0.45	7379	0.64	0.13	0.62	<0.0001
Board size	8338	12.13	3.63	12.00	7379	10.73	3.17	11.00	<0.0001
CEO tenure	8338	12.41	9.75	9.35	7379	13.27	10.23	10.60	<0.0001
Average years an outside director on board	8338	8.08	4.15	7.50	7379	9.12	4.54	8.40	<0.0001
Average number other boards held by directors	8338	2.74	1.56	2.70	7379	2.36	1.39	2.30	<0.0001
size	8338	13906.22	76344.15	1662.37	7379	4512.21	42903.14	688.39	<0.0001
Market to Book	8338	0.39	1.97	0.08	7379	1.02	34.46	0.07	0.12
EPS	8222	1.13	3.03	1.13	7318	0.90	3.25	0.87	<0.0001
Number of analyst following	8338	8.29	6.30	7.00	7379	7.18	5.89	6.00	<0.0001
Analyst forecast accuracy	8338	0.23	2.20	0.01	7379	0.19	1.83	0.01	0.24
Analyst forecast dispersion	8338	0.10	0.30	0.04	7379	0.09	0.45	0.03	0.24
Institutional holding	8338	0.66	0.30	0.71	7379	0.69	0.29	0.75	<0.0001

TABLE3 Panel A

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Management Earnings Forecasts

The dependent variable equals 1 if management issued at least one earnings forecast in the year, and 0 otherwise. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		1.4437***	
(= statutory independence – connection)		(0.4674)	
SNI (Social Network Index)			-0.087**
			(0.037)
Independence (statutory)	1.9411**		2.1732***
	(0.7745)		(0.7819)
Board Size	0.1581***	0.1597***	0.17***
	(0.033)	(0.0328)	(0.0334)
CEO Tenure	0.0302	0.0324***	0.0328***
	(0.0117)	(0.0118)	(0.0118)
Average Time Director Serving on Board	0.0416*	0.0395	0.0425*
	(0.0248)	(0.0247)	(0.0249)
Average number of other boards served	-0.0117	-0.00569	-0.00971
	(0.0343)	(0.0344)	(0.0343)
Institutional Holding	1.6717***	1.6841***	1.6854***
	(0.2426)	(0.2426)	(0.2426)
Number of Analyst Following	0.0566***	0.055***	0.0548***
	(0.0153)	(0.0154)	(0.0154)
Analyst Forecast Dispersion	-4.9463***	-4.9139***	-4.9228***
	(0.4402)	(0.4401)	(0.4399)
Average Analyst Forecast Accuracy	0.0308*	0.0323*	0.031*
	(0.0178)	(0.0181)	(0.0179)
News (=1, if bad news, 0 otherwise)	-0.26***	-0.2621***	-0.2611***
	(0.0712)	(0.0712)	(0.0712)
loss	-0.7448***	-0.7429***	-0.7446***
	(0.1064)	(0.1066)	(0.1066)
Size	-0.7683	-1.0374	-1.1457
	(1.7848)	(1.7727)	(1.7886)
Market to Book	-0.0107	-0.0109	-0.00941
	(0.03)	(0.0296)	(0.0297)
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of Observations	14202	14202	14202

TABLE3 Panel B

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Management Earnings Forecasts in Bad News Years

The dependent variable equals 1 if management issued at least one earnings forecast in the year, and 0 otherwise. All variables are defined in the appendix.For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		1.1342*	
(= statutory independence – connection)		(0.6614)	
SNI (Social Network Index)			-0.1108**
			(0.0497)
Independence (statutory)	1.4128		1.6509
	(1.1713)		(1.1827)
Board Size	0.1139**	0.1154**	0.1339***
	(0.0493)	(0.0486)	(0.05)
CEO Tenure	0.0111	0.0128	0.0148
	(0.0173)	(0.0172)	(0.0173)
Average Time Director Serving on Board	0.0276	0.0259	0.0264
	(0.035)	(0.035)	(0.0352)
Average number of other boards served	-0.0663	-0.0649	-0.069
	(0.0517)	(0.0517)	(0.0517)
Institutional Holding	1.399***	1.4232***	1.4354***
	(0.3531)	(0.3548)	(0.355)
Number of Analyst Following	0.0333	0.0307	0.0305
	(0.0254)	(0.0253)	(0.0254)
Analyst Forecast Dispersion	-5.4563***	-5.3966***	-5.3988***
	(0.6334)	(0.6328)	(0.6324)
Average Analyst Forecast Accuracy	0.0293	0.0307	0.03
	(0.0206)	(0.0207)	(0.0207)
Loss	-0.433***	-0.4362***	-0.4349***
	(0.154)	(0.1544)	(0.1548)
Size	-2.494	-2.8149	-3.1641
	(5.3684)	(5.1344)	(5.0325)
Market to Book	-0.0344	-0.0333	-0.031
	(0.0566)	(0.0554)	(0.0559)
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of Observations	7473	7473	7473

