

Distracted Directors

Luke C.D. Stein
W. P. Carey School of Business
Arizona State University

Hong Zhao*
W. P. Carey School of Business
Arizona State University

August 2016[†]

Abstract

When members of a board of directors are distracted by outside obligations, they may be less effective in their advisory and monitoring roles. Prior research on the adverse effects of director distraction—largely focused on directors who sit on multiple boards—offers mixed evidence, presumably because these “busy” board members may also be particularly effective ones. We focus instead on time-varying attention shocks to independent directors who are primarily employed at outside firms. Using newly constructed data that links directors to their employers, we identify periods when poor performance at a director’s employing firm may distract her from board service. We find that firms with distracted directors have lower performance and value, higher CEO compensation, reduced CEO turnover-performance sensitivity, lower earnings quality, and lower M&A performance. These effects are driven by distracted directors who sit on relevant committees, and are stronger for small boards, where each individual director may be more important. Taken together, our evidence suggests that independent executive directors play an important governance role, but their effectiveness suffers when they are distracted by events at their employing firm.

We are grateful to participants of the Arizona Junior Finance Conference; and Jeffrey Coles, Michael Hertz, Aazam Virani (discussant) and Charles C.Y. Wang for useful comments.

*Department of Finance, W. P. Carey School of Business, PO Box 873906, Tempe AZ 85287; luke.stein@asu.edu and hzhao25@asu.edu.

[†]This version updated September 4, 2016.

1 Introduction

Director distraction has been catching a lot of attention from media, practitioners, and academia ever since the Sarbanes-Oxley Act. A board needs its members to be attentive to fulfill the advisory and monitoring roles (Fich and Shivdasani (2006)). Yet, directors often have outside obligations, which sometimes might distract them from their board responsibilities. To minimize the possibility of directors becoming over-distracted, more and more firms start to impose restrictions on outside duties that their directors are allowed to assume. For example, the Spencer and Stuart U.S. Board Index 2015 Report shows that 77% of Standard & Poor's 500 firms limit directors from accepting other public company directorships, a 40% increase as compared to the number in 2006.

Among all type of directors, executive directors (directors whose primary job is as an executive at an outside firm) are of particular interest for the issue of director distraction. Executive directors are important not only because they may be particularly valuable directors (Fich (2005), Fahlenbrach et al. (2010), Faleye (2011)), but also because they are more likely to be distracted, especially by events associated with poor performance at their employing firms. Consistent with this view, the Institutional Shareholder Services (ISS) recommends tighter restrictions on outside duties for executive directors. They recommend to vote against CEO directors who sit on more than two outside boards, while the threshold for other types of directors is six.¹ Despite the apparent concerns about distraction of executive directors, there is no comprehensive investigation of how executive directors are distracted from their board responsibilities and what are the consequences for the firm where they sit on board. In this paper, we construct a new dataset that links executive directors with their employers and study how the distraction of executive directors affects board governance effectiveness.

The main analyses in our paper are based on a sample that matches each independent director listed in the ISS database from 1996 to 2013 with her primary employer (if any). Using information from ISS, Execucomp, BoardEx, and Thomson Reuters Insider Filing, we identify a public company as the primary employer for 32,665 director-years, which cover 20% of all independent director-years. The underlying hypothesis of our distraction argument is that executive directors allocate their time and effort away from their board duties when their primary employer's performance suffers because

¹ISS is proposing to revise the policy on overboarded directors and to lower the acceptable numbers of board positions to one outside directorship for CEO directors and four for other directors.

they give priority to their executive jobs. Thus, we define an independent executive director as distracted if her employer's annual stock return is in the bottom quintile of the pooled sample.

We first provide evidence that poor stock performance at executive directors' employing firms actually causes distraction for directors. Following the literature (e.g., Adams and Ferreira (2009), Masulis et al. (2012)), we use board meeting attendance as a measure of directors' attention to their board duties, since board meetings are the key avenue through which independent directors participate in firm governance. Consistent with the distraction hypothesis, we find a strong negative relation between employer's stock return and executive director's likelihood of exhibiting meeting attendance problems. A director distracted by bottom-quintile stock performance is about 30% more likely to miss more than 25% of the board meetings held during a year.

We next move to our main analyses on how distracted directors affect board governance effectiveness. We aggregate the director-year sample up to the firm-year level and measure board distraction as the number of distracted directors on the board. On average, a board has 6.8 independent directors and 1.4 independent executive directors, of whom 0.25 are distracted executive directors under our definition. To assess the overall effects of board distraction on firm, we use ROA and Tobin's Q as two measures of firm performance. Our distraction measure is exogenous to the degree that each individual director's distraction is generated from sources outside the firm where she sits on board. Yet, endogeneity could still arise through potential performance correlation between a firm and its directors' employers through channels such as industry-level shocks. Therefore, we control for at least industry and year fixed effects in all models, and in some specifications include industry-by-year fixed effects or firm and year fixed effects. Relying on variation in board distraction at different levels, we find robust evidence that board distraction results in significantly lower firm performance and firm value. In terms of economic magnitude, an increase in one distracted executive director is associated with a 31 basis point (2.5% of sample average) decrease in ROA and a 0.03 decrease (1.8% of sample average) in Tobin's Q.

Beyond overall performance, we also assess a variety of channels through which board distraction could have detrimental effects on the firm. Specifically, we look at CEO compensation, CEO turnover, earnings quality, and acquisition decisions, as these are the main tasks reflecting board's monitoring and advisory roles. We start with the effect of board distraction on CEO compensation. As executives hope to extract excess compensation when board monitoring is weak and distracted

directors weaken board monitoring, we expect to observe higher CEO compensation in firms with more distracted directors. Empirical evidence supports our distraction hypothesis. All else equal, an additional distracted director is associated with a 2.2% increase in CEO total compensation. When we further decompose total compensation into cash compensation and equity payments, we find that the excess compensation mainly comes in the form of equity. One possible explanation is that designing appropriate equity compensation is more complicated than with cash and requires more effort from directors, so CEOs can extract excess compensation more easily in the form of equity when their board is distracted. We also find that the effects of board distraction on CEO compensation is more pronounced when the distracted directors are on the compensation committee. This evidence is consistent with board distraction leading to weaker monitoring and thereby more excess CEO compensation.

Our second measure of board monitoring effectiveness is CEO turnover. We hypothesize that board distraction leads to lower turnover-performance sensitivity as it impairs the board's ability to monitor the CEO or initiate management changes. Using forced CEO turnover covered by the Execucomp database, we estimate a negative effect of board distraction on CEO turnover-performance sensitivity. For non-distracted boards, an interquartile decline in firm performance increases the likelihood of a forced CEO turnover by 101%; when one director is distracted, the same performance decline increases the turnover likelihood by only 71%.

Another monitoring role of the board is to ensure the quality of a firm's financial statements. Executives may have incentives to manipulate earnings because the value of their bonus, stocks and options often depend on reported accounting performance (Burns and Kedia (2006), Bergstresser and Philippon (2006)). Therefore, earnings manipulation is more likely to occur in firms with weak board monitoring. Following the literature, we use discretionary accruals and earnings restatements as two measures of earnings quality. Consistent with the distraction hypothesis, we find that firms with distracted boards have a significantly higher absolute value of discretionary accruals and significantly more financial statements that need to be later restated due to irregularities. Similar to the CEO compensation finding, the detrimental effects of director distraction on earnings quality is stronger (though not significant for restatements) when distracted directors serve on the audit committee.

Besides monitoring the executive team, another important function of the board is advising management. To study whether distracted directors also impair a board's advisory role, we consider

a firm’s merger and acquisition (M&A) performance as a measure of a board’s advising effectiveness. We obtain our M&A sample from the Securities Data Corporation, and measure acquirer’s M&A performance using cumulative abnormal return over the five-day window around the announcement day. Consistent with our distraction hypothesis, we find that an additional distracted director is associated with a five-day announcement return that is 28 basis points lower, all else equal. We also show that the negative effect on M&A performance is mainly driven by distracted directors who are M&A “experts”—those who have successful past M&A experience or work in the same industry as the target firm.

To provide further evidence that the relations between board distraction and firm outcomes are causal and to understand how the strength of the distraction effects varies across different environments, we examine heterogeneity with respect to several board structure and director characteristics. Since smaller boards have fewer members to cover the responsibilities of the distracted one, the distraction of a single director may matter more. Across the board, we find that the association of board distraction with lower overall firm performance, excess CEO compensation, reduced turnover-performance sensitivity, and lower M&A announcement returns are more pronounced for firms with small boards. The only exception is earnings quality where we do not find significant heterogeneous effects. We also investigate a set of director characteristics. In general, empirical results suggest that the distraction effects are stronger for independent executive directors who are less coopted with the CEO, who are CEOs at their employing firms, and who have shorter tenure as a director on the board. These results are consistent with the idea that distraction has more adverse effects on a director’s board duties if the director serves as a particularly important monitor or advisor, or the director is particularly likely to be distracted by the negative events at the employing firm.

We conduct a set of robustness checks on our empirical findings. We first reexamine our distraction effects using only within-industry-year variation in board distraction. Instead of a single pooled sample bottom quintile cutoff, we apply an industry-year bottom quintile cutoff for each industry-year group. This measure helps address the concern that our estimated distraction effects are driven by the performance relation between firms within the same industry or of related industries. With this alternative distraction measure, we continue to find negative effects of board distraction on firm overall performance and various specific outcomes. We also consider two other time-varying measures of business conditions at a director’s employing firm that may be associated with distracting events:

high volatility and financial distress. The broad pattern of the distraction effects remain apparent in response to these two alternative sources of distraction.

This paper mainly contributes to the literature on how director busyness affects board governance effectiveness. Empirical evidence on whether directors are sometimes too busy to mind the business is mixed, presumably because the most common measure of director busyness in the literature is the number of outside directorships. A caveat of this business measure is that it is hard to disentangle busyness from ability. Directors with multiple directorships are likely to have less time available to each directorship, but more capable directors are also likely to have multiple directorships. Therefore, it is not surprising that some studies find busy boards result in deteriorated firm performance, low CEO turnover-performance sensitivity, and excess CEO compensation (Fich and Shivdasani (2006), Core, Holthausen, and Larcker (1999)), while others find busy boards in general do not harm firm performance (Ferris, Jagannathan, and Pritchard (2003)) or even make positive contribution to certain types of firms, for example IPO firms (Field, Lowry, and Mkrtchyan (2013)). The only exception in the literature on the identification of board busyness is Falato, Kadyrzhanova, and Lel (2014). They use the deaths of directors and CEOs as an exogenous source of attention shock to independent directors at interlocked firms (distracted directors), and find that firms with these distracted directors experience a negative stock market reaction following the death announcement. Our study complements their paper by using a more common source of director attention shock (663 director deaths and 189 CEO deaths in Falato, Kadyrzhanova, and Lel (2014)), and by examining in details a variety of channels through which board distraction impairs firm performance.

Our paper also contributes to the literature on the value of executive directors. Despite the decline in the number of executive directors after the Sarbanes-Oxley Act, active corporate executives are still the most popular source of independent directors. Using a sample of 1,493 director appointment announcements, Fich (2005) shows that the stock market reacts more positively to the appointment of independent CEO directors than to the appointment of other independent directors. The results in Fahlenbrach, Low, and Stulz (2010) are more mixed. They find that the market only favors CEO director appointments if the appointing firm does not have other CEO directors on board. Also, they do not find confirming evidence that CEO directors lead to better board monitoring or advising effectiveness in firm-level regression analyses. The results in our paper suggest that independent executive directors play an important governance role; yet, they are sometimes distracted by events

at their employing firm and their effectiveness could thereby suffer.

The rest of the paper is organized as follows. Section 2 describes the construction of the main analysis sample and the definition of variables. Section 3 examines the relation between employing firm's stock performance and executive director's board meeting attendance. Section 4 presents the main empirical results of how director distraction affects various aspects of board governance effectiveness. Section 5 studies a set of heterogeneous effects with respect to board structure and director characteristics. Section 6 concludes.

2 Data and variables

The main analyses in this paper are based on a sample consisting of public firms that can be matched between 1996 and 2013 across ISS (board characteristics and corporate governance), Compustat (firm-level accounting data), CRSP (stock returns), and Execucomp (CEO characteristics, compensation, and turnover).

Our focus is on independent directors whose primary job is as an executive at an outside firm. These directors presumably give priority to their executive jobs, and thus allocate their time and effort away from their corporate directorships when their primary employer's performance suffers. To measure this time-varying attention shock, we attempt to identify for each year between 1996 and 2013 which public company (if any) is the primary employer of each independent director listed in the ISS database.

To do so, we use five sources in the following order, using the first acceptable match: First, we identify any independent director who is listed in ISS as an inside director of another firm, which we then consider to be her primary employer.² Second, we attempt to locate independent directors listed as executives in Execucomp (requiring an exact match on full name and an age difference within two years); if a director is listed as an executive at more than one firm, we use the match where she receives the highest level of compensation. Third, we attempt to locate independent directors in BoardEx (requiring an exact match on full name and an age difference within two years), and record each director's employer for each year as reported in BoardEx's employment history. Fourth, we attempt to locate independent directors who appear as executives reporting insider trades in Thomson Reuters Insider Filing (requiring a unique exact match on full name). Finally, we attempt

²In the rare cases where an individual is listed as an inside director of more than one firm, we do not use these matches.

to match the name of an independent director’s primary employer as reported in ISS with the name of a Compustat firm.

We apply the matching procedure described above to 162,633 independent director-years, averaging 6.9 years for each of 23,419 unique independent directors covered by ISS. We identify a public company as the primary employer for 32,665 director-years (20% match rate), covering 7,261 unique directors (31%). The unmatched independent director may be retired, unemployed, or employed at a non-public firm; they may of course also result from data errors, non-unique names, or other failures of our matching algorithm.

