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Director workloads, attendance and firm performance

Abstract:

Purpose – This study examines whether increased director workloads are benefiting firms or are causing directors to become too busy, resulting in lower director attendance and weaker firm performance.

Design/methodology – Empirical analysis of the relationships between meeting frequency, director attendance rates and firm performance using archival data from Australia.

Findings – Attendance rates for both outside and inside directors decrease as they are required to attend more meetings. The benefits firms obtain from holding additional meetings are significantly eroded by lower director attendance.

Originality/value – This study brings together the literatures on meeting frequency, director busyness and firm performance to show that increased director workloads are only beneficial to firms if directors do not become too busy to fulfill their obligations to shareholders.

Keywords: attendance, board of directors, busy directors, firm performance, workload.

Introduction

Over time, directors are being required to spend more time and effort on their corporate directorships. National Association of Corporate Directors (NACD) surveys indicate that the average time commitment per directorship in public companies increased from 207.4 hours in 2007 to 278.1 hours in 2014.¹ This increased effort by directors should be beneficial to firms and their shareholders through an increase in the effectiveness of the monitoring and advising functions of the board. However, it is also possible that many directors are too busy to absorb this additional workload into their schedules, meaning they are not able to fulfill all of their obligations to shareholders.

Prior studies have investigated the effects of higher director workloads on firm performance, with some encouraging results. Brick and Chidambaran (2010) find that board meeting activity is positively related to firm value. Vafeas (1999) finds that firm performance improves following increased board effort, in the form of extra board meetings. However, other studies also highlight the existence of busy directors and document the negative consequences of busy directors on corporate boards, including less effective monitoring, excessive CEO compensation, failure to fire underperforming CEOs and lower firm performance (Core et al., 1999; Fich and Shivdasani, 2006; Jiraporn et al., 2009; Mendez et al., 2015).

In this study, we bring these two strands of literature together. We propose that increased director workloads (e.g. additional board and committee meetings) can be beneficial to firms if directors have extra time available to spend on their directorships. But, if directors are too busy to incorporate these increased workloads into their

¹ Data available from the 2014-2015 NACD Public Company Governance Survey published by the National Association of Corporate Directors, available at: www.nacdonline.org.

schedules, the benefits firms receive from additional meetings are likely to be eroded. Thus, the focus of this study is two-fold. First, we investigate the relationship between director workloads and director attendance to determine whether additional board and committee meetings cause directors to become too busy, resulting in lower director attendance. Second, we examine the combined effect of increased director workloads and lower director attendance on firm performance.

Using data from Australia, where the actual number of board and committee meetings held and attended by each director is disclosed, we relate director attendance rates to the number of board and committee meetings that directors are required to attend. Even though directors have a duty to attend all board and assigned committee meetings, we expect that the greater the number of meetings, the more likely directors will be overburdened and miss meetings in a systematic manner. Therefore, we predict a negative relationship between board and committee meeting frequency and director attendance rates.

We then examine whether the positive link between additional meetings and firm performance, documented by Vafeas (1999), is conditional on director attendance. Increased director effort is expected to improve the monitoring and advising functions of the board, resulting in improved firm performance. However, this is likely to only be the case when increased director workloads are not associated with lower director attendance rates. Thus, director absences from board and committee meetings are expected to reduce the beneficial effects of additional meetings on firm performance.

Our results show that attendance rates for both outside and inside directors decrease as they are required to attend more meetings, particularly board meetings. Thus,

documenting that higher director workloads are associated with increased director busyness and lower director attendance. We also find that director busyness moderates the relationship between meeting frequency and firm performance. When firms hold additional board meetings, lower director attendance is associated with lower firm performance.

This work progresses the literature on two fronts. We contribute to the debate on busy directors by providing a more general test of director busyness. Prior studies from Australia (Kiel and Nicholson, 2006; Mendez et al., 2015) and internationally (Ferris et al., 2003; Harris and Shimizu, 2004; Fich and Shivdasani, 2006; Jiraporn et al., 2009; Cashman et al., 2012; Masulis and Mobbs, 2014) focus on a subset of directors with multiple directorships. This study examines the busyness of all directors by examining how changes in meeting frequency affect director attendance practices. We find that more meetings are associated with lower director attendance rates, indicating that the average director is busy and has a limited ability to attend more meetings.