TABLE3 Panel C

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Management Earnings Forecasts in Good News Years

The dependent variable equals 1 if management issued at least one earnings forecast in the year, and 0 otherwise. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		2.3549**	
(= statutory independence – connection)		(1.1099)	
SNI (Social Network Index)			-0.094
			(0.0841)
Independence (statutory)	1.7317		2.0238
	(1.8678)		(1.8889)
Board Size	0.1972***	0.1942***	0.211***
	(0.0727)	(0.0715)	(0.0737)
CEO Tenure	0.0596**	0.0635**	0.0613**
	(0.0268)	(0.0273)	(0.027)
Average Time Director Serving on Board	0.0344	0.0384	0.0379
	(0.0567)	(0.0565)	(0.0567)
Average number of other boards served	-0.0276	-0.0119	-0.0211
	(0.0709)	(0.0701)	(0.0711)
Institutional Holding	2.0902***	2.058***	2.0564***
	(0.5523)	(0.5497)	(0.5518)
Number of Analyst Following	0.041	0.0417	0.041
	(0.0297)	(0.0298)	(0.0297)
Analyst Forecast Dispersion	-4.0718***	-4.0455***	-4.1074***
	(0.9577)	(0.9456)	(0.951)
Average Analyst Forecast Accuracy	0.723***	0.7154***	0.7173***
	(0.2135)	(0.2115)	(0.2133)
Loss	-1.1098***	-1.124***	-1.1203***
	(0.268)	(0.2687)	(0.268)
Size	-5.1933	-4.9666	-4.9687
	(5.056)	(4.8475)	(4.9385)
Market to Book	0.0366	0.0278	0.038
	(0.1178)	(0.1163)	(0.1174)
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of Observations	5976	5976	5976

TABLE4 Panel A

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Issuing Point Forecasts

The dependent variable equals 1 if management issued a point forecast in the year, and 0 otherwise. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		-1.3135*	
(= statutory independence – connection)		(0.7828)	
SNI (Social Network Index)			0.1401**
			(0.06)
Independence (statutory)	-0.7728		-1.0127
	(1.2948)		(1.2995)
Board Size	-0.0346	-0.0297	-0.0523
	(0.0516)	(0.0509)	(0.0523)
CEO Tenure	-0.00412	-0.00788	-0.0119
	(0.0183)	(0.0185)	(0.0187)
Average Time Director Serving on Board	0.00716	0.00976	0.011
	(0.0385)	(0.0385)	(0.0386)
Average number of other boards served	0.0385	0.0367	0.0356
	(0.0504)	(0.0504)	(0.0505)
Institutional Holding	-0.1668	-0.165	-0.1579
	(0.4173)	(0.4179)	(0.4188)
Number of Analyst Following	-0.0241	-0.0237	-0.0224
	(0.022)	(0.022)	(0.022)
Analyst Forecast Dispersion	1.1738	1.1651	1.1354
	(0.8554)	(0.8565)	(0.8593)
Average Analyst Forecast Accuracy	0.0423	0.0452	0.053
	(0.0648)	(0.0647)	(0.0653)
Management Forecast Horizon	-0.00422***	-0.00423***	-0.00424***
	(0.00071)	(0.000709)	(0.000711)
News (=1, if bad news, 0 otherwise)	0.00604	0.00374	0.00172
	(0.1148)	(0.1149)	(0.115)
loss	-0.00832	-0.0169	-0.0224
	(0.213)	(0.2133)	(0.2138)
Size	0.2309	0.3923	0.4661
	(1.9498)	(1.9398)	(1.9198)
Market to Book	0.0434	0.0432	0.044
	(0.0459)	(0.046)	(0.0461)
Firm fixed effects	Yes	Yes	Yes
Number of Observations	6900	6900	6900