Table 1, Panel A reports descriptive statistics for our sample of matched (independent executive director-year) observations. All variables are winsorized at the 1% and the 99% percentile levels here and throughout our analyses, and Table A.1 in the Appendix gives a detailed description of all variables’ construction. Matched directors average 57.7 years old, and women and foreign directors account for 11.5% and 1.9% of the sample, respectively. Independent executive directors hold on average 2.3 public firm directorships, and 48% are the CEO of their employing firms. 51% of independent executive directors serve on the compensation committee, and 49% serve on the audit committee. About 2.5% of them are absent from more than one quarter of the of board meetings held in a year.

For each observation, we calculate the stock performance of the director’s employer during the board firm’s fiscal year.³ The mean annual return for directors’ employing firms in our sample is 11.0%. Poor stock performance at the employing firm will serve as the source of distraction under our main measures of director distraction, where we define an independent executive director as distracted if her employer’s stock return is in the bottom quintile of the pooled sample.⁴ We use a pooled cutoff in our main measure because empirical evidence presented in Section 3 suggests that both poor idiosyncratic and overall market returns affect distraction, but also consider alternative cutoffs, including ones based on poor industry-adjusted performance.

³The year variable reported in ISS is the calendar year of the annual shareholders meeting, and the directors listed in ISS are those up for election. We therefore first identify fiscal years by comparing the fiscal year-end month with the annual meeting month, and assign directors on the slate at the annual meeting as the directors for that fiscal year. For example, suppose that Firm *B* ends its fiscal year in October, and ISS lists independent director Dr. *X* (an executive at Firm *E*) as being up for election at the annual meeting held in February 2013; *X* is considered an independent executive director of *B* in fiscal 2013, and we measure the stock performance of *E* between November 2012 and October 2013.

⁴In untabulated estimates, we show that our results are broadly robust to measuring distraction using bottom decile or quartile performance cutoffs.

We aggregate the director-year sample up to the firm-year level at which we conduct our main analyses. Panel B of Table 1 reports descriptive statistics on this aggregated sample, which comprises 23,299 firm-years, averaging 8.4 years for each of 2,773 unique firms. The average board consists of 9.5 directors, of whom 6.8 (71%) are independent directors, and 1.4 (14%) are independent executive directors whose employer we can identify.⁵ The average board includes 0.25 distracted directors under our main definition: their employing firms' stock returns were in the bottom quintile of the pooled sample. 15.1% of the firm-years in the sample have one distracted director, 3.4% have two, and 1.1% have three or more. We also report several other board characteristics known to affect board effectiveness. We calculate board ownership as the total stock ownership of all independent directors. Following Fich and Shivdasani (2006), we define a board as busy if a majority of its independent non-retired (retired) directors hold three (five) or more directorship. We also calculate the E Index based on Bebchuk et al. (2009). In our sample, independent directors own 1.1% of outstanding shares, on average; 20% of boards are busy, and firms have an average E index of 1.9.

We also report summary statistics on firm characteristics and outcome measures used in our firm-level analysis. As expected, our sample firms are fairly large, with average total assets and market capitalization of \$10.22 and \$6.85 billion, respectively. The average firm earns a 0.13 return on assets (ROA) and has a Tobin's Q of 1.84. CEOs' average total annual compensation is \$4.53 million, of which about 75% paid in the form of equity, and they face an annual forced turnover rate of about 2.2%. We also consider several measures of earnings quality. The absolute value of discretionary accruals average 3.3% of firms' total assets. Between 1997 and 2005, 7.2% of annual earnings announcements were restated (2.3% due to irregularities).

3 Distraction and board meeting attendance

Our assessment of the effects of director distraction will mainly rely on events associated with poor stock performance at independent executive directors' employing firm. We therefore present evidence suggesting that such poor market performance is actually associated with distracted directors. We use board meeting attendance as a direct measure of directors' attention to their board duties, since attending meetings is independent directors' essential responsibility and represents the key

⁵Approximately one quarter of our firm-year observations have no matched independent executive directors. Our estimation results are substantially unchanged if we drop these observations.

avenue through which they participate in firm governance.⁶ Firms do not generally report directors' attendance, but are required by the Securities and Exchange Commission to disclose whether a director attended fewer than 75% of the board meetings held during a fiscal year. Given the possible repercussions for a director's reputation of missing board meetings (and the fact that the SEC's reporting requirement allows for attendance by teleconference), it is perhaps unsurprising that only 2.5% of the independent executive directors in our sample had "poor attendance."

Table 2 presents estimation results considering the association between independent executive directors' board meeting attendance, and the stock market returns of her primary employer over the fiscal year. We apply logit models where the dependent variable is an indicator variable equal to one if the director attended fewer than 75% of board meetings during a year. All regressions include industry and year fixed effects, together with a set of director- and firm-level controls, and standard errors are two-way clustered by director and year.⁷

In column 1, we include the stock return of the independent executive director's primary employer. Consistent with poor performance being associated with director distraction and poor attendance, we estimate a negative coefficient on employer's return (statistically significant at the 5% level).

In column 2, we consider whether the association between performance and poor attendance is particularly driven by the distracting effects of poor performance, rather than some ameliorating effect of good performance. To do so, we decompose directors' employers' market performance into a negative component (equal to the return if negative, and zero otherwise) and a positive one (equal to the return if positive, and zero otherwise). We estimate a strong negative relationship between the negative component of returns and attendance problems: more negative performance is associated with a greater likelihood of missing board meetings. In contrast, we estimate a small (and statistically insignificant) coefficient on the positive component of returns, suggesting that once a firm achieves positive returns, a decrease in performance does not necessarily divert its employees from attending to their board duties at other firms.

⁶Several recent papers use directors' meeting attendance to directly test their effectiveness as monitors and advisors; see, for example, Adams and Ferreira (2009), Masulis et al. (2012), Masulis and Mobbs (2014).

⁷We restrict our analysis to the sample of independent executive directors, but the main results remain substantially unchanged if we include *all* independent directors in unreported estimates. (In this case, the non-executive independent directors serve to help identify the coefficients on the control variables other than employer's stock market returns.) Consistent with the possibility that employment at a public company places particular demands on an independent director's attention (relative to retirement, unemployment, or employment at a non-public firm), we find that independent executive directors are significantly more likely to exhibit attendance problems, averaging 2.5% vs. 1.5% (significant at the 1% level).

Given the possibility that the distracting effects of poor performance are concentrated around the worst-performing firms, our main distraction measure identifies directors whose employers perform in the bottom quintile of our pooled sample. Column 3 considers this measure. As expected, the coefficient on the distraction dummy is significantly positive; all else equal, a director distracted by bottom-quintile performance is about 30% more likely to exhibit poor attendance.⁸

In columns 4 and 5, we consider whether the association between employer performance and director attendance is driven by idiosyncratic performance; that is, do directors avoid distraction when their employer's poor performance is due to poor overall performance in its industry? In column 4, we decompose returns into industry-adjusted and median industry returns, and further decompose each of these two returns into their positive and negative parts. We find that negative industry-adjusted returns have a significantly negative effect on poor attendance, similar to the (statistically insignificant) effect of negative industry returns. This suggests that directors are in fact distracted when either idiosyncratic or industry performance is poor, consistent with our use of a main measure of distraction based on poor total returns. (The positive returns, both idiosyncratic and industry, do not exhibit a clear association with meeting attendance.) We do consider an alternative measure of distraction based on idiosyncratic performance: employers' returns being in the bottom quintile of their industry-year groups. Column 5 includes this measure and estimates a coefficient significant at the 5% level, though slightly smaller in magnitude than that estimated in column 3 using the pooled measure.

Overall, the results on meeting attendance are consistent with the possibility that independent executive directors are distracted from their director role during periods of poor performance at their primary employer. Moreover, the asymmetric effect of distraction rationalize our use of bottom quintile performance (using either raw or industry-adjusted returns) to define our measure of distraction.

4 Distraction and board effectiveness

In this section, we present our main results illustrating that distracted directors reduce the effectiveness of their boards as monitors and advisors. We first examine how board distraction affects

⁸The predicted probability of a director with sample average characteristics missing more than 25% of the meetings in a year is 1.89%. For distracted and non-distracted directors, this predicted probability is 2.31% and 1.79%, respectively.

overall firm performance and value. Then, we assess a variety of channels through which distraction could have detrimental effects on the firm.

4.1 Overall performance

We expect firms with distracted board experience a performance decline, since distracted directors pay less attention to their board duties. Following the literature on board effectiveness (e.g., Fich and Shivdasani, 2006, Coles et al., 2008, Masulis et al., 2012), we use ROA and Tobin’s Q as two measures of firm performance. Our key independent variable is board distraction, which is the number of independent executive directors whose employer’s stock return is in the bottom quintile of the pooled sample (or of its industry-year group, in some specifications).⁹ This distraction measure is exogenous to the degree that each individual director’s distraction is generated from sources outside the firm where she sits on board. Yet, endogeneity could still arise through associations between the performance of a director’s primary employer and the firm where she sits on the board that are not driven by distraction. To partially address this issue, we control for (at least) time and industry fixed effects in all models, and in some specifications include year-by-industry fixed effects, so that we are identifying only off of within-industry-year variation in board distraction. We control for the number of independent executive directors on a board to make sure our distraction effect is not driven by the potential difference between executive directors and non-executive directors. We also include a set of corporate governance characteristics that are known to have effect on performance including board size, board independence, E index, CEO ownership, and CEO duality. All standard errors are two-way clustered by firm and year.

Table 3 presents estimates of the effect of board distraction on firm performance. In column 1, we regress ROA on the number of distracted directors using our main pooled measure, together with a set of control variables, year fixed effects, and industry fixed effects. The coefficient of board distraction is negative and statistically significant at the 1% level. In terms of economic magnitude, an increase in one executive director who is distracted is associated with a 31 basis point decrease in ROA, which is about a 2.5% performance decline compared to the sample average.

Columns 2–4 present stronger evidence on board distraction. Column 2 replaces industry fixed effects with firm fixed effects to control for any unobserved time-invariant, firm-specific factors

⁹In untabulated estimates, we show that our results are broadly robust to using the *fraction* of directors (or of independent directors) who are distracted as an alternative measure of board distraction. We also show in Section 5.1 that the effects of a single distracted director are larger at firms with small boards, where the distracted director represents a larger fraction of total board membership.

relating to board distraction and/or firm performance. Since our distraction measure depends on directors' employers' returns, which vary significantly over time, we should have enough within-firm time-series variation in board distraction to identify its impact. As we found in column 1, the coefficient of distraction in column 2 is significantly negative, though the magnitude decreases by about half. In column 3, we further address the potential correlation in performance between a firm and its directors' employers. Although year fixed effects eliminate the impact of overall market shocks, there may be a correlation through industry-level shocks if firms tend to have directors from related industries. Column 3 therefore includes year-by-industry fixed effects; despite relying only on within-industry-year variation in board distraction, we continue to find that distraction is associated with a significantly deterioration in firm performance. Column 4 relies on our alternate measure of director distraction, treating as distracted only those directors whose employers have bottom-quintile returns within their industry-year. Using this idiosyncratic performance-based measure helps ensure that we are not estimating the association between a set of poor-performing firms and poor performance in a related industry from which they may disproportionately draw their directors. The coefficient on board distraction using this measure is also significantly negative, with a somewhat larger magnitude than we found in columns 1–3.¹⁰ We consider several additional measures of distraction as robustness checks in Section 4.6.

In columns 5–8, we replace ROA with Tobin's Q as a measure of overall firm performance. Consistent with our prior results on ROA, we find that board distraction has a significant negative effect on Tobin's Q. This negative effect is detected using both within-firm variation and within-industry-year variation. On average, the distraction of one independent executive director causes a 0.025 to 0.048 decrease in Tobin's Q, representing a loss of \$0.26 to \$0.49 billion in market value for the average-sized firm.

In summary, the evidence presented in Table 3 supports the hypothesis that directors distraction is associated with lower firm performance and firm value. In the remainder of this section, we investigate different firm outcomes to study how distracted directors weaken firm performance by playing less effective monitoring and advising roles.

¹⁰We find similar results if we define board distraction as the number of executive directors whose employers' return is in the bottom quintile of the year, rather than the industry-year; the coefficient in this unreported regression is -0.0042 (significant at the 1% level).

4.2 CEO compensation

One key role that boards play is to design executive compensation contracts. In a frictionless principal-agent world, the optimal compensation scheme should only depend on the executive's risk aversion, reservation utility, and disutility from effort; and firm performance and uncertainty (Hölmstrom, 1979). Of course in reality, executives' and shareholders' incentives are not always perfectly aligned, and executives hope to extract excess compensation when board monitoring is weak (Bebchuk and Fried, 2004, Yermack, 2006).

Prior literature has documented a number of board characteristics that affect the efficiency of CEO compensation. Core et al. (1999) show that CEO compensation is higher when the board is larger; the CEO is chairman of the board; and when outside directors are older, busier, or more affiliated with the CEO. Hallock (1997) shows that CEOs receive higher compensation when they have interlocking directorships with their board members, and Faleye (2011) documents similar results when independent directors are the CEOs of outside firms.¹¹ Masulis et al. (2012) argue that foreign directors are less effective monitors, and find that firms with foreign directors pay their CEOs significantly more. Coles et al. (2014) measure board cooption using the fraction of directors appointed after the CEO assumed the office, and find less efficient CEO compensation schemes under more co-opted boards. Faleye et al. (2011) show that boards with a majority of independent directors serving on multiple committees are better monitors, and that these monitoring-intensive boards are associated with lower excess CEO compensation.