We also extend the work of Vafeas (1999) and Brick and Chidambaran (2010) by bringing together the literatures on meeting frequency, director busyness and firm performance to show that boards face a trade-off when holding additional board meetings. Additional meetings increase board effort, which is positively linked to firm performance, but only when these additional meetings do not cause director busyness in the form of lower director attendance.

Literature Review & Hypothesis Development

Meeting frequency

Prior studies have investigated the variation in board and committee meeting frequency across firms, and the relationship between meeting frequency and firm performance. The literature indicates that the number of meetings firms hold is significantly related to the corporate governance environment of the firm, firm ownership structure and specific firm circumstances, such as M&A involvement and earnings restatements (Vafeas, 1999; Sharma et al., 2009; Brick and Chidambaran, 2010).

If increased meeting frequency improves the monitoring and advising functions of the board of directors, we would expect a positive effect on firm performance. Some results are supportive of this assertion, with Brick and Chidambaran (2010) finding that board meeting activity is positively related to firm value, Hoque et al. (2013) showing that more audit and remuneration committee meetings are associated with higher return on assets, and Vafeas (1999) finding that firm performance improves following extra board meetings. However, the results are not completely consistent as Vafeas (1999) also documents a negative relationship between meeting frequency and firm value.

In this study, we propose that director busyness is a moderating factor in the relationship between meeting frequency and firm performance. Higher meeting frequency can be beneficial to firms if directors are able to spend more time and effort on their directorships. However, if increased meeting frequency causes directors to become too busy, the benefits from additional meetings are likely to be eroded.

Busy directors

Prior research has highlighted the existence of busy directors and the consequences of having busy directors on corporate boards.² In Australia, early studies examined the prevalence of directors with multiple directorships and found that the director network in Australia has a similar structure to that of the United States, with around 20 percent of directors holding multiple directorships within the top 100 companies (Stapledon and Lawrence, 1997; Nicholson et al., 2004). Kiel and Nicholson (2006) extend this work by examining the entire market of directorships and find that in top 200 companies, 36.5 percent of directors hold multiple directorships in listed companies. In more recent work, Mendez et al. (2015) examine the monitoring capabilities of boards with busy directors and find that busy directors are associated with higher CEO pay and lower CEO turnover-performance sensitivity.

Using U.S. data, Core et al. (1999) find that boards with busy directors provide excessive CEO compensation. Fich and Shivdasani (2006) find that busy directors are associated with less effective monitoring. Jiraporn et al. (2009) report that directors with multiple directorships exhibit a higher tendency to be absent from board meetings. Applying various samples and empirical designs, Cashman et al. (2012) conclude that, on balance, busy boards are associated with lower firm value.

However, according to Fama and Jensen (1983) multiple directorships can also signal director quality, as higher quality directors are more likely to serve on additional boards. Consistent with this notion, Field et al. (2013) find a positive relationship between busy directors and the performance of early-stage firms. In Australia, Gray and Nowland (2013) find that shareholders react positively to the appointment of directors

² Studies have specifically identified directors with multiple directorships (generally 3 or more directorships) as busy directors, i.e. those least likely to have adequate time to fulfill their directorial duties.

with multiple directorships. Hence, multiple directorships are likely to provide a mixed signal of both director busyness and quality.

To more cleanly investigate the relationship between director busyness and firm value, recent U.S. studies have examined shareholder reactions to changes in the workloads of busy directors. Falato et al. (2014) examine the effects of CEO and director deaths on the workloads of other directors on the same board. They find that shareholders at other firms where these directors hold directorships react negatively when a director's workload increases because of a death on an interlocked board. Similarly, Bar-Hava et al. (2013) find that shareholders of firms with busy directors on their board react positively when these directors resign from one of their other directorships.

All of these prior studies, however, have examined the issue of director busyness in the context of multiple directorships. But, not all directors hold multiple directorships. For example, in the United States, Bar-Hava et al. (2013) show that 33 percent of directors covered by the Risk Metrics database (S&P1500 firms) from 1998 to 2010 hold more than one directorship. In addition, only 13 percent of directors have three or more directorships. Since it is probable that all individuals that hold listed company directorships are in fact busy people, we believe a more general investigation of director busyness is warranted. Thus, in the current context of increasing director workloads, we conduct a new and more general test of director busyness, by examining how changes in director workloads (board and committee meeting frequency) affect the attendance practices of directors.

Director attendance

Directors are required to undertake complex tasks, such as monitor firm operations and management, analyze merger and acquisition opportunities, evaluate capital raising options, and hire and set the remuneration of top executives. Their ability to perform these tasks is hindered if they do not access information and interact with other board members at meetings.