TABLE4 Panel B

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Issuing Point Forecasts in Bad News Years

The dependent variable equals 1 if management issued a point forecast in the year, and 0 otherwise. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		-3.7046**	
(= statutory independence – connection)		(1.5187)	
SNI (Social Network Index)			0.3242***
			(0.1237)
Independence (statutory)	0.31		-0.8126
	(2.3995)		(2.461)
Board Size	0.0154	0.0674	-0.015
	(0.0926)	(0.0967)	(0.0981)
CEO Tenure	0.0157	-0.00149	-0.0109
	(0.0318)	(0.0327)	(0.0347)
Average Time Director Serving on Board	0.0506	0.0457	0.0535
	(0.0674)	(0.0688)	(0.0703)
Average number of other boards served	0.033	-0.00272	0.0111
	(0.1082)	(0.1096)	(0.1104)
Institutional Holding	-0.2549	-0.2428	-0.1803
	(0.7612)	(0.7731)	(0.7646)
Number of Analyst Following	0.00461	0.00924	0.0104
	(0.0419)	(0.0425)	(0.0432)
Analyst Forecast Dispersion	0.9139	0.9652	0.9856
	(1.2784)	(1.296)	(1.3074)
Average Analyst Forecast Accuracy	0.0696	0.0986	0.0905
	(0.0814)	(0.0836)	(0.0833)
Management Forecast Horizon	-0.00381***	-0.00418***	-0.00405***
	(0.00109)	(0.0011)	(0.0011)
loss	0.0769	0.0637	0.052
	(0.3523)	(0.3556)	(0.3616)
Size	-9.2855	-8.9164	-8.5433
	(6.1336)	(6.619)	(6.8258)
Market to Book	-0.1794	-0.1947	-0.1849
	(0.1538)	(0.1584)	(0.155)
Firm fixed effects	Yes	Yes	Yes
Number of Observations	3058	3058	3058

TABLE4 Panel C

Logistic Regressions Examining the Impact of Social Connection Measures and Control Variables on the Likelihood of Issuing Point Forecasts in Bad News Years

The dependent variable equals 1 if management issued a point forecast in the year, and 0 otherwise. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		-0.7507	
(= statutory independence – connection)		(1.4424)	
SNI (Social Network Index)			0.1311
			(0.1149)
Independence (statutory)	-0.2264		-0.4403
	(2.3756)		(2.3828)
Board Size	-0.0201	-0.0115	-0.0268
	(0.0868)	(0.0873)	(0.0874)
CEO Tenure	-0.032	-0.0323	-0.0334
	(0.0399)	(0.04)	(0.0401)
Average Time Director Serving on Board	0.00443	0.0049	0.00633
	(0.0685)	(0.0682)	(0.0686)
Average number of other boards served	0.0301	0.0307	0.0276
	(0.0822)	(0.0823)	(0.0826)
Institutional Holding	0.6637	0.665	0.6674
	(0.6948)	(0.6933)	(0.6941)
Number of Analyst Following	-0.00198	-0.00196	0.000784
	(0.0361)	(0.0362)	(0.0365)
Analyst Forecast Dispersion	3.8804*	3.8975*	3.7999*
	(2.0078)	(2.0036)	(2.0087)
Average Analyst Forecast Accuracy	0.8488	0.8589	0.8648
	(0.6977)	(0.6982)	(0.6978)
Management Forecast Horizon	-0.00751***	-0.00751***	-0.0074***
	(0.00178)	(0.00177)	(0.00179)
loss	-0.4915	-0.4889	-0.4882
	(0.502)	(0.5014)	(0.5027)
Size	7.2675	7.3911	7.3872
	(5.4894)	(5.5291)	(5.6547)
Market to Book	0.053	0.0535	0.056
	(0.0639)	(0.0638)	(0.0629)
Firm fixed effects	Yes	Yes	Yes
Number of Observations	3373	3373	3373

TABLE5

Examining the Impact of Social Connection Measures and Control Variables on Bias of Management Earnings Forecasts