Based on the previous literature and under our hypothesis that board monitoring effectiveness decreases when directors are distracted, we expect to observe higher CEO compensation in firms with distracted boards. To test this hypothesis, we conduct regressions of compensation on board distraction, considering total compensation, as well as cash and equity (including option-based) compensation separately. We take the logarithm of all three compensation measures to alleviate the impact of outliers, and measure board distraction as the number of independent executive directors whose employer's stock return is in the bottom quintile of the pooled sample. Along with a set of controls associated with rational determinants of CEO compensation, we include a set of common firm, board, and CEO characteristics, as well as industry and year fixed effects in all regressions.¹²

¹¹Fahlenbrach et al. (2010) find firms with independent CEO directors grant higher compensation to CEOs in regressions with industry fixed effects, but this relationship disappears in estimates with firm fixed effects.

¹²In untabulated estimates, we show that our results are virtually unchanged if we also include lagged compensation

Standard errors are two-way clustered by firm and year. We consider alternative measures of distraction, as well as alternative estimation strategies as robustness checks in Section 4.6.

Table 4 presents estimates of the effect of board distraction on CEO compensation. In column 1, we use total compensation as the dependent variable and estimate a coefficient on board distraction that is positive and statistically significant at the 1% level. All else equal, an additional distracted director is associated with a 2.2% increase in total compensation. In columns 2 and 3, we decompose total compensation into cash compensation (salary plus bonus) and equity payments. We find that the excess compensation granted by distracted boards comes mainly in the form of equity: For cash compensation, the positive coefficient on board distraction is small in magnitude and statistically insignificant, while for equity, board distraction has a positive and significant coefficient. An additional distracted director is associated with CEOs receiving 3.9% more equity. Faleye et al. (2011) document a related pattern: intense board monitoring is associated with significantly less equity compensation but has no impact on cash. One possible explanation is that designing appropriate equity compensation is more complicated than with cash, and so requires more efforts from directors. Therefore, CEOs can extract excess compensation more easily in the form of equity when their board is distracted.

To provide further evidence on how board distraction leads to excess CEO compensation, we investigate heterogeneity of the distraction effect. We categorize distracted directors based on whether or not they serve on the firm's compensation committee. To the degree that CEO compensation is largely set by the compensation committee—that is, members of the committee should be particular important monitors in this area—we expect to find stronger effects when compensation committee members are distracted.¹³ Regression results are shown in columns 4–6. The coefficients on the number of distracted directors on the compensation committee are significantly positive for total and equity compensation. These estimates suggest that CEOs receive 3.5% more total compensation and 7.4% more equity when an additional compensation committee members is distracted. The effects of distraction among directors who are not members of the compensation committee are not statistically significant; a *t*-test shows that for equity compensation, the distraction effect for

as a control variable.

¹³Distracted directors who are *not* members of the compensation committee may of course also affect CEO compensation, both because the overall board plays a role in determining compensation, and because directors on the committee may allocate effort away from monitoring compensation to other board duties to compensation for other directors' distraction.

compensation committee members is significantly higher than for non-members at the 10% level.

Overall, the results in Table 4 support the argument that board monitoring effectiveness decreases with distraction. Firms with distracted directors pay their CEOs significantly more, especially in the form of equity compensation, and especially when compensation committee members are distracted.

4.3 CEO turnover

We study forced CEO turnovers as our second measure of board monitoring effectiveness. The selection and dismissal of CEOs is one major responsibility of boards (Hermalin, 2005). Previous research finds that firms with weak board governance are less likely to replace CEOs after poor performance. For example, Weisbach (1988) documents that CEO turnover-performance sensitivity is lower in firms with less independent board; similar results are found in Fich and Shivdasani (2006) and Coles et al. (2014) for busy boards and coopted boards, respectively. We hypothesize that director distraction impairs the ability of boards to monitor the CEO or initiate management changes, leading to a lower sensitivity of CEO turnover to firm performance.

We construct our CEO turnover sample based on the Execucomp database, identifying changes in a firm's CEO. For each such event, we search news articles on Lexis-Nexis to collect information on the reason for the turnover, and its announcement date. Following prior literature (e.g., Parrino, 1997), we classify a turnover as forced if (i) the new article says explicitly that the CEO was fired, forced out, or departed due to policy differences with the board; or (ii) the departing CEO is under 60 years old, did not leave to accept another position or for health reasons, and did not announce a retirement at least six months in advance. We associate forced CEO turnovers with the fiscal year during which they are announced. Our analysis sample consists of 21,086 firm-years, with 493 forced CEO turnovers.

Table 5 presents estimates of turnover-performance sensitivity, and estimates of how this sensitivity changes with the level of board distraction. All results are from logit models, where the dependent variable is an indicator variable equal to one for fiscal years with a forced CEO turnover. We use one-year lagged industry-adjusted stock return as the measure of firm performance. We include controls for CEO characteristics that could affect the probability of turnover (CEO age, tenure, ownership and duality), along with common firm and board characteristics, and industry and year fixed effects. Standard errors are two-way clustered by firm and year. We consider alternative measures of distraction, as well as alternative estimation strategies as robustness checks in Section 4.6.

Column 1 estimates the relationship between firm performance and CEO turnover without including any measure of board distraction. Consistent with prior literature (e.g., Warner et al., 1988, Kaplan and Minton, 2012), we find that a CEO is more likely to be forced out following poor firm performance. Our estimates suggest that an interquartile decrease in industry-adjusted return almost doubles the predicted probability of a forced turnover, magnitudes similar to those reported by Masulis and Mobbs (2014).

Our key results are presented in columns 2–3, which consider how director distraction affects turnover-performance sensitivity. Column 2 adds our distraction measure, along with an interaction effect on distraction with performance. We continue to find a negative and significant coefficient on performance, consistent with CEOs being more likely to be forced out following poor firm performance even the absence of distracted directors. Consistent with the hypothesis that distracted directors are less effective monitors, we estimate a positive coefficient on the interaction term (statistically significant at the 10% level). This positive coefficient means that the negative association between performance and turnover is moderated when directors are distracted. In particular, our estimates suggest that for non-distracted boards, an interquartile decline in firm performance increases the probability of a forced CEO turnover by 101%; the same performance decline increases the turnover likelihood by only 71% when one director is distracted. The coefficient of board distraction itself is significantly positive, presumably because negative market or industry-wide shocks would cause an increase in both CEO turnovers and distracted executive directors.

In column 3, we consider estimates taking into account the fact that forced turnover is likely driven more by variations in poor performance more than variations in good performance, since a firm might keep its CEO as long as performance meets some threshold. We decompose industry-adjusted firm performance into positive and negative parts, with positive performance equal to industry-adjusted performance if it is positive (and zero otherwise), and negative performance equal to industry-adjusted performance if it is negative (and zero otherwise). As expected, we find that association between performance and turnover is much larger in magnitude for negative than positive performance. The interaction between negative performance and distraction is significantly positive, and much larger in magnitude than the (insignificant) interaction between positive performance and distraction.

The results in columns 2 and 3 together imply that boards with distracted directors monitor

CEOs less effectively, allowing them to retain their positions in the face of poor performance, and especially when below-industry-average performance makes forced turnovers particularly likely.

4.4 Earnings quality

Besides setting compensation and dismissing CEOs, another essential board monitoring responsibility is to ensure the quality of a company's financial statements.¹⁴ Executives may have incentives to manipulate earnings due to career concerns, or because the value of their bonus, stock and options often depend on reported accounting performance. Burns and Kedia (2006) find that a firm is more likely to misreport earnings if its CEO's option portfolio is more sensitive to the stock price. Similarly, Bergstresser and Philippon (2006) show that firms where CEOs hold more stock and option are more likely to manipulate earnings through discretionary accruals. Therefore, it is important for boards of directors to help prevent CEOs from encouraging earnings manipulation. Previous literature has shown that the effectiveness of board monitoring on earnings depends on certain board characteristics, such as board independence (Klein, 2002), the presence of financial experts (Xie et al., 2003), and monitoring intensity (Faleye et al., 2011). In this section, we examine whether a firm's earnings quality deteriorates when its independent directors are distracted.

We first use the magnitude of discretionary accruals as a proxy of earnings quality. Since the determination of accruals often relies on judgment and estimates, accruals are considered to be a relative easy and low-cost way of manipulating earnings. Even in the absence of earnings manipulation, firms generate accruals, so measuring *discretionary* accruals relies on estimating the level of (non-discretionary) accruals a firm is likely to produce given its operating environment. We estimate discretionary accruals as the residual from a linear regression of total accruals on a set of firm-level controls; following Kothari et al. (2005), we augment the modified Jones model of Dechow et al. (1995) with return-on-assets as a control for firm performance. As is common in this literature, we use the absolute value of discretionary accruals to assess the magnitude (rather than the direction) of earnings management.

Columns 1 and 2 of Table 6 present estimates of the effect of board distraction on the magnitude of discretionary accruals. Both columns estimate OLS regressions that include as control variables firm size, performance, leverage (DeFond and Jiambalvo, 1994), an indicator for negative income in two of more consecutive years (Klein, 2002), board independence, board business, and CEO duality

¹⁴Srinivasan (2005) shows that firms restating earnings have abnormally high turnover rates among independent directors, especially those serving on the audit committee.

(Larcker et al., 2007), together with industry and year fixed effects. All standard errors are two-way clustered by firm and year. We consider alternative measures of distraction, as well as alternative estimation strategies as robustness checks in Section 4.6.

In column 1, we estimate a coefficient on board distraction that is positive and statistically significant at the 5% level. The estimated coefficient of 0.0011 implies that an additional distracted director is associated with discretionary accruals greater in magnitude by 3.3% than the sample average.¹⁵ In column 2, we investigate heterogeneity of the distraction effect. We categorize distracted directors based on whether or not they serve on the firm’s audit committee. Since the board’s role monitoring the quality of financial reports is largely executed by the audit committee, we expect to find stronger effects on discretionary accruals when audit committee members are distracted. Consistent with this hypothesis, we find that the distraction of audit committee directors significantly increases the magnitude of discretionary accruals, while the distraction of non-members has no significant effect. (A *t*-test shows that the distraction effect of audit committee members is significantly larger at the 1% level.)

As an alternative assessment of the role board oversight plays in ensuring earnings quality, we assess the relationship between director distraction and earnings restatements. In 2003 and 2007, the U.S. General Accounting Office (GAO) issued reports on earnings restatements, which included a list of firms that had restated financial statements between January, 1997 and June, 2006. Several previous papers have used this GAO restatement sample to the study earnings quality (e.g., Burns and Kedia, 2006, Masulis, Wang, and Xie, 2012).

Earnings restatements do not necessarily mean that a firm has been mismanaged; firms might restate earnings due to clerical errors, a misapplication of Generally Accepted Accounting Principles (GAAP), or new SEC guidance on some specific items.¹⁶ Following Hennes et al. (2008), we search for news articles related to each restatement, classifying it as being caused by irregularities if it meets one of the following criteria:¹⁷ (i) variants of the words “irregularity” or “fraud” appeared in the restatement announcement; (ii) the restatement came under investigation initiated by the SEC,

¹⁵The estimated coefficients on other control variables suggest that earnings management is more likely to occur in smaller firms and worse-performing firms, but we do not find strong evidence on the effect of board structure.

¹⁶For example, a 2005 clarification on lease accounting rules caused about 300 firms to restate prior years’ financial statements.

¹⁷We search news articles on Lexis-Nexis based on the name of the restating firm and the date of the announcement as provided by GAO reports.

the Department of Justice, or another independent third party (e.g., special committee of outside directors); or (iii) a shareholder class action lawsuit was filed after the restatement announcement.¹⁸ We also rely on these news articles to identify the fiscal years for which financial statements were restated, since the GAO reports provide only the calendar years when these restatements were announced.

The 1997–2005 subsample of our main analysis sample includes 10,727 firm-year observations, of which 231 (2.2%) were later restated due to irregularities, and 422 (3.9%) were later restated for other reasons.

Columns 3–5 of Table 6 present estimates of the effect of board distraction on the likelihood of earnings restatements. All are estimated using logit regressions with the same control variables (including industry and year fixed effects) used in the discretionary accruals regressions reported in columns 1–2, and standard errors are again two-way clustered by firm and year. We consider alternative measures of distraction, as well as alternative estimation strategies as robustness checks in Section 4.6.

In column 3, the dependent variable is an indicator variable equal to one if earnings were subsequently restated for reasons other than irregularities. The estimated coefficient is small in magnitude and statistically insignificant, consistent with the fact that restatements for exogenous reasons (such as new accounting guidelines) should be unrelated to board monitoring.

In columns 4 and 5, we consider restatements due to irregularities. Consistent with distracted directors serving as less effective monitors, we find that firms with distracted boards have significantly more restatements due to irregularities, presumably because they engage in more intentional misreporting. The positive coefficient on distraction estimated in column 4 suggests that all else equal, one distracted director should cause the average firm to increase its likelihood of an irregularity-based restatement by nearly a third (from 1.7% from 2.2%). We also consider in column 5 whether the distraction effect is larger for directors who serve on the audit committee. We find significant positive effects of distraction on irregularity-based restatements for both audit committee members and non-members; although the magnitude is somewhat larger for committee members (as expected), the difference is not statistically significant. Perhaps intentional misreporting is sufficiently serious

¹⁸The announcement of restatements associated with irregularities are associated with more negative average stock returns (–10%) than announcements of restatements not associated with irregularities (–2%).

that all independent directors play a monitoring role important in constraining this misbehavior.

4.5 Acquisition decisions

In addition to supervising the executive team, boards of directors can also play an important role advising management (see e.g., Adams and Ferreira, 2007, Coles et al., 2008, Adams et al., 2010). One corporate activity where boards' advisory roles may be particularly important is the selection and negotiation of acquisitions, and we follow prior literature (e.g., Fahlenbrach et al., 2010, Faleye et al., 2011, Masulis et al., 2012) in using acquisition performance as a measure of boards' advising effectiveness. We hypothesize that distracted directors may be less effective in advising on M&A, leading to lower returns around the announcement of acquisitions by firms with distracted boards.