Academic studies have documented the importance of director attendance from two dimensions. First, Cai et al. (2009) show that poor attendance has a significant effect on the likelihood of director re-election. Directors receive 14% fewer votes if identified as attending less than 75 percent of meetings in their sample of elections at U.S. firms. Second, director attendance is an important measure of corporate governance that is related to firm performance. Brown and Caylor (2006) show that director attendance is one of the seven (out of 51) most significant corporate governance measures related to firm performance in the United States. Chou et al. (2013) and Min and Verhoeven (2013) also show that outside director attendance is positively related to firm performance in Taiwan and South Korea.

The prior literature on director attendance has demonstrated that attendance at board meetings is systematically related to both director and firm characteristics. Examining the incentives of directors to attend meetings, Adams and Ferreira (2008) find that attendance is better when director compensation (e.g. board meeting fees) is higher, indicating that monetary incentives have an impact on director behavior. They also find that attendance is worse on larger boards (more opportunity for free-riding behavior) and better in larger firms and in poor performing companies (where there is a greater reputational cost of missing meetings). Jiraporn et al. (2009) examine the impact of

multiple directorships on director attendance and find a negative relationship between the number of outside directorships and attendance. Adams and Ferreira (2009) investigate differences in attendance behavior between male and female directors and find that female directors have better attendance records. In addition, Chou et al. (2013) find that director attendance is related to director qualifications and firm ownership structure.

While we are not the first study to test for a relationship between meeting frequency and director attendance, we are the first to do so in an unbiased way. Prior studies, using U.S. data, have related an attendance problem dummy variable (equal to one if directors attend less than 75 percent of meetings) available from the RiskMetrics database to the number of board meetings (from ExecuComp or hand-collected from annual reports). This has produced both a negative relationship (Adams and Ferreira, 2008; Chou et al., 2010; Masulis and Mobbs, 2014) and an insignificant relationship (Adams and Ferreira, 2009; Jiraporn et al., 2009; Masulis et al., 2012) between attendance problems and the number of board meetings. This negative relationship indicates that more meetings are associated with better attendance, which has been suggested as attributable to the bias inherent in the attendance problem dummy variable, rather than the actual behavior of directors (Adams and Ferreira, 2008).³

In this paper we overcome this issue by using a richer dataset from Australia where the actual number of board and committee meetings held and attended by each director is disclosed. This allows us to calculate the actual attendance rate for each director (meetings attended divided by meetings eligible to attend) and to estimate the

³ Chou et al. (2013) also relate director attendance to the number of board meetings using data from Taiwan. We extend their work by using data on both board and committee meetings.

individual relationships between board and committee meeting frequency and director attendance without bias.

We propose that the dominant relationship between meeting frequency and director attendance is explained by *director busyness*. There is ample evidence in the literature on busy directors that directors are limited in the amount of time they have available to devote to their directorships (Ferris et al., 2003; Harris and Shimizu, 2004; Fich and Shivdasani, 2006; Jiraporn et al., 2009; Cashman et al., 2012; Mendez et al., 2015). As a result, even though directors have a duty to attend all board and assigned committee meetings, we expect that directors have a finite amount of time and the greater the number of meetings the more likely directors will be overburdened and miss meetings in a systematic manner, i.e. absences will not be due to random events.⁴ Thus, we predict a negative relationship between meeting frequency and director attendance.

We also acknowledge the existence of other potential relationships between meeting frequency and attendance. If boards that hold more meetings appoint directors with better expected attendance records (*selection effects*), possibly because they have more spare time or better time management skills, then we would expect a positive relationship between the number of meetings and attendance rates. If boards only schedule additional meetings when most, if not all, directors are available to attend (*scheduling effects*), this could also result in a positive relationship between the number of meetings and attendance rates. If directors do not view all meetings as having equal importance and are more likely to attend meetings that they perceive as being more important (*meeting importance effects*), such as additional board meetings or monitoring

⁴ We acknowledge that we do not know the length of meetings but assume that each meeting involves effort to attend.

committee meetings, then we may also find a positive relationship between meeting frequency and attendance.⁵ In essence, these three effects only make it more difficult for us to find a clear negative relationship between director workloads and attendance as expected due to director busyness.