The dependent variable forecast bias is the signed difference between the management forecast and actual earnings. All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		-1.1525*	
(= statutory independence – connection)		(0.5942)	
SNI (Social Network Index)			0.077*
			(0.0448)
Independence (statutory)	-1.2741		-1.3793
	(0.9591)		(0.9581)
Board Size	-0.0951**	-0.0999**	-0.1122***
	(0.0399)	(0.0386)	(0.041)
CEO Tenure	0.0088	0.0057	0.0058
	(0.0146)	(0.0146)	(0.0146)
Average Time Director Serving on Board	-0.0635**	-0.0613*	-0.0649**
	(0.0315)	(0.0313)	(0.0314)
Average number of other boards served	0.0053	0.0049	0.0061
	(0.0341)	(0.034)	(0.034)
Institutional Holding	0.7733**	0.7425**	0.7456**
	(0.3208)	(0.3202)	(0.3202)
Number of Analyst Following	-0.0411***	-0.0391**	-0.0392**
	(0.0155)	(0.0155)	(0.0155)
Analyst Forecast Dispersion	-1.7329***	-1.7571***	-1.7249***
	(0.2843)	(0.2837)	(0.2835)
Average Analyst Forecast Accuracy	0.9612***	0.9661***	0.9674***
	(0.0202)	(0.0202)	(0.0205)
Management Forecast Horizon	-0.0001	-0.0001	-0.0001
	(0.0005)	(0.0005)	(0.0005)
News (=1, if bad news, 0 otherwise)	-0.0686	-0.0857	-0.088
	(0.0785)	(0.0788)	(0.079)
Loss	0.0456	0.0304	0.0353
	(0.1475)	(0.1465)	(0.1472)
Size	-40.1686***	-40.9662***	-42.0318***
	(10.4956)	(10.4755)	(10.5193)
Market to Book	0.0381*	0.0382*	0.0385*
	(0.0209)	(0.0208)	(0.0208)
Firm fixed effects	Yes	Yes	Yes
R-square	0.9087	0.939	0.9392
Number of Observations	891	891	891

TABLE6
Regressions Examining the Impact of Social Connection Measures and Control Variables on the Accuracy of Management Earnings Forecasts

The dependent variable forecast accuracy is the unsigned difference between the management forecast and actual earnings (absolute value of the difference). All variables are defined in the appendix. For ach variable, coefficient estimates (standard errors) are reported in the top (bottom) row. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively (two-tailed).

	1	2	3
Independence (alternative)		-1.8022**	
(= statutory independence – connection)		(0.8577)	
SNI (Social Network Index)			0.074
			(0.065)
Independence (statutory)	-1.116		-1.2171
	(1.3883)		(1.3905)
Board Size	-0.1154**	-0.1129**	-0.1318**
	(0.0578)	(0.0557)	(0.0596)
CEO Tenure	0.0506**	0.0456**	0.0477**
	(0.0211)	(0.0211)	(0.0213)
Average Time Director Serving on Board	-0.1018**	-0.1004**	-0.1031**
	(0.0456)	(0.0452)	(0.0456)
Average number of other boards served	-0.0645	-0.0667	-0.0638
	(0.0493)	(0.049)	(0.0493)
Institutional Holding	0.5733	0.5255	0.5466
	(0.4643)	(0.4621)	(0.4647)
Number of Analyst Following	0.0021	0.0046	0.0039
	(0.0225)	(0.0223)	(0.0225)
Analyst Forecast Dispersion	1.7395***	1.7027***	1.7472***
	(0.4115)	(0.4095)	(0.4114)
Average Analyst Forecast Accuracy	0.4767***	0.4831***	0.4827***
	(0.0293)	(0.0291)	(0.0297)
Management Forecast Horizon	0.0022***	0.0023***	0.0022***
	(0.0007)	(0.0007)	(0.0007)
News (=1, if bad news, 0 otherwise)	-0.1033	-0.1308	-0.122
	(0.1136)	(0.1137)	(0.1147)
loss	0.4363**	0.4239**	0.4263**
	(0.2135)	(0.2115)	(0.2136)
Size	-37.9483**	-39.9799***	-39.7387***
	(15.1918)	(15.1206)	(15.266)
Market to Book	0.038	0.0371	0.0384
	(0.0302)	(0.03)	(0.0302)
Firm fixed effects	Yes	Yes	Yes
R-square	0.8253	0.8669	0.8659
Number of Observations	891	891	891