We obtain data on mergers and acquisitions completed by firms in our sample from the Securities Data Corporation (SDC) database, limiting attention to deals valued at \$1 million or more, and where the acquirer sought to acquire at least 50% of the target's shares. We identify 6,524 such deals completed between 1996 and 2013 by 1,630 unique acquirers. We measure acquisition performance by calculating acquirers' cumulative abnormal return (CAR) over the five-day window starting two days before the deal was announced and ending two days after announcement. Abnormal returns are calculated as realized minus expected returns, where expected returns are the predicted values of a CAPM estimated with daily value-weighted market returns and the acquirer's daily returns during a 200-day window between 250 and 200 days before the announcement. The sample mean and median announcement returns are 0.18% and 0.05%, respectively.

Table 7 presents estimates of the effect of board distraction on acquisition announcement returns, estimated using OLS on the sample of announced acquisitions. We match each deal with the fiscal year during which it was announced, and measure distraction along with other control variables for that fiscal year, including a set of well known deal characteristics that may affect announcement returns (cash deals, public/private target, intra-industry acquisition, and tender offer). Industry and year fixed effects are included in all regressions, and standard errors are two-way clustered by firm and year. We consider alternative measures of distraction, as well as alternative estimation strategies as robustness checks in Section 4.6.

In column 1, we present evidence, consistent with our distraction hypothesis, that firms with distracted directors have lower returns around the announcement of acquisitions. In particular, the statistically significant negative coefficient on distraction suggests that all else equal, an additional

distracted director is associated with a 5-day announcement return that is 28 basis points lower. Estimated coefficients on other control variables are consistent with effects reported in prior studies: acquirers experience higher announcement returns if they are small (Moeller et al., 2004), have higher financial leverage (Maloney et al., 1993), seek target firms in related industries (Morck et al., 1990), or acquire using cash (Travlos, 1987).

In columns 2–6, we examine heterogeneity in the distraction effect. If distracted directors are associated with lower announcement returns because they serve as less effective advisors, we should expect the distraction effect to be largest for those directors who are particularly likely to play an important role advising on acquisitions. We therefore categorize directors based on their relevant M&A expertise, since management is likely to rely more heavily on advice from expert directors. Each of columns 2–6 is based on a different way of identifying these “expert” directors. In column 2, we consider executive directors’ previous M&A experience, identifying as expert those whose primary employer completed at least one M&A deal in the previous three years; 47% of independent executive directors are experts under this definition. In columns 3 and 4, we define expertise based on whether a director’s employer’s past three years M&A had positive average announcement returns, or if the total relative size of these deals was above the contemporaneous sample median, respectively. In column 5, we combine these definitions, requiring for expertise that a director’s employer have earned positive announcement returns on greater-than-average total acquisitions. Finally, in column 6, we define as expert directors those who are employed in the same 1-digit SIC code-based industry as the acquisition target.¹⁹

Under all five definitions, we find that distraction of directors with relevant M&A expertise—that is, those most likely to serve as important advisors—is associated with statistically significantly lower announcement returns. Under none of the definitions is the estimated effect of distraction for non-expert directors statistically significant (though the estimated effects are negative, as expected, in all cases), and the difference between the estimated distraction effects for expert and non-expert directors are statistically significant at the 10% level or better under three of the five definitions.

Overall, the results in Table 7 are consistent with the possibility that directors—especially those with relevant expertise—play an important advisory role, and that distraction reduces their

¹⁹This definition of expertise is in the spirit of Custódio and Metzger (2013), who show that acquiring CEOs’ experience in a target industry is associated with higher announcement returns.

effectiveness.

4.6 Robustness checks

In this section, we consider the robustness of our distraction effect estimates to the use of alternative estimation strategies and alternative measures of distraction. We first consider the full range of estimating specifications that we considered for overall performance in Section 4.1 with our other outcome variables: CEO compensation, CEO turnover, earnings quality, and M&A performance. We then consider measures of director distraction based on the volatility and financial distress of executive director’s primary employer, rather than its poor stock market performance.

4.6.1 Alternative estimation specifications

In our estimates of the effect of distraction on CEO compensation, CEO turnover, earnings quality, and M&A performance (Tables 4–7), we measured distraction based on whether a director’s employer had stock returns below a fixed cutoff level, placing them in the bottom quintile of the pooled sample. This measure was consistent with evidence presented in Section 3 suggesting that distraction was associated with a director’s employer facing either poor idiosyncratic or aggregate returns. To account for the fact that the dependent variables might vary across industries and over time, we included industry and year fixed effects in all regressions.

To check whether our results are subject to endogeneity caused by unobserved firm characteristics or industry-wide performance shocks, we can attempt to exploit within-firm or within-industry-year variation in board distraction. Analogous to the analysis of overall performance presented in Table 3, we consider estimates that include firm fixed effects, industry-by-year fixed effects, and distraction measure based on industry-by-year cutoffs. The results are presented in Table 8. Although we only report the estimated coefficients on the key independent variables (distraction, and the distraction-performance interaction in the turnover estimates), all of the control variables in the original models are included in all regressions. For the ease of comparison, Panel A reproduces the main results from Tables 4–7.

In Panel B, we replace industry fixed effects with firm fixed effects, and all effects are estimated using OLS. Consistent with our baseline results, we estimate coefficients on board distraction that are significantly positive for compensation, significantly positive for restatements, and significantly negative for M&A announcement returns. For CEO turnover-performance sensitivity and discretionary accruals, the key coefficients have the expected signs but lose statistical significance.

In Panel C, we replace industry and year fixed effects with industry-by-year fixed effects, absorbing time-varying industry-level shocks. (As in Panel B, all outcomes are estimated using OLS). The key coefficients again have the expected signs for all outcomes, and are statistically significant at the 5% level or better for compensation, discretionary accruals, and restatements.

Finally, in Panel D, we measure distraction using employer stock performance that lies in the bottom quintile for that year of the employer’s industry. This measure identifies distraction associated with negative idiosyncratic performance shocks, and as with the estimates presented in Panel C, helps confirm that our estimated distraction effects are not simply driven by correlated performance between related industries. The key coefficients again have the expected signs for all outcomes, and are statistically significant at the 5% level or better for turnover, discretionary accruals, and restatements.

4.6.2 Alternative distraction measures

So far, we have focused on distraction associated with extreme poor stock returns at a director’s employer. In this section we consider two other time-varying measures of business conditions at a director’s employer that may be associated with distracting events: high volatility and financial distress. To examine whether our estimates of distraction effects are robust to these alternative attention shocks, we calculate director-year indicator variables equal to one if the director’s employer has annual stock return volatility in the top quintile, or the financial distress z -score in the bottom quintile, of the corresponding industry-year group.²⁰ We then aggregate distraction to the firm-year level by counting the number of distracted directors on each board.

Panel A of Table 9 presents estimates of the effect of director distraction using the volatility-based distraction measure. Although we only report the estimated coefficients on the key independent variables (distraction, and the distraction-performance interaction in the turnover estimates), all of the control variables from the analogous returns-based-distraction estimates, including industry and year fixed effects, are included.

In column 1, we estimate the effect of distraction on poor attendance using our director-year-level sample, analogous to the results of Section 3. Consistent with the distraction hypothesis, the coefficient on the high-employer-volatility indicator is positive and statistically significant at the

²⁰We measure volatility using standard deviation of daily stock returns, and financial distress using Altman’s (1968) z -score. We use industry-by-year cutoffs rather than pooled sample cutoff to define volatility-based and z -score-based distraction because these variables vary significantly across industries. The results in Table 9 remain qualitatively similar if we measure director distraction using pooled sample cutoffs on volatility and z -score.

10% level: directors whose employer exhibits high volatility are significantly more likely to have poor attendance. In columns 2–8, we estimate the effects of distraction on firm-level outcomes using our firm-year sample. In column 2, we regress ROA on board distraction and find the coefficient is significantly negative. The distraction of one executive director reduces a firm’s ROA by 50 basis points, about 4% compared to the sample average. Column 3 uses Tobin’s Q as an alternative performance measure. The coefficient of board distraction is still negative but lose statistical significance. We further examine how our volatility-based distraction measure affects several different aspects of board monitoring and advising effectiveness, and find results directionally similar to those from the returns-based distraction measure: firms with distracted directors have significantly lower CEO turnover-performance sensitivity and discretionary accruals of significantly larger magnitude; CEO compensation is also higher, and there are more restatements, though these results are not statistically significant. We do not find clear evidence on M&A performance.

In Panel B, we instead consider distraction measured by the number of directors whose employers have a financial distress z -score is in the bottom quintile of the corresponding industry-year group. The distraction effects are in the expected direction for all outcomes, though only statistically significant at the 5% level for ROA, Tobin’s Q and M&A announcement returns.

Overall, the results in Table 9 suggest that the broad pattern of distraction effects estimated in prior sections of the paper appear in response to two alternative sources of distraction. We take this as evidence that distracted directors are indeed less effective in executing their monitoring and advising duties.

5 Heterogeneous effects

In Section 4, we showed that the adverse effects of distraction on independent directors’ monitoring and advising effectiveness were more pronounced when the distracted director was likely to be a particularly important monitor or advisor. CEO compensation was higher particularly when compensation committee members were distracted, earnings quality was compromised particularly when audit committee members were distracted, and M&A announcement returns were lower particularly when those directors with relevant expertise were distracted.

In this section, we examine whether our estimated effects are heterogeneous with respect to several other board structure and director characteristics that might reasonably exacerbate the

adverse effects of director distraction.

5.1 Heterogeneity by board size

Our board distraction hypothesis is that independent executive directors who are distracted by events (associated with poor performance) at their primary employer shirk board responsibilities and thus weaken the monitoring and advising effectiveness of the entire board. Based on this logic, the distraction of a single director may matter more for smaller boards, because there are fewer other members to take on the responsibilities of the distracted one. In Table 10, we consider whether the effects of distraction differ systematically with board size.

In Panel A, we categorize firm-years based on whether the board has fewer than nine members (the median board size, which stays nearly constant over the sample). We reestimate our main distraction effects, adding an indicator variable equal to one for small boards, and interactions of this small-board indicator with the key independent variables (distraction, and the distraction-performance interaction in the turnover estimates). Although we only report the estimated coefficients on the key independent variables and their interactions, all of the control variables from the analogous baseline estimates, including industry and year fixed effects, are included.

Columns 1 and 2 show the results on overall firm performance. As expected, the interaction coefficients between the number of distracted directors and the small-board indicator is significantly negative. This suggests that the distraction of a director has a larger adverse effect at firms with small boards (ROA lower by 82bp vs. 14bp; Tobin's Q lower by 0.082 vs. 0.015), consistent with those firms' boards being less able to get effective monitoring and advising from their undistracted directors.

In columns 3–7, we reexamine our other, specific firm outcomes. We find that the association of board distraction with excess CEO compensation, reduced turnover-performance sensitivity, and lower M&A announcement returns are more pronounced for firms with small boards. The results for earnings quality are statistically insignificant, and in different directions for discretionary accruals and restatements.

In Panel B, we consider an alternative definition of “small” boards based on the number of independent directors rather than the total. In particular, we categorize firm-years based on whether the board has fewer than seven independent directors (the sample median), and again find that the adverse effects of distraction on overall performance are significantly stronger for firms with small

boards. The heterogeneous effects are not generally significant for the specific firm outcomes.

5.2 Heterogeneity by director characteristics

We next investigate whether the effects of director distraction are heterogeneous with respect to a variety of director characteristics. Analogous to our interpretation of heterogeneous effects across committee membership, relevant expertise, and board size, we can think of these estimates as capturing differential effects related to directors' likelihood to serve as particularly important monitors or advisors. An alternative interpretation of heterogeneous effects is based on the fact that we are of course not measuring distraction directly, but rather measuring poor stock returns at a director's employer. To the degree that certain directors may be particularly distracted by the events associated with these poor returns, heterogeneous effects may be driven by different *levels* of distraction associated with the same poor stock market performance, rather than different *effects* of the same level of distraction.²¹

Table 11 presents estimates of heterogeneous distraction effects across director characteristics. In each panel, we categorize distracted directors based on whether or not they meet some criterion, and include in our regressions the number of distracted directors of each type. Although we only report the estimated coefficients on the key independent variables (distraction, and the distraction-performance interactions in the turnover estimates), all of the control variables from the analogous baseline estimates, including industry and year fixed effects, are included.

We first consider directors who are "coopted" by the firm's CEO: those who joined the board after the current CEO took office (Coles et al., 2014). Since cooption may make boards less effective in monitoring executive actions, we expect the adverse effects distraction to be stronger for the non-coopted directors who play a particularly important monitoring role. Panel A presents estimates of the effects of distracted coopted and non-coopted directors, separately. As expected, the estimated coefficients on the number of distracted non-coopted directors (or the performance interaction for the turnover regression) are larger in magnitude than those on the number of distracted coopted directors in all regressions except restatement likelihood. The differences are large in economic magnitude; for example, a distracted non-coopted director is associated with an ROA lower by 46bp, versus 9bp for a distracted coopted director.

²¹However, we find (in untabulated results) no statistically significant difference in the effect of poor employer stock market returns on the likelihood of extreme meeting attendance problems across the dimensions of director-level heterogeneity that we consider below. This is consistent with differences in the effect of distraction on firm outcomes being driven by directors' importance, rather than their distractibility.