Meetings, attendance and firm performance

An increase in the number of board and committee meetings that firms hold requires directors to expend more time and effort in their directorial duties, which should result in an increase in the effectiveness of the monitoring and advising functions of the board, and higher firm performance. Vafeas (1999) provides evidence of this by showing that firm operating performance (return on assets) improves in the years after firms hold more board meetings, particularly for firms with poor prior performance.

However, we propose that an increase in the number of board and committee meetings that firms hold is also expected to result in director busyness and lower director attendance rates. And, lower director attendance has been linked to less effective monitoring and lower firm performance (Brown and Caylor, 2006; Chou et al., 2013; Liu et al., 2016; Min and Verhoeven, 2013; Sarkar et al., 2008). Therefore, in this study we investigate the combined effect of increased director workloads and lower director attendance on firm performance. We expect lower director attendance to reduce the beneficial effect of additional meetings on firm performance.

Data and Variables

⁵ Our data does not allow us to investigate which specific meetings directors are absent from. We can only differentiate between the types of meetings.

Sample

The Corporations Act (2001) in Australia requires companies to report the number of board and committee meetings held during the year and each director's attendance at these meetings.⁶ This disclosure in the annual reports of companies shows each director's name, the number of board and committee meetings they were eligible to attend during the year and their actual attendance at these board and committee meetings. The details for board meetings and the meetings of each board committee are reported separately, which allows us to clearly identify which directors are required (or not required) to attend the meetings of each board committee.⁷

We start by hand collecting this attendance data from all company annual reports available on the Connect4 Annual Reports database over the period 2004 to 2007.⁸ This attendance data is then merged with hand-collected data on director independence and other directorships from annual reports, gender and director remuneration data obtained from the Boardroom database from Connect4 and financial data from Aspect. Data on M&A activity and equity offerings are sourced from the Takeovers and New Issues databases from Connect4. Financial companies and companies with any missing data are excluded from the sample. The final sample includes 4,132 firm-year observations from 1,500 non-financial firms. This includes 19,062 directorship-firm-year observations held

⁶ Section 300(10) of the Corporations Act 2001 currently requires this disclosure, which has been effective in prior legislation since 1993.

⁷ Unfortunately, data is not available for scheduled vs unscheduled meetings, or for different types of attendance, e.g. attendance by phone.

⁸ We select this time period because the Boardroom database from Connect4 starts in 2004. The hand collection of data for our large cross-section of firms results in a 4-year sample period. There have been no subsequent changes to attendance requirements, so we are confident that results from our sample period are applicable to the current environment. As a check, we track a random sample of 100 firms from 2007 to 2014 and continue to get consistent results between director workloads and director attendance.

by 6,463 directors, comprising 12,896 directorship-firm-year observations for outside directors and 6,166 directorship-firm-year observations for inside directors.⁹

Variables

Our variables are divided into firm-level and directorship-level variables. Firm-level variables include: Total assets measured in billions of Australian dollars. Return on assets is net income divided by total assets. Price to book is the market value of equity divided by the book value of equity. Debt is total debt divided by total assets.¹⁰ M&A activity is a dummy variable if the firm is involved in M&A activity (bidder or target) during the year. Equity offering is a dummy variable equal to one if the firm has an equity-raising IPO/SEO or rights issue during the year. CEO turnover is a dummy variable equal to one if the firm changes its CEO during the year. Board size is the number of directors on the board. Board independence is the proportion of independent directors on the board. Board females is the proportion of female directors on the board. Duality is a dummy variable equal to one if the chairman and CEO positions are held by the same person.

Meeting variables can be both at the firm-level and the directorship-level, since it is possible that not all directors serve on all committees and directors can join or leave a board during the year (and are therefore not eligible to attend all meetings held by the firm). At the firm level, the meeting variables are the number of meetings held by the firm during the year. Meetings include board meetings and all committee meetings, with committees separated into monitoring committees (audit, nomination, remuneration, risk, compliance, governance, due diligence, non-executive, review, disclosure and related-

⁹ Outside directors are non-executive directors. Inside directors are executive directors.

¹⁰ Return on assets, debt and price to book are winsorized at the 1st and 99th percentiles.

party committees) and other committees (e.g. investment, financing, strategy, health and safety, scientific, technology and corporate social responsibility committees).¹¹ At the directorship level, the meeting variables indicate the number of meetings (board and committee meetings) that the director was eligible to attend during their tenure as director during the year.

Directorship-level attendance rates are calculated as the number of board and committee meetings the director attended divided by the number of board and committee meetings the director was eligible to attend during their tenure as director during the year. Separate attendance rates are also calculated for board attendance, committee attendance, monitoring committee attendance and other committee attendance. The board-level attendance rate is calculated as the total number of meetings attended by all directors on the board divided by the total number of meetings all directors on the board were eligible to attend during the year.

The compensation of directors is separated into four categories: director fees, committee fees, salary and other compensation.¹² All values are in thousands of Australian dollars. Outside directors receive director fees, committee fees and other compensation. Inside directors receive salary and other compensation. Female is a dummy variable equal to one for female directors. Independent is a dummy variable equal to one if an outside director is highlighted as being independent by the firm based on ASX guidelines. Other directorships is the number of other directorships held by the

¹¹ We distinguish between monitoring and other committees due to the increased focus on monitoring issues in Australia (and other nations) in the past two decades.

¹² In Australia, director and committee fees are a fixed amount per year and are not adjusted for the actual number of meetings.

director in ASX-listed companies. CEO is a dummy variable equal to one if the inside director is the CEO of the company.

Descriptive statistics

Table 1 reports descriptive statistics of firm characteristics. As the sample includes over 80 percent of the firms listed on the ASX during the sample period, firm size ranges from less than \$1 million to \$115 billion in total assets, with an average of \$600 million. The large number of smaller firms in the sample contributes to an average (median) return on assets of -16.46 percent (-2.65 percent). Mean (median) price to book ratios are 3.29 (2.09) and debt is 33.84 percent (30.52 percent). Of the sample firms, a total of 5.05 percent of firms are involved in M&A activity, 3.07 percent conduct equity offerings and 12.20 percent have CEO turnover. Board size ranges from 2 to 16 with an average of 5.45 and median of 5 directors. Average board independence is 33.20 percent and the average board is comprised of 3.70 percent of female directors. Chairman-CEO duality occurs in 7.94 percent of firms.

Boards hold an average of 14.75 meetings each year, with a range of 1 to 71 and a median of 14. These meetings include an average of 10.44 board meetings (range of 1 to 40) and 4.31 committee meetings (range of 0 to 47). Figure 1 shows the distribution of board and committee meetings in our sample, with 29 percent of firms having no committee meetings. Figure 2 shows the time-series variation in the number of board and committee meetings, with 82 percent of firms changing the number of board meetings and 56 percent of firms changing the number of committee meetings they hold from year to year. The board-level attendance rate has an average of 95.01 percent, ranging from a

minimum of 34.15 percent to a maximum of 100 percent. Perfect attendance by all directors occurs in 1,173 out of 4,132 firm-year observations (28 percent).

Table 2 displays descriptive statistics separately for outside and inside directorships. The average attendance rate for outside directorships is 94.02 percent, with board attendance of 93.99 percent and committee attendance of 95.46 percent. Figure 3 shows that perfect attendance occurs in 64 percent of outside directorships and 94 percent of outside directorships have attendance rates greater than or equal to 75 percent. Outside directors are expected to attend an average of 9.77 board meetings and 3.59 committee meetings each year. The average total compensation for outside directorships is \$77,690, predominantly comprised of an average director fee of \$52,270 and other compensation of \$25,050. The average committee fees are low as only 3 percent of the directors in our sample period receive additional committee fees. The average for those who are paid committee fees is \$17,200. Female directors comprise 4.62 percent and independent directors 54.92 percent of our sample of outside directorships. The average number of other directorships is 0.86, with 45 percent of outside directorships held by directors holding multiple directorships.

For inside directorships the average attendance rate is 96.80 percent, with board attendance of 96.97 percent and committee attendance of 95.61. Figure 4 shows that 80 percent of inside directors have perfect attendance and 97 percent of inside directors have attendance rates greater than or equal to 75 percent. Inside directors are expected to attend an average of 9.62 board meetings and 1.18 committee meetings. Unreported mean tests confirm that the committee workload of inside directors is significantly lower than that of outside directors ($p < 0.01$). The average total compensation for inside directorships

is \$541,950, comprising salary of \$261,800 and other compensation of \$280,150. Female directors comprise 3.00 percent and CEOs 52.92 percent of our sample of inside directorships. The average number of other directorships is 0.30, with 20 percent of inside directorships held by directors holding multiple directorships.