In Panel B, we categorize directors based on whether each is the CEO of her primary employer. We expect to observe stronger distraction effects for CEO directors, both because CEOs may be more likely to be distracted by events associated with poor returns at their employer, and because CEOs may be particularly valuable directors. The estimated distraction effects are broadly consistent with this hypothesis, with coefficient estimates larger in magnitude for CEOs than non-CEOs in all regressions except for restatement likelihood. (Both CEO and non-CEO coefficients have the expected signs in all regressions.) The differences are again large in economic magnitude, such as an adverse ROA effect of 44bp for distracted CEO directors versus 20bp for distracted non-CEOs.

In Panel C, we examine how distraction effects vary across directors with different tenures. Newer directors, who are less familiar with the firm and its management, may require more time and attention to successfully execute their board duties. Distraction of these low-tenure board members might therefore have more adverse effects on the firm. We classify as short-tenure those directors who have been on a board less than four years (the sample median). Largely consistent with our hypothesis, we find stronger distraction effects for short-tenure directors for five of seven outcomes.

In Panel D, we consider heterogeneity with respect to directors' geographic distance from the firm headquarters; long-distance directors are defined as those whose employer is headquartered more than 350 miles away (the sample median). We find that the distraction effects are somewhat stronger for long-distance directors in terms of overall performance, CEO compensation, CEO dismissal, and earnings restatement. One possible explanation is that longer distance means that directors must rely more heavily on time-consuming activities (e.g., reading financial documents) to be familiar with the firm's business and operations, and that their primary employment is particularly distracting from these activities. Another possibility is that firms are more likely to recruit as long-distance directors those who can play a particularly important role as monitors and advisors.

Finally, in Panel E, we consider heterogeneity with respect to the number of boards on which directors serve, following Fich and Shivdasani (2006) in classifying as "busy" independent executive directors who serve on three or more boards. Busy directors may serve on so many boards because they are particularly valuable as monitors and advisors, perhaps particularly so because they are seen as able to avoid the adverse effects of distraction. On the other hand, busy directors may have limited time to spend on each board, such that distracting events at their employing firm may leave them with virtually none. We find that the distraction effects are stronger for busy directors on CEO

turnover and discretionary accruals, but weaker on firm overall performance, CEO compensation, and restatement likelihood.

6 Conclusion

We study whether events at the employing firm distract independent executive directors from their board responsibilities and thereby impair board governance effectiveness. Using a newly constructed data that matches directors to their employers, we measure an executive director's distraction based on the stock performance at her employing firm. Empirical results show that executive directors are more likely to miss board meetings during periods when their employer's performance suffers. Consequently, boards with distracted directors exhibit lower monitoring and advisory effectiveness, in terms of lower overall firm performance, more excess CEO compensation, lower CEO turnover-performance sensitivity, lower earnings quality, and lower M&A returns. These findings suggest that director distraction is detrimental to firms.

Our results may also have some implications for the optimal board structure. The finding that small boards suffer more from director distraction suggests that one advantage of a large board is that it can better withstand the adverse effect of a potential distracted director. Also, since the performance of firms within the same industry or of related industries is often correlated, firms may consider a more diversified board as it can minimize the possibility that multiple independent directors are distracted at the same time, or independent directors are distracted when the appointing firm also experiences performance shock and thus needs efforts from the board.

Appendix. Variable definitions

Table A.1: Data Sources and Variable Definitions

Notes: The appendix defines the variables used in the paper. The data items taken from Compustat are denoted as data numbers. All returns data come from CRSP. All compensation related data come from Execucomp. Board data and governance data come from RiskMetrics. Data on earnings restatements and CEO turnovers are hand-collected based on news articles covered by the Lexis-Nexis database.

Variable	Definition
<i>Firm Characteristics</i>	
Total assets	Total assets; AT
Log(asets)	Logarithm of total assets
Market value	Market capitalization; $CSHO \times PRCC_F$
ROA	Ratio of operating income before depreciation to total asset; $OIBDP/AT$
Tobin's Q	Market value of asset to book value; $(AT - CEQ + CSHO \times PRCC_F - TXDB)/AT$
Annual stock return	Cumulative return 12 months before the current fiscal year end
Leverage	Financial leverage; $(DLTT + DLC)/AT$
Neg NI ≥ 2 years	Consecutive negative net income for the last two years or more
E-Index	Bebchuk, Cohen, and Ferrell (2009) index of corporate governance; similar to existing work, gap years are filled in with adjoining years
Discretionary accruals	Discretionary accrual is equal to total accrual (TA) minus non-discretionary accrual; TA is measured based on balance sheet items, where $TA_{i,t} = (\Delta ACT_{i,t} - \Delta LCT_{i,t} - \Delta CHE_{i,t} + \Delta DLC_{i,t} - DP_{i,t})/AT_{i,t-1}$; non-discretionary accrual is estimated as the predicted value from the following estimation within each firm (at least 10-observations are required): $TA_{i,t} = \beta_0 + \beta_1(1/AT_{i,t-1}) + \beta_2((\Delta REVT_{i,t} - \Delta RECT_{i,t})/AT_{i,t-1}) + \beta_3(PPENT_{i,t}/AT_{i,t-1}) + \beta_4ROA_{i,t-1} + \varepsilon_{i,t}$; total accrual and all independent variables in the regression are winsorized at 0.5% and 99.5%
Restate (irregularity)	Financial report restatement meets one of the following criteria: (i) variants of the words "irregularity" or "frauds" appear in the restatement announcement; (ii) the restatement comes under investigation initiated by SEC, Department of Justice (DOJ), or other independent third party (e.g. special committee of outside directors); (iii) a shareholder class action lawsuit is filed after the restatement announcement
Restate (non-irregularity)	Financial report restatement due to non-irregular reasons
Volatility	Annualized standard deviation of daily stock returns
Z-score	Financial distress z-score; $z\text{-score} = 3.3 \times (NI/AT) + SALE/AT + 1.4 \times (RE/AT) + 1.2 \times (WCAP/AT) + 0.6 \times (CSHO \times PRCC_F/LT)$
<i>Board Characteristics</i>	
Number distracted directors (return, pooled cutoff)	Number of independent executive directors whose primary employer's stock return (during the board firm's fiscal year) is in the bottom quintile of the pooled sample; the pooled sample includes all independent executive directors in all years where director primary employer's return data is available
Number distracted directors (return, industry-year cutoff)	Number of independent executive directors whose primary employer's stock return (during the board firm's fiscal year) is in the bottom quintile of its industry-year group

Table continued

Variable	Definition
Number executive directors	Number of independent directors who are executives in their primary employers
Board size	Number of directors on the board
Small board	Board size is below sample median (board size \leq 8)
Board independence	Percent of independent directors on the board
Board ownership	Percent ownership stake of all independent directors
Busy board	Fifty percent or more independent directors are busy
<i>CEO and Director Characteristics</i>	
CEO age	Current age of CEO
CEO total compensation	CEO's total compensation (TDC1)
CEO equity compensation	CEO's total compensation minus cash compensation (TDC1-TCC)
CEO duality	CEO is chairman of the board
CEO tenure	Current year minus the first year that the executive flagged as CEO in Execucomp
CEO ownership	Percent ownership stake of the CEO in the firm
Forced CEO turnover	Report says that the CEO was fired, forced out, or departed due to policy differences; or the departing CEO is under age of 60, did not announce the retirement at least six months in advance, and did not leave for health reasons or acceptance of another position
Independent director	Director is classified as an independent outsider ("I") by ISS
Independent executive director	Independent director whose primary position is an executive in an outside firm
Female director	Director is female
Foreign director	Director primary employer's country is not USA
CEO director	Director is CEO at primary employer
Busy director	Director holds positions in five (three) or more boards if he is (not) retired
Director tenure	Number of years since the date of board service at current firm
Distance between employing firm and board firm	Distance between the zip codes of director's employing firm and board firm, calculated based on Vincenty's formula
Attendance<75%	Attended less than 75% of board meetings
Primary employer's return	Director primary employer's stock return during the board firm's fiscal year
<i>M&A Deal Characteristics</i>	
Number bidder	Number of bidders
Cash>50%	Percentage of the deal value paid in cash is more than 50%
Target public	Target firm is public
Target private	Target firm is private
Same industry	Target and acquirer are in the same SIC-2 industry

References

- Adams, R. B., Ferreira, D., 2007. A theory of friendly boards. *Journal of Finance* 62, 217–250.
- Adams, R. B., Ferreira, D., 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94, 291–309.
- Adams, R. B., Hermalin, B. E., Weisbach, M. S., 2010. The role of boards of directors in corporate governance: A conceptual framework and survey. *Journal of Economic Literature* 48, 58–107.
- Altman, E. I., 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance* 23, 589–609.
- Bebchuk, L., Cohen, A., Ferrell, A., 2009. What matters in corporate governance? *Review of Financial Studies* 22, 783–827.
- Bebchuk, L., Fried, J., 2004. *Pay without performance: The unfulfilled promise of executive compensation*. Cambridge, MA: Harvard University Press.
- Bergstresser, D., Philippon, T., 2006. CEO incentives and earnings management. *Journal of Financial Economics* 80, 511–529.
- Burns, N., Kedia, S., 2006. The impact of performance-based compensation on misreporting. *Journal of Financial Economics* 79, 35–67.
- Coles, J. L., Daniel, N. D., Naveen, L., 2008. Boards: Does one size fit all? *Journal of Financial Economics* 87, 329–356.
- Coles, J. L., Daniel, N. D., Naveen, L., 2014. Co-opted boards. *Review of Financial Studies* 27, 1751–1796.
- Core, J. E., Holthausen, R. W., Larcker, D. F., 1999. Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics* 51, 371–406.
- Custódio, C., Metzger, D., 2013. How do ceos matter? The effect of industry expertise on acquisition returns. *Review of Financial Studies* 26, 2008–2047.
- Dechow, P. M., Sloan, R. G., Sweeney, A. P., 1995. Detecting earnings management. *The Accounting Review* 70, 193–225.
- DeFond, M. L., Jiambalvo, J., 1994. Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics* 17, 145–176.
- Fahlenbrach, R., Low, A., Stulz, R. M., 2010. Why do firms appoint CEOs as outside directors? *Journal of Financial Economics* 97, 12–32.
- Falato, A., Kadyrzhanova, D., Lel, U., 2014. Distracted directors: Does board busyness hurt shareholder value? *Journal of Financial Economics* 113, 404–426.
- Faleye, O., 2011. CEO directors, executive incentives, and corporate strategic initiatives. *Journal of Financial Research* 34, 241–277.
- Faleye, O., Hoitash, R., Hoitash, U., 2011. The costs of intense board monitoring. *Journal of Financial Economics* 101, 160–181.

- Ferris, S. P., Jagannathan, M., Pritchard, A. C., 2003. Too busy to mind the business? Monitoring by directors with multiple board appointments. *Journal of Finance* 58, 1087–1111.
- Fich, E. M., 2005. Are some outside directors better than others? Evidence from director appointments by fortune 1000 firms. *Journal of Business* 78, 1943–1972.
- Fich, E. M., Shivdasani, A., 2006. Are busy boards effective monitors? *Journal of Finance* 61, 689–724.
- Field, L., Lowry, M., Mkrtchyan, A., 2013. Are busy boards detrimental? *Journal of Financial Economics* 109, 63–82.
- Hallock, K. F., 1997. Reciprocally interlocking boards of directors and executive compensation. *Journal of Financial and Quantitative Analysis* 32, 331–344.
- Hennes, K. M., Leone, A. J., Miller, B. P., 2008. The importance of distinguishing errors from irregularities in restatement research: The case of restatements and CEO/CFO turnover. *The Accounting Review* 83, 1487–1519.
- Hermalin, B. E., 2005. Trends in corporate governance. *Journal of Finance* 60, 2351–2384.
- Hölmstrom, B., 1979. Moral hazard and observability. *Bell Journal of Economics* 10, 74–91.
- Kaplan, S. N., Minton, B. A., 2012. How has CEO turnover changed? *International review of Finance* 12, 57–87.
- Klein, A., 2002. Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33, 375–400.
- Kothari, S. P., Leone, A. J., Wasley, C. E., 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39, 163–197.
- Larcker, D. F., Richardson, S. A., Tuna, I., 2007. Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review* 82, 963–1008.
- Maloney, M. T., McCormick, R. E., Mitchell, M. L., 1993. Managerial decision making and capital structure. *Journal of Business* 66, 189–217.
- Masulis, R. W., Mobbs, S., 2014. Independent director incentives: Where do talented directors spend their limited time and energy? *Journal of Financial Economics* 111, 406–429.
- Masulis, R. W., Wang, C., Xie, F., 2012. Globalizing the boardroom—The effects of foreign directors on corporate governance and firm performance. *Journal of Accounting and Economics* 53, 527–554.
- Moeller, S. B., Schlingemann, F. P., Stulz, R. M., 2004. Firm size and the gains from acquisitions. *Journal of Financial Economics* 73, 201–228.
- Morck, R., Shleifer, A., Vishny, R. W., 1990. Do managerial objectives drive bad acquisitions? *Journal of Finance* 45, 31–48.
- Parrino, R., 1997. CEO turnover and outside succession: A cross-sectional analysis. *Journal of Financial Economics* 46, 165–197.

- Srinivasan, S., 2005. Consequences of financial reporting failure for outside directors: Evidence from accounting restatements and audit committee members. *Journal of Accounting Research* 43, 291–334.
- Travlos, N. G., 1987. Corporate takeover bids, methods of payment, and bidding firms' stock returns. *Journal of Finance* 42, 943–963.
- Warner, J. B., Watts, R. L., Wruck, K. H., 1988. Stock prices and top management changes. *Journal of Financial Economics* 20, 461–492.
- Weisbach, M. S., 1988. Outside directors and CEO turnover. *Journal of Financial Economics* 20, 431–460.
- Xie, B., Davidson, W. N., DaDalt, P. J., 2003. Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance* 9, 295–316.
- Yermack, D., 2006. Golden handshakes: Separation pay for retired and dismissed CEOs. *Journal of Accounting and Economics* 41, 237–256.