Empirical Analysis

Meeting frequency and attendance rates

In this section we relate attendance rates to meeting frequency and control variables using panel analysis and change analysis at the directorship level. Figures 1 and 2 show that there is substantial cross-sectional and time-series variation in the number of meetings that firms hold each year. Since Figures 3 and 4 show that our dependent variable, attendance rate, is censored at a lower bound of 0% and an upper bound of 100%, we use Tobit models in our panel analysis. We present results for outside directors and inside directors separately due to their potentially different incentives to attend meetings. All models include robust standard errors and fixed industry and year effects.¹³

We control for factors identified by prior studies as related to director attendance. Since Adams and Ferreira (2008) find a positive relationship between attendance and director compensation, we control for the compensation that directors receive. We also control for other director characteristics expected to be related to attendance, such as independence, gender and other directorships (Adams and Ferreira, 2009; Jiraporn et al., 2009). Board characteristics have also been found to be associated with director attendance, so we control for board size, board independence, board gender diversity and duality (Adams and Ferreira, 2008; Adams and Ferreira, 2009; Jiraporn et al., 2009). We

¹³ Industry effects are based on the 10 GICS sectors, less the financial sector.

also control for firm characteristics, such as firm size, return on assets, price-to-book and debt (Chou et al., 2010).¹⁴

Outside directors

Table 3 presents the analysis for outside directorships. In the first regression we relate attendance rates to the frequency of all meetings and find a significant negative relationship, consistent with director busyness. The coefficient on *Meetings* suggests that attendance rates decrease by 0.28 percent for each additional meeting an outside director is required to attend. In the second regression, we differentiate between board and committee meetings, and find a negative coefficient on *Board meetings* and a positive coefficient on *Committee meetings*. As directors may have different incentives to attend monitoring-related versus other committee meetings, we distinguish between these two types of committee meetings in the third regression. We find a negative coefficient on *Board meetings* (consistent with director busyness), a positive coefficient on *Monitoring committee meetings* and an insignificant coefficient on *Other committee meetings*. This positive relationship between monitoring committee meetings and director attendance suggests that other effects, such as selection, scheduling and meeting importance, have a greater influence than director busyness on monitoring committee meeting attendance.

Overall, these results indicate that attendance rates decrease by 0.76 percent for each additional board meeting an outside director is required to attend, but increase by 0.53 percent for each additional monitoring committee meeting an outside director is

¹⁴ We do not specifically control for director qualifications and firm ownership as per Chou et al. (2013), but these variables (and other fixed director and firm characteristics) are generally time-invariant, which means they are controlled for in our change analysis.

required to attend. As a measure of economic significance, the marginal effect for the average outside director is a 16.24% likelihood of missing an additional board meeting.¹⁵

To remove the potential influence of any unidentified time-invariant director and firm factors, the effects of changes in director workloads (additional or fewer meetings) on director attendance rates are presented in the fourth specification. Variables that are time-invariant are not included. To be included in the analysis the same director has to be in the same firm for two consecutive years (e.g. 2004-5, 2005-6 or 2006-7).¹⁶ Consistent with prior results, we find a significant negative relationship between the change in the number of board meetings and change in attendance rates. We also find a significant negative relationship between additional monitoring committee meetings and director attendance. This result indicates that even though our panel analysis suggests that directors are more likely to attend monitoring committee meetings, an increase in monitoring committee meetings over time does result in a drop in director attendance.

Results for the control variables indicate that outside director attendance is positively related to compensation, consistent with Adams and Ferreira (2008). Attendance is higher for independent directorships and lower for directorships on bigger and more independent boards, consistent with Jiraporn et al. (2009). We also find that the attendance of directors with multiple directorships is generally higher, suggesting that multiple directorships are not necessarily a good indicator of director busyness.

¹⁵ This is calculated as $1 - (((0.9402 - 0.0076) * 11) - (0.9402 * 10))$. Where 0.9402 is the average attendance for outside directors, the average number of board meetings is rounded to 10 and 0.0076 is the coefficient on board meetings from specification 3 in Table 3. The marginal attendance rate at the 11th board meeting is 83.76%.

¹⁶ To remove the effect of outliers (abnormal changes in attendance rates), we do not include observations where attendance is lower than 75 percent in either year. For example, director attendance rates can change from 0 to 100 percent or 100 to 0 percent between years. We are interested in the incremental effect of additional or fewer meetings, so we restrict our change analysis to reasonable changes in attendance rates. Around 9 percent of sample observations are not included because of this restriction. Changing the restriction to 60, 70, 80 or 90 percent attendance in either year has no effect on the reported results.

Inside directors

Table 4 presents the analysis for inside directorships. In the first regression we find a significant negative relationship between the frequency of all meetings and attendance rates, consistent with director busyness. The coefficient on *Meetings* suggests that attendance rates drop by 0.82 percent for each additional meeting an inside director is required to attend. In the second regression we separate meetings into board meetings and committee meetings and find significant negative coefficients on both types of meetings, consistent with director busyness.

In the third regression we separate committee meetings into monitoring committee meetings and other committee meetings and find significant negative coefficients on all types of meetings. These negative coefficients on *Board meetings*, *Monitoring committee meetings* and *Other committee meetings* indicate that attendance rates for inside directors decrease by 0.85 percent for each additional board meeting, 0.76 percent for each additional monitoring committee meeting and 0.74 percent for each additional other committee meeting. As a measure of economic significance, the marginal effect for the average inside director is a 12.55% likelihood of missing an additional board meeting.¹⁷

In the fourth specification we control for the potential influence of any unidentified time-invariant director and firm factors by relating changes in director workloads to changes in director attendance rates. We continue to find negative

¹⁷ This is calculated as $1 - (((0.9680 - 0.0085) * 11) - (0.9680 * 10))$. Where 0.9680 is the average attendance for inside directors, the average number of board meetings is rounded to 10 and 0.0085 is the coefficient on board meetings from specification 3 in Table 4. The marginal attendance rate at the 11th board meeting is 87.45%.

relationships between changes in board meetings and changes in attendance rates, and changes in monitoring committee meetings and changes in attendance rates.

Results for the control variables indicate that inside director attendance is also positively related to compensation, in the form of salary. Attendance rates are higher for CEOs relative to other inside directors, and lower on bigger and more independent boards.

In summary, the results of our panel analysis and change analysis confirm that attendance rates for both outside and inside directors decrease when they are required to attend more meetings, consistent with increased director workloads having a negative impact on director attendance.

Sub-sample analysis

To ensure our results are not driven by a particular subset of observations, we split the sample on a number of dimensions. With respect to firm characteristics, we split the sample by firm size and firm performance. For director characteristics, we split the sample by single versus multiple directorships and female versus male directors. In unreported analysis, we find the results are consistent for large and small firms, and in firms with good and poor performance. When we perform the same analysis on directors with single or multiple directorships, we also find consistent results, confirming our expectation that all directors are busy people, not simply those with multiple directorships. When we split our sample by the gender of the director we find that only the attendance of male directors is significantly affected by the frequency of meetings. The coefficients for female directors are all insignificant. While this result is consistent

with Adams and Ferreira (2009), we note that there are a relatively small number of observations for female directors.

Robustness checks

We also conduct a number of robustness checks to ensure the validity of our results. For brevity, these results are not presented in the paper.

First, to address endogeneity issues, we use a simultaneous equation model, where the number of meetings and director attendance at these meetings is jointly determined. Based on prior research we model the number of meetings based on firm characteristics and specific firm circumstances (Vafeas, 1999; Brick and Chidambaran, 2010). Firm characteristics include firm size, return on assets, price-to-book ratio, debt, board size, board independence, board gender diversity and duality. Firm circumstances include firm involvement in M&A activities, equity offerings and CEO turnover, which act as temporal shocks to the number of meetings that firms hold. Using this simultaneous equation model, we still find that director attendance rates are negatively related to the frequency of meetings.

Second, we aggregate the number of meetings held and attended to director-year observations. For directors with a single directorship there is no difference. For directors with multiple directorships, we now examine their overall attendance and total number of meetings across all directorships, with control variables averaged across their directorships. We continue to find a significant negative relationship between meeting frequency and director attendance. Third, we test for our documented relationship across different ranges of meetings using spline regressions. We split the number of board

meetings into tertile ranges (less than or equal to 10 meetings, 11-15 meetings and greater than 15 meetings) and include separate variables for each of these ranges. We continue to find a consistent negative relationship across these ranges.

Meetings, attendance and firm performance

Prior studies have documented that lower director attendance is associated with lower firm performance (Brown and Caylor, 2006; Chou et al., 2013; Min and Verhoeven, 2013). Rather than repeat this analysis, we follow the methodology of Vafeas (1999) to determine if director attendance is important in the context of the relationship between additional meetings and firm performance. In our setting, we expect lower director attendance to reduce the beneficial effects of additional meetings on firm performance.