Table 1: Summary statistics

Notes: This table reports summary statistics for the director-level (Panel A) and firm-level samples (Panel B) used in the paper. Panel A presents the characteristics of 30,361 independent executive director-years from 1996 to 2013. Independent executive directors are directors who are classified as independent outsiders (“I”) by ISS, and who are executives at outside public firms (where directors’ primary employers are identified using ISS, Execucomp, BoardEx, Thomson Reuters Insider Filing, and Compustat, as described in Section 2). Directors’ demographic, committee, and attendance data are obtained from ISS. *Attendance < 75%* equals one if a director missed at least 25% of board meetings during a fiscal year. *Primary employer’s return* is the cumulative stock return of the director’s primary employer during the fiscal year of the firm where the director sits on board. *Industry-adjusted return* is calculated as employer’s return minus contemporaneous industry (2-digit SIC) median return. *Primary employer’s volatility* is the annualized standard deviation of employer’s daily stock returns. Panel B presents the characteristics of 23,299 firm-years with available data on Compustat/CRSP/Execucomp/ISS from 1996 to 2013. *Number distracted directors (return, pooled) (number distracted directors (volatility, pooled))* is the number of independent executive directors whose employer’s stock return (volatility) is in the bottom quintile of the pooled sample. *Number distracted directors (return, ind-year)* is the number of independent executive directors whose employer’s stock return is in the bottom quintile of its industry-year group. *CEO total compensation* is measured as TDC1 from Execucomp. *CEO equity compensation* is measured as total compensation minus cash compensation (TDC1–TCC). Data on CEO turnovers and financial restatements are hand-collected based on news articles from Lexis-Nexis. All dollar-value items are presented in 2000 U.S. dollars. All variables are winsorized at the 1% and the 99% percentile levels. See Appendix for definition of all other variables.

	Mean	Std. Dev	Median	P25	P75
<i>Panel A. Independent executive director characteristics (30,361 director-years)</i>					
Age	57.68	7.13	58	53	62
Director tenure	5.51	5.08	4	2	8
Number of directorships	2.23	1.15	2	1	3
Distance between employing firm and board firm	643.53	810.67	350.04	26.19	929.54
Primary employer’s return (%)	10.95	35.21	10.00	-13.16	32.58
Female director (%)	11.53				
Foreign director (%)	1.87				
CEO director (%)	47.94				
Co-opted director (%)	39.48				
Compensation committee member (%)	50.52				
Audit committee member (%)	48.50				
Attendance < 75% (%)	2.48				
<i>Panel B. Board and firm characteristics (23,299 firm-years)</i>					
Board size	9.49	2.62	9	8	11
Number independent directors	6.77	2.48	7	5	8
Number independent executive directors	1.36	1.36	1	0	2
Number distracted directors (return, pooled)	0.25	0.57	0	0	0
Number distracted directors (return, ind-year)	0.22	0.47	0	0	0
Number independent directors on comp committee	3.11	1.53	3	2	4
Number independent directors on audit committee	3.20	1.51	3	3	4
Board ownership (%)	1.10	2.82	0.29	0.08	0.80
Busy board (%)	19.64				
E index	1.94	1.27	2	1	3
Total assets, \$B 2000	10.22	29.53	1.83	0.64	6.23
Market value, \$B 2000	6.85	16.73	1.62	0.64	5.05
ROA	0.13	0.09	0.13	0.08	0.18
Tobin’s Q	1.84	1.18	1.43	1.10	2.09
CEO total compensation, \$M 2000	4.53	5.24	2.77	1.35	5.49
CEO equity compensation, \$M 2000	3.37	4.59	1.76	0.58	4.20
Discretionary accruals (Balance sheet, abs value, %)	3.31	3.46	2.22	0.96	4.40
Forced CEO turnover (%)	2.20				
Restate (non-irregularity) (%)	4.91				
Restate (irregularity) (%)	2.26				

Table 2: Primary employer stock performance and board meeting absence

Notes: The table reports the coefficients from logit regressions of independent executive directors' board meeting attendance on their primary employers' contemporaneous stock returns. The sample consists of independent executive directors with available data from 1996 to 2013. The dependent variable is one if the director attended less than 75% of board meetings for the year and zero otherwise. *Primary employer's return* is the cumulative stock return of independent executive director's primary employer during the fiscal year of the firm where the director sits on board. *Negative return* (*positive return*) is primary employer's return if the return is negative (positive) and zero otherwise. Industry-adjusted return is calculated as employer's return minus contemporaneous industry (2-digit SIC) median return. *Return < p20 (pooled)* (*return < p20 (by industry-year)*) is one if primary employer's return is in the bottom quantile of the pooled sample (the industry-year group) and zero otherwise. *Industry return < p20* is one if primary employer's industry return is in the bottom quantile of the pooled sample and zero otherwise. See Appendix for definition of all other variables. Industry (2-digit SIC) and year fixed effects are included in all regressions. Standard errors reported in the parentheses are robust and two-way clustered by director and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Primary employer's return	-0.1706** (0.0867)				
Negative return		-0.5551*** (0.1224)			
Positive return		0.0026 (0.0862)			
Return < p20 (pooled)			0.2585*** (0.0747)		
Industry return < p20				0.2210*** (0.0599)	
Return < p20 (by industry-year)				0.1408** (0.0667)	0.1475** (0.0666)
Log(age)	-1.2610*** (0.3692)	-1.2448*** (0.3652)	-1.2509*** (0.3685)	-1.2559*** (0.3695)	-1.2562*** (0.3712)
Busy director	0.0619 (0.1008)	0.0624 (0.1001)	0.0629 (0.0999)	0.0616 (0.1004)	0.0650 (0.1004)
Female director	-0.2626* (0.1585)	-0.2643* (0.1579)	-0.2631* (0.1586)	-0.2583 (0.1585)	-0.2612* (0.1584)
Foreign director	0.8657*** (0.2949)	0.8702*** (0.2944)	0.8709*** (0.2940)	0.8751*** (0.2937)	0.8696*** (0.2954)
Board size	0.0638*** (0.0121)	0.0655*** (0.0119)	0.0653*** (0.0120)	0.0649*** (0.0120)	0.0644*** (0.0120)
Board independence	-0.5844 (0.3891)	-0.5711 (0.3887)	-0.5799 (0.3894)	-0.5742 (0.3883)	-0.5767 (0.3898)
ROA	-0.2044 (0.7085)	-0.1641 (0.7079)	-0.1710 (0.7084)	-0.1718 (0.7116)	-0.1936 (0.7133)
Tobin's Q	-0.0144 (0.0245)	-0.0164 (0.0247)	-0.0166 (0.0247)	-0.0170 (0.0248)	-0.0165 (0.0247)
Observations	29,183	29,183	29,183	29,183	29,183
Pseudo R^2	0.0490	0.0495	0.0496	0.0495	0.0490

Table 3: Board distraction and firm performance

Notes: The table reports the OLS regressions of firm performance on board distraction. The sample consists of firms with available data from 1996 to 2013. The dependent variable is return on assets (ROA) in columns 1–4, and market-to-book approximation of Tobin's Q in columns 5–8. *Number distracted directors (pooled)* (*number distracted directors (ind-year)*) is the number of independent executive directors whose primary employer's stock return is in the bottom quintile of the pooled sample (the industry-year group). Columns 1, 4, 5, and 8 include industry (2-digit SIC) and year fixed effects. Columns 2 and 6 include firm and year fixed effects. Columns 3 and 7 include industry-by-year fixed effects. See Appendix for definition of all other variables. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, ***, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	ROA				Tobin's Q			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number distracted directors (pooled)	-0.0032*** (0.0011)	-0.0016*** (0.0006)	-0.0020*** (0.0009)	-0.0044*** (0.0013)	-0.0318** (0.0159)	-0.0414*** (0.0134)	-0.0241* (0.0137)	-0.0483*** (0.0161)
Number distracted directors (ind-year)								
Log(assets)	-0.0017 (0.0015)	-0.0047 (0.0029)	-0.0019** (0.0007)	-0.0017 (0.0015)	-0.0466** (0.0222)	-0.4171*** (0.0414)	-0.0486*** (0.0158)	-0.0468** (0.0222)
Board size	0.0003 (0.0006)	-0.0004 (0.0005)	0.0003 (0.0004)	0.0003 (0.0006)	-0.0257*** (0.0087)	-0.0230*** (0.0073)	-0.0239*** (0.0053)	-0.0259*** (0.0087)
Board independence	-0.0163* (0.0091)	-0.0004 (0.0072)	-0.0164*** (0.0052)	-0.0165* (0.0091)	-0.2979** (0.1226)	-0.1633 (0.1130)	-0.2719*** (0.0574)	-0.3007** (0.1228)
Number executive directors	0.0053*** (0.0008)	0.0008 (0.0007)	0.0051*** (0.0003)	0.0054*** (0.0008)	0.0475*** (0.0117)	0.0133 (0.0110)	0.0454*** (0.0067)	0.0495*** (0.0114)
Board ownership	-0.0054 (0.0451)	-0.0578*** (0.0213)	-0.0147 (0.0256)	-0.0042 (0.0451)	-0.0552 (0.5326)	-0.5413* (0.3007)	-0.1280 (0.2970)	-0.0429 (0.5328)
Busy board	-0.0014 (0.0030)	-0.0026 (0.0019)	-0.0001 (0.0022)	-0.0015 (0.0030)	0.0787* (0.0424)	-0.0127 (0.0262)	0.0852** (0.0304)	0.0776* (0.0420)
E index	-0.0017 (0.0011)	-0.0004 (0.0010)	-0.0018*** (0.0006)	-0.0016 (0.0011)	-0.0750*** (0.0149)	0.0089 (0.0145)	-0.0736*** (0.0072)	-0.0749*** (0.0149)
CEO ownership	0.0253 (0.0293)	0.0049 (0.0330)	0.0262** (0.0102)	0.0254 (0.0293)	0.0991 (0.4793)	0.3149 (0.4700)	0.0822 (0.2127)	0.0999 (0.4790)
CEO tenure	0.0001 (0.0002)	0.0004** (0.0002)	0.0001 (0.0001)	0.0002 (0.0002)	0.0067** (0.0027)	0.0058*** (0.0020)	0.0070*** (0.0013)	0.0067** (0.0027)
CEO duality	0.0012 (0.0022)	0.0007 (0.0015)	0.0011 (0.0014)	0.0012 (0.0022)	-0.0196 (0.0263)	0.0276* (0.0163)	-0.0268* (0.0131)	-0.0198 (0.0263)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓			✓	✓			✓
Firm FE		✓						
Year×Industry FE			✓				✓	
Observations	21,774	21,774	21,774	21,774	22,349	22,349	22,349	22,349
Adjusted R ²	0.2202	0.6688	0.2440	0.2204	0.2126	0.6721	0.2270	0.2128

Table 4: Board distraction and CEO compensation

Notes: The table reports the OLS regressions of CEO compensation on board distraction. The sample consists of firms with available data from 1996 to 2013. *Total compensation* is the natural logarithm of total CEO compensation (TDC1), including salary, bonus, the value of restricted stocks and stock options granted during the year, long-term incentive payouts, and other miscellaneous compensation amounts. *Cash compensation* is the natural logarithm of salary plus bonus (TCC). *Equity compensation* is the natural logarithm of total compensation minus cash compensation (TDC1–TCC). *Number distracted directors* is the number of independent executive directors whose primary employer’s stock return is in the bottom quintile of the pooled sample. *Number distracted directors (not) on comp cmte* is the number of independent executive directors whose primary employer’s stock return is in the bottom quintile of the pooled sample and who are (not) on the compensation committee. See Appendix for definition of all other variables. Industry and year fixed effects are included in all regressions. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively. The last row shows the p-value for the statistical test that the coefficients on *Number distracted directors not on comp cmte* is no smaller than the coefficients on *Number distracted directors on comp cmte*.