In Table 5, we examine changes in return on assets from the current year to the subsequent year for firms that increase their meetings, board meetings and committee meetings in the current year.¹⁸ To examine the incremental effect of attendance, we split the observations into two groups – those that also have improvements in their board-level attendance rate and those that have the same or lower board-level attendance rates. When examining all observations with sufficient data, we find that firms that hold additional meetings (board meetings) and improve their board attendance have significantly higher subsequent improvements in their return on assets. On average, firms that hold additional meetings but do not improve their board attendance have negative changes in their return on assets.

¹⁸ We also repeat this analysis using stock returns instead of return on assets, but unfortunately do not find significant results.

For firms that hold more meetings when they are experiencing poor performance (return on assets lower than the industry average), we find even more striking results. More meetings (board meetings) and higher board attendance are associated with significantly higher changes in return on assets. For example, the subsequent change in return on assets for firms holding more board meetings and having better board attendance is 18.32 percent, relative to 2.33 percent for firms holding more board meetings but having the same or worse board attendance. In summary, this analysis provides evidence that the benefits firms obtain from holding additional meetings are significantly eroded by lower director attendance.

Conclusions

In this study, we bring together the literatures on meeting frequency, director busyness and firm performance by examining whether increased director workloads are associated with lower director attendance rates, and by testing for the combined effect of increased director workloads and lower director attendance on firm performance.

Using a hand-collected dataset from Australia of the number of board and committee meetings held and attended by individual directors, we provide robust evidence that attendance rates for both outside and inside directors decrease as they are required to attend more meetings. Thus, documenting that higher director workloads are associated with increased director busyness and lower director attendance. We also find that director busyness moderates the relationship between meeting frequency and firm performance. When firms hold additional meetings, lower director attendance is associated with lower firm performance.

For shareholders and policymakers, our results indicate that more awareness is needed of the potential costs of increased director workloads. In general, directors are busy people and have a limited ability to take on higher workloads, such as attending additional meetings.

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Figure 1 – Distribution of Meetings

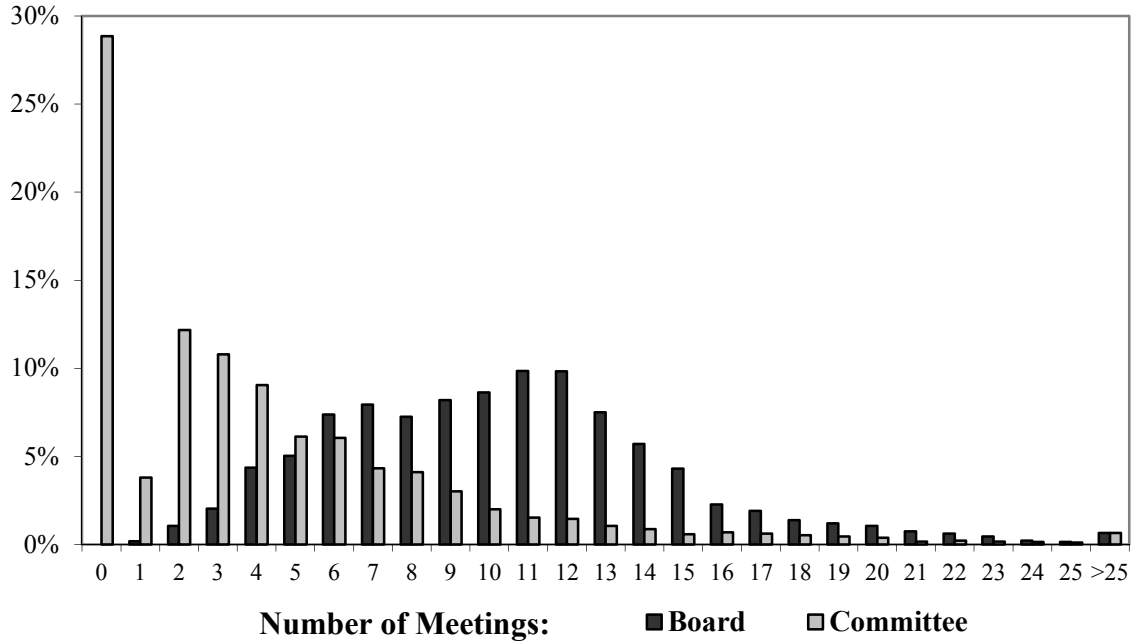


Figure 2 – Distribution of Changes in Meetings