	Total (1)	Cash (2)	Equity (3)	Total (4)	Cash (5)	Equity (6)
Number distracted directors	0.0223*** (0.0067)	0.0061 (0.0135)	0.0388** (0.0196)			
Number distracted directors on comp cmte				0.0350** (0.0154)	0.0047 (0.0216)	0.0735** (0.0374)
Number distracted directors not on comp cmte				0.0105 (0.0141)	0.0075 (0.0115)	0.0067 (0.0274)
Log(assets)	0.4520*** (0.0148)	0.2319*** (0.0191)	0.5875*** (0.0315)	0.4520*** (0.0148)	0.2319*** (0.0191)	0.5875*** (0.0315)
ROA	0.9953*** (0.1550)	1.2497*** (0.1491)	1.1067*** (0.3272)	0.9947*** (0.1552)	1.2497*** (0.1490)	1.1052*** (0.3272)
Tobin’s Q	0.1084*** (0.0159)	-0.0322*** (0.0108)	0.1501*** (0.0291)	0.1084*** (0.0159)	-0.0322*** (0.0108)	0.1500*** (0.0291)
Annual stock ret	0.1043*** (0.0275)	0.1794*** (0.0261)	0.1312** (0.0529)	0.1043*** (0.0275)	0.1794*** (0.0261)	0.1313** (0.0530)
3-year realized volatility	0.4405*** (0.1380)	-0.0720 (0.0591)	0.6924*** (0.2544)	0.4408*** (0.1381)	-0.0720 (0.0591)	0.6931*** (0.2550)
Board size	0.0052 (0.0058)	0.0210*** (0.0050)	0.0250** (0.0121)	0.0053 (0.0058)	0.0210*** (0.0050)	0.0252** (0.0120)
Board independence	0.6066*** (0.0763)	0.2365*** (0.0556)	1.5968*** (0.1590)	0.6073*** (0.0760)	0.2365*** (0.0556)	1.5987*** (0.1586)
Number executive directors	-0.0008 (0.0075)	-0.0065 (0.0061)	0.0166 (0.0159)	-0.0008 (0.0075)	-0.0065 (0.0061)	0.0166 (0.0159)
Board ownership	-1.2427*** (0.2973)	-0.5137** (0.2551)	-2.1822*** (0.5646)	-1.2407*** (0.2973)	-0.5139** (0.2550)	-2.1765*** (0.5644)
Busy board	0.0517** (0.0261)	0.0745*** (0.0236)	0.1154* (0.0626)	0.0516** (0.0261)	0.0745*** (0.0236)	0.1151* (0.0626)
E index	0.0425*** (0.0093)	0.0151* (0.0086)	0.1180*** (0.0186)	0.0424*** (0.0093)	0.0151* (0.0086)	0.1179*** (0.0186)
CEO tenure	-0.0031 (0.0020)	0.0050*** (0.0016)	-0.0212*** (0.0043)	-0.0031 (0.0020)	0.0050*** (0.0016)	-0.0212*** (0.0043)
CEO duality	0.0895*** (0.0178)	0.0743*** (0.0153)	0.1211*** (0.0367)	0.0895*** (0.0178)	0.0743*** (0.0153)	0.1209*** (0.0367)
Observations	22,114	22,114	22,114	22,114	22,114	22,114
Adjusted R^2	0.5297	0.4197	0.3486	0.5298	0.4197	0.3487
p-value ($\beta_{\text{comp}} \leq \beta_{\text{non-comp}}$)	–	–	–	0.18	0.55	0.10

Table 5: Board distraction and CEO turnover

Notes: The table reports the coefficients from logit regressions of CEO turnover on board distraction. The sample consists of firms with available data from 1996 to 2013. CEO turnover data are from Execucomp. A turnover is classified as forced if (i) report says that the CEO was fired, forced out, or departed due to policy differences; or (ii) the departing CEO is under age of 60, did not announce the retirement at least six months in advance, and did not leave for health reasons or acceptance of another position. The dependent variable is equal to one for firms years during which a forced CEO turnover was announced. *Stock performance (industry-adjusted)* is the cumulative return during the previous fiscal year minus the contemporaneous industry median return. *Negative performance (positive performance)* is industry-adjusted stock return if the return is negative (positive) and zero otherwise. *Number distracted directors* is the number of independent executive directors whose primary employer's stock return is in the bottom quintile of the pooled sample. See Appendix for definition of all other variables. Industry and year fixed effects are included in all regressions. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)
Stock performance (industry-adjusted)	-1.7679*** (0.2671)	-1.8678*** (0.2847)	
Number distracted directors		0.2326*** (0.0815)	0.3007*** (0.0772)
Number distracted directors × performance		0.4208* (0.2455)	
Negative performance			-2.8868*** (0.3790)
Positive performance			-0.8419*** (0.2882)
Number distracted directors × negative performance			0.6383** (0.3009)
Number distracted directors × positive performance			0.0762 (0.2525)
Number executive directors	-0.0044 (0.0298)	-0.0502 (0.0391)	-0.0467 (0.0384)
Number executive directors × performance		-0.0446 (0.1342)	-0.0258 (0.1167)
Log(assets)	0.0554 (0.0382)	0.0595 (0.0378)	0.0674** (0.0309)
Board size	-0.0731** (0.0330)	-0.0722** (0.0328)	-0.0667** (0.0335)
Board independence	0.0036 (0.3950)	-0.0043 (0.3967)	0.0084 (0.3168)
Board ownership	5.2303*** (1.0494)	5.2133*** (1.0483)	5.2010*** (1.2580)
Busy board	0.1526 (0.1788)	0.1466 (0.1749)	0.1440 (0.1807)
E index	-0.0090 (0.0479)	-0.0083 (0.0480)	-0.0071 (0.0596)
CEO age	-0.0256*** (0.0058)	-0.0256*** (0.0058)	-0.0247*** (0.0067)
CEO tenure	-0.0669*** (0.0163)	-0.0670*** (0.0163)	-0.0661*** (0.0170)
CEO ownership	-14.6540** (5.9340)	-14.5340** (5.9000)	-14.7479*** (5.2789)
CEO duality	-0.3605** (0.1488)	-0.3647** (0.1469)	-0.3644*** (0.1351)
Observations	21,086	21,086	21,086
Pseudo R^2	0.1112	0.1132	0.1169

Table 6: Board distraction and earnings quality

Notes: The table reports the coefficients from OLS/logit regressions of earnings quality on board distraction. The dependent variable in columns 1 and 2 is the absolute value of discretionary accruals estimated from the ROA-augmented modified Jones model (Kothari et al., 2005). The dependent variable in columns 3–5 is a restatement indicator variable which is equal to one for firms years whose financial statements were later restated due to regular reasons or irregularities. The sample in columns 1 and 2 (columns 3–5) consists of firms with available data from 1996 to 2013 (1996 to 2006). Restatement sample comes from 2002 and 2006 GAO reports. The fiscal years and the reasons for which firms restated are collected based on news articles, where a restatement is associated with irregularities if (i) variants of the words “irregularity” or “fraud” appeared in the restatement announcement; (ii) the restatement came under investigation initiated by the SEC, Department of Justice (DOJ), or other independent third party; or (iii) a shareholder class action lawsuit was filed after the restatement announcement. *Number distracted directors* is the number of independent executive directors whose primary employer’s stock return is in the bottom quintile of the pooled sample. *Number distracted directors (not) on audit cmte* is the number of independent executive directors whose primary employer’s stock return is in the bottom quintile of the pooled sample and who are (not) on the audit committee. See Appendix for definition of all other variables. Industry and year fixed effects are included in all regressions. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively. The last row shows the p-value for the statistical test that the coefficients on *Number distracted directors not on audit cmte* is no smaller than the coefficients on *Number distracted directors on audit cmte*.

	Discretionary accruals (OLS)		Restatement (Logit)		
	(1)	(2)	(not irregularities) (3)	(irregularities) (4)	(irregularities) (5)
Number distracted directors	0.0011** (0.0005)		-0.0634 (0.1309)	0.2186*** (0.0819)	
Number distracted directors on audit cmte		0.0019** (0.0008)			0.2756* (0.1448)
Number distracted directors not on audit cmte		0.0003 (0.0004)			0.1693** (0.0820)
Log(assets)	-0.0035*** (0.0003)	-0.0035*** (0.0003)	0.1550** (0.0667)	0.2175** (0.1041)	0.2176** (0.1040)
ROA	-0.0396*** (0.0075)	-0.0396*** (0.0075)	-2.8712*** (0.9624)	-3.2231*** (1.1946)	-3.2189*** (1.1949)
Tobin’s Q	0.0020*** (0.0004)	0.0020*** (0.0004)	-0.0792 (0.1062)	0.0921 (0.0852)	0.0924 (0.0851)
Leverage	0.0008 (0.0024)	0.0008 (0.0024)	-0.3344 (0.4859)	2.0398*** (0.6259)	2.0369*** (0.6254)
Neg NI \geq 2 years	0.0053*** (0.0016)	0.0053*** (0.0016)	0.1248 (0.1913)	-0.4531 (0.3750)	-0.4518 (0.3749)
Board size	-0.0003* (0.0002)	-0.0003* (0.0002)	-0.0306 (0.0373)	0.0525 (0.0500)	0.0533 (0.0499)
Board independence	-0.0001 (0.0026)	-0.0000 (0.0026)	-0.2476 (0.4774)	-1.3673** (0.6647)	-1.3609** (0.6657)
Number executive directors	-0.0007*** (0.0002)	-0.0007*** (0.0002)	-0.0330 (0.0589)	-0.0925 (0.0702)	-0.0924 (0.0702)
Board ownership	0.0095 (0.0117)	0.0095 (0.0116)	3.8758 (2.4241)	-3.2280 (3.9610)	-3.1825 (3.9522)
Busy board	0.0005 (0.0009)	0.0004 (0.0009)	-0.0578 (0.1446)	-0.1563 (0.2244)	-0.1592 (0.2245)
E index	-0.0005* (0.0003)	-0.0005* (0.0003)	-0.0667 (0.0757)	-0.1590 (0.1078)	-0.1596 (0.1079)

CEO ownership	-0.0028 (0.0068)	-0.0025 (0.0068)	-1.4170 (1.6991)	-3.3519 (3.2207)	-3.3378 (3.2271)
CEO tenure	-0.0002*** (0.0001)	-0.0002*** (0.0001)	-0.0079 (0.0115)	0.0198 (0.0190)	0.0199 (0.0190)
CEO duality	0.0011* (0.0007)	0.0011* (0.0007)	-0.0671 (0.1326)	0.3323 (0.2047)	0.3353 (0.2062)
Observations	16,439	16,439	8,118	8,118	8,118
Adjusted (Pseudo) R^2	0.1102	0.1103	0.0789	0.1073	0.1074
p -value ($\beta_{\text{audit}} \leq \beta_{\text{non-audit}}$)	–	0.01	–	–	0.26

Table 7: Board distraction and acquisition returns

Notes: The table reports the OLS regressions of acquisition returns on board distraction. The sample consists of merges and acquisitions by firms with available data from 1996 to 2013. The dependent variable is cumulative abnormal returns (CAR) over the five day event window $[-2, +2]$, where day zero is the announcement day. *Cash>50%* is one if the percentage of the deal value paid in cash is more than 50% and zero otherwise. *Same industry* is one if the acquirer is in the same 1-digit SIC industry as the target firm. All firm level independent variables are characteristics of acquirers in the fiscal year during which acquisitions occurred. *Number distracted directors* is the number of independent executive directors whose primary employer's stock return is in the bottom quintile of the pooled sample. Distracted directors are classified into directors *with M&A expertise* and directors *without M&A expertise* based on different expertise definitions in columns 2–6. In column 2, a director is defined as an expert if her employer has made at least one M&As during the last three years (47% of all distracted directors). In column 3, a director is defined as an expert if the average M&A announcement return of her employer during the last three years is above zero (25%). In column 4, a director is defined as an expert if the sum of M&A relative size (deal value/lagged acquirer's market capitalization) of her employer during the last three years is above the contemporaneous sample average (25%). In column 5, a director is defined as an expert if the average M&A return is above zero and the sum of M&A relative size is above the contemporaneous sample average (13%). In column 6, a director is defined as an expert if her primary employer is in the same 1-digit SIC industry as the target firm (50%). See Appendix for definition of all other variables. Industry and year fixed effects are included in all regressions. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *,**,*** indicate significance at the 10%, 5% and 1% levels, respectively. The last row shows the p-value for the statistical test that the coefficients on *Number distracted directors without M&A expertise* is no smaller than the coefficients on *Number distracted directors with M&A expertise*.

	Baseline model (1)	Past M&A (2)	Positive return (3)	Large size (4)	Positive & large (5)	Target's industry (6)
Number distracted directors	-0.0028** (0.0014)					
Number distracted directors w/ M&A expertise		-0.0047*** (0.0018)	-0.0060** (0.0028)	-0.0071*** (0.0026)	-0.0108*** (0.0038)	-0.0045* (0.0027)
Number distracted directors w/o M&A expertise		-0.0011 (0.0021)	-0.0018 (0.0019)	-0.0015 (0.0014)	-0.0017 (0.0015)	-0.0020 (0.0021)
Number bidders	-0.0078 (0.0075)	-0.0080 (0.0075)	-0.0081 (0.0075)	-0.0080 (0.0075)	-0.0082 (0.0075)	-0.0078 (0.0074)
Cash>50%	0.0086*** (0.0017)	0.0086*** (0.0017)	0.0085*** (0.0017)	0.0086*** (0.0017)	0.0086*** (0.0017)	0.0086*** (0.0017)
Target public	-0.0215*** (0.0025)	-0.0214*** (0.0024)	-0.0214*** (0.0024)	-0.0214*** (0.0024)	-0.0214*** (0.0024)	-0.0215*** (0.0024)
Target private	-0.0053*** (0.0013)	-0.0052*** (0.0013)	-0.0053*** (0.0013)	-0.0052*** (0.0013)	-0.0052*** (0.0013)	-0.0053*** (0.0013)
Same industry	0.0027* (0.0015)	0.0027* (0.0015)	0.0027* (0.0015)	0.0027* (0.0015)	0.0028* (0.0015)	0.0028* (0.0015)
Tender offer	0.0108** (0.0045)	0.0109** (0.0045)	0.0109** (0.0045)	0.0107** (0.0045)	0.0108** (0.0045)	0.0109** (0.0045)
Log(assets)	-0.0017** (0.0007)	-0.0016** (0.0007)	-0.0016** (0.0007)	-0.0017** (0.0007)	-0.0017** (0.0007)	-0.0017** (0.0007)
ROA	-0.0098 (0.0140)	-0.0096 (0.0139)	-0.0096 (0.0140)	-0.0095 (0.0140)	-0.0096 (0.0140)	-0.0100 (0.0139)
Tobin's Q	0.0024*** (0.0008)	0.0024*** (0.0008)	0.0024*** (0.0008)	0.0024*** (0.0008)	0.0024*** (0.0008)	0.0024*** (0.0008)
Leverage	0.0129** (0.0057)	0.0129** (0.0057)	0.0129** (0.0057)	0.0128** (0.0057)	0.0126** (0.0057)	0.0129** (0.0057)
Cash/assets	-0.0274** (0.0118)	-0.0276** (0.0119)	-0.0272** (0.0118)	-0.0276** (0.0118)	-0.0272** (0.0119)	-0.0272** (0.0119)

Board size	-0.0004 (0.0004)	-0.0004 (0.0004)	-0.0004 (0.0004)	-0.0004 (0.0004)	-0.0004 (0.0004)	-0.0004 (0.0004)
Board independence	-0.0006 (0.0058)	-0.0006 (0.0058)	-0.0008 (0.0058)	-0.0007 (0.0058)	-0.0009 (0.0058)	-0.0008 (0.0060)
Number executive directors	0.0012* (0.0006)	0.0011* (0.0006)	0.0012* (0.0006)	0.0012* (0.0006)	0.0012* (0.0006)	0.0012* (0.0006)
Board ownership	-0.0215 (0.0463)	-0.0217 (0.0465)	-0.0219 (0.0467)	-0.0225 (0.0468)	-0.0224 (0.0472)	-0.0205 (0.0457)
Busy board	0.0036* (0.0018)	0.0035* (0.0018)	0.0035* (0.0019)	0.0035* (0.0018)	0.0035* (0.0018)	0.0035* (0.0018)
E index	-0.0013 (0.0009)	-0.0013 (0.0009)	-0.0013 (0.0009)	-0.0013 (0.0010)	-0.0013 (0.0009)	-0.0013 (0.0010)
CEO ownership	0.0238 (0.0237)	0.0238 (0.0236)	0.0240 (0.0236)	0.0241 (0.0236)	0.0242 (0.0236)	0.0238 (0.0238)
CEO tenure	0.0002* (0.0001)	0.0002* (0.0001)	0.0002* (0.0001)	0.0002* (0.0001)	0.0002* (0.0001)	0.0002* (0.0001)
CEO duality	-0.0038** (0.0016)	-0.0038** (0.0016)	-0.0037** (0.0016)	-0.0037** (0.0015)	-0.0037** (0.0015)	-0.0038** (0.0016)
Observations	6,524	6,524	6,524	6,524	6,524	6,524
Adjusted R^2	0.0423	0.0424	0.0424	0.0426	0.0428	0.0423
p -value ($\beta_{\text{expert}} \leq \beta_{\text{non-expert}}$)	-	0.09	0.13	0.00	0.01	0.26

Table 8: Alternative estimation specifications

Notes: The table presents the results for robustness checks on Tables 4–7. For ease of comparison, Panel A reproduces the results from baseline models. In Panel B, industry fixed effects are replaced by firm fixed effects. In Panel C, industry and year fixed effects are replaced by industry-by-year fixed effects. In Panel D, board distraction is measured by *number distracted directors (ind-year)*, which is the number of independent executive directors whose primary employer’s stock return is in the bottom quintile of its corresponding industry-year group. For the turnover and restatement analysis, OLS is used in Panels B and C. Table and column numbers of the original regression models are listed at the bottom of the table. All control variables in the original models are included in Panels B–D. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	Compensation (1) OLS	Turnover (2) Logit/OLS	Accruals (3) OLS	Restatement (4) Logit/OLS	M&A (5) OLS
<i>Panel A. Baseline (industry and year fixed effects)</i>					
Number distracted directors	0.0223*** (0.0067)	0.2326*** (0.0815)	0.0011** (0.0005)	0.2186*** (0.0819)	-0.0028** (0.0014)
Number distracted directors × performance		0.4208* (0.2455)			
<i>Panel B. Firm and year fixed effects</i>					
Number distracted directors (pooled)	0.0237*** (0.0082)	0.0038* (0.0022)	0.0005 (0.0004)	0.0071*** (0.0017)	-0.0035*** (0.0011)
Number distracted directors × performance		0.0041 (0.0056)			
<i>Panel C. Industry-by-year fixed effects</i>					
Number distracted directors (pooled)	0.0196*** (0.0071)	0.0047** (0.0023)	0.0011** (0.0005)	0.0049** (0.0019)	-0.0021 (0.0014)
Number distracted directors × performance		0.0032 (0.0071)			
<i>Panel D. Distraction: Industry-by-year cutoffs</i>					
Number distracted directors (ind-year)	0.0045 (0.0106)	0.1594 (0.1050)	0.0012** (0.0005)	0.3539*** (0.1100)	-0.0008 (0.0016)
Number distracted directors × performance		0.4237** (0.1977)			
Other controls for all panels as in:	Table 4 column 1	Table 5 column 2	Table 6 column 1	Table 6 column 4	Table 7 column 1

Table 9: Alternative measures of distraction

Notes: The table presents the results on alternative board distraction measures. Panel A measures distraction based on the stock volatility of independent executive director's primary employer. Panel B measures distraction based on financial distress (z -score). $Volatility > p80$ is one if primary employer's stock volatility is in the top quintile of corresponding industry-year group and zero otherwise. $Number\ distracted\ directors\ (volatility)$ is the number of independent executive directors whose primary employer's stock volatility is in the top quintile of corresponding industry-year group. $z-score > p20$ is one if primary employer's z -score is in the bottom quintile of corresponding industry-year group and zero otherwise. $Number\ distracted\ directors\ (z-score)$ is the number of independent executive directors whose primary employer's z -score is in the bottom quintile of corresponding industry-year group. Table and column numbers of the original regression models are listed at the bottom of the table. All control variables in the original models are included all regressions. Standard errors reported in the parentheses are robust and two-way clustered by director and year in column 1 and by firm and year in columns 2-8. *, **, ***, **** indicate significance at the 10%, 5% and 1% levels, respectively.

	Absence (1)	ROA (2)	Tobin's Q (3)	Compensation (4)	Turnover (5)	Accruals (6)	Restatement (7)	M&A (8)
Panel A. Volatility								
Volatility > p80	0.1487* (0.0829)							
Number distracted directors (volatility)		-0.0050*** (0.0019)	-0.0149 (0.0270)	0.0179 (0.0141)	0.2035* (0.1163)	0.0020*** (0.0005)	0.1461 (0.2120)	0.0015 (0.0020)
Number distracted directors (volatility) × performance					0.7700*** (0.1710)			
Panel B. Financial distress								
z -score < p20	0.0799 (0.1055)							
Number distracted directors (z -score)		-0.0062*** (0.0020)	-0.0608** (0.0267)	0.0170 (0.0147)	0.1611* (0.0966)	0.0006 (0.0007)	0.0779 (0.2158)	-0.0035** (0.0017)
Number distracted directors (z -score) × performance					0.4402 (0.3120)			
Other controls as in:	Table 2 column 3	Table 3 column 1	Table 3 column 5	Table 4 column 1	Table 5 column 2	Table 6 column 1	Table 6 column 4	Table 7 column 1

Table 10: Heterogeneity by board size

Notes: The table presents the results for the heterogeneous effects of board distraction on a set of firm outcomes by board size. In Panel A, small board is equal to one if the board size is smaller than the pooled sample median (9) and zero otherwise. In Panel B, small board is equal to one if the number of independent directors is smaller than the pooled sample median (7) and zero otherwise. *Number distracted directors* is the number of independent executive directors whose primary employer's stock return is in the bottom quintile of the pooled sample. Table and column numbers of the original regression models are listed at the bottom of the table. All control variables in the original models are included in both panels. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

	ROA (1)	Tobin's Q (2)	Compensation (3)	Turnover (4)	Accruals (5)	Restatement (6)	M&A (7)
Panel A. Board size							
Number distracted directors	-0.0014* (0.0008)	-0.0145 (0.0198)	0.0090 (0.0080)	0.2429*** (0.0804)	0.0009** (0.0004)	0.2291* (0.1310)	-0.0015 (0.0013)
Number distracted directors × small board	-0.0068*** (0.0025)	-0.0673** (0.0311)	0.0508** (0.0234)	-0.0875 (0.1803)	0.0006 (0.0010)	-0.0460 (0.2687)	-0.0045* (0.0025)
Number distracted directors × performance				0.0173 (0.3400)			
Number distracted directors × performance × small board				0.6224** (0.2833)			
Small board	-0.0006 (0.0027)	0.1439*** (0.0407)	0.0040 (0.0231)	0.0567 (0.1497)	0.0010 (0.0008)	-0.3535 (0.2776)	0.0015 (0.0017)
Panel B. Number of independent directors							
Number distracted directors	-0.0001 (0.0006)	-0.0036 (0.0183)	0.0097 (0.0075)	0.1805** (0.0848)	0.0012*** (0.0004)	0.2923*** (0.1083)	-0.0012 (0.0011)
Number distracted directors × small board	-0.0103*** (0.0027)	-0.0962*** (0.0282)	0.0430** (0.0180)	0.1160 (0.1635)	-0.0004 (0.0007)	-0.2327 (0.2507)	-0.0055 (0.0034)
Number distracted directors × performance				0.1461 (0.4275)			
Number distracted directors × performance × small board				0.3785 (0.3357)			
Small board	-0.0002 (0.0026)	0.0838** (0.0342)	-0.0182 (0.0227)	0.1081 (0.1570)	0.0022*** (0.0008)	-0.0219 (0.3433)	0.0031 (0.0031)
Other controls as in:	Table 3 column 1	Table 3 column 5	Table 4 column 1	Table 5 column 2	Table 6 column 1	Table 6 column 4	Table 7 column 1

Table 11: Heterogeneity by director characteristics

Notes: The table presents the results for the heterogeneous effects of board distraction on a set of firm outcomes by director characteristics. Distracted directors are divided into two groups based on different characteristics. In Panel A, directors are categorized based on whether they are coopted with the CEO (Coles, Daniel, and Naveen, 2014). In Panel B, directors are categorized based on whether they are CEOs at primary employing firms. In Panel C, directors are categorized based on whether their director tenure is below the sample median (4 years). In Panel D, directors are categorized based on whether the distance between their employing firm and board firm is above sample median (350 miles). In Panel E, directors are categorized based on whether they hold three or more directorships at public firms. Table and column numbers of the original regression models are listed at the bottom of the table. All control variables in the original models are included in all panels. Standard errors reported in the parentheses are robust and two-way clustered by firm and year. *, **, ***, **** indicate significance at the 10%, 5% and 1% levels, respectively.

	ROA (1)	Tobin's Q (2)	Compensation (3)	Turnover (4)	Accruals (5)	Restatement (6)	M&A (7)
Panel A. Co-opted director							
Number non-coopted distracted directors	-0.0046*** (0.0013)	-0.0369 (0.0252)	0.0354*** (0.0107)	0.2060* (0.1173)	0.0014*** (0.0004)	0.2512 (0.1847)	-0.0032* (0.0016)
Number coopted distracted directors	-0.0009 (0.0015)	-0.0236 (0.0201)	0.0015 (0.0150)	0.2703** (0.1069)	0.0004 (0.0010)	0.3679*** (0.1136)	-0.0020 (0.0022)
Number non-coopted distracted directors × performance				0.7797** (0.3089)			
Number coopted distracted directors × performance				-0.1208 (0.4109)			
Panel B. CEO director							
Number distracted CEO directors	-0.0044*** (0.0014)	-0.0475 (0.0297)	0.0299*** (0.0103)	0.3291*** (0.0971)	0.0014** (0.0007)	0.2242* (0.1204)	-0.0029** (0.0013)
Number distracted non-CEO directors	-0.0020 (0.0019)	-0.0167 (0.0169)	0.0149 (0.0115)	0.1006 (0.1297)	0.0007 (0.0006)	0.3839** (0.1691)	-0.0026 (0.0021)
Number distracted CEO directors × performance				0.6303* (0.3310)			
Number distracted non-CEO directors × performance				0.0516 (0.4543)			

	ROA (1)	Tobin's Q (2)	Compensation (3)	Turnover (4)	Accruals (5)	Restatement (6)	M&A (7)
Panel C. Director tenure							
Number distracted directors w/ short tenure	-0.0038** (0.0018)	-0.0472** (0.0200)	0.0171 (0.0158)	0.3736*** (0.1109)	0.0014* (0.0007)	0.4171*** (0.0921)	-0.0027 (0.0027)
Number distracted directors w/ long tenure	-0.0027* (0.0015)	-0.0185 (0.0232)	0.0268** (0.0114)	0.0725 (0.1320)	0.0008* (0.0004)	0.1755 (0.1616)	-0.0029** (0.0013)
Number distracted directors w/ short tenure × performance				0.4997* (0.2919)			
Number distracted directors w/ long tenure × performance				0.1988 (0.2919)			
Panel D. Distance between employing firm and board firm							
Number distracted directors w/ long distance	-0.0036 (0.0022)	-0.0393 (0.0297)	0.0410*** (0.0121)	0.3758*** (0.1007)	0.0010 (0.0010)	0.5262*** (0.1426)	-0.0023 (0.0018)
Number distracted directors w/ short distance	-0.0028** (0.0012)	-0.0262 (0.0167)	0.0083 (0.0114)	0.0769 (0.1251)	0.0011*** (0.0003)	0.0761 (0.1537)	-0.0032* (0.0019)
Number distracted directors w/ long distance × performance				0.9008*** (0.3046)			
Number distracted directors w/ short distance × performance				-0.1123 (0.4202)			
Panel E. Director busyness (number of directorships)							
Number busy distracted directors	-0.0023 (0.0017)	-0.0193 (0.0244)	0.0119 (0.0152)	0.1867** (0.0920)	0.0017*** (0.0006)	0.1647 (0.1541)	-0.0025 (0.0017)
Number non-busy distracted directors	-0.0037* (0.0021)	-0.0393* (0.0211)	0.0288** (0.0127)	0.2574** (0.1242)	0.0007 (0.0006)	0.4244** (0.1832)	-0.0029 (0.0019)
Number busy distracted directors × performance				0.6202 (0.4286)			
Number non-busy directors × performance				0.2824 (0.3166)			
Other controls as in:	Table 3 column 1	Table 3 column 5	Table 4 column 1	Table 5 column 2	Table 6 column 1	Table 6 column 4	Table 7 column 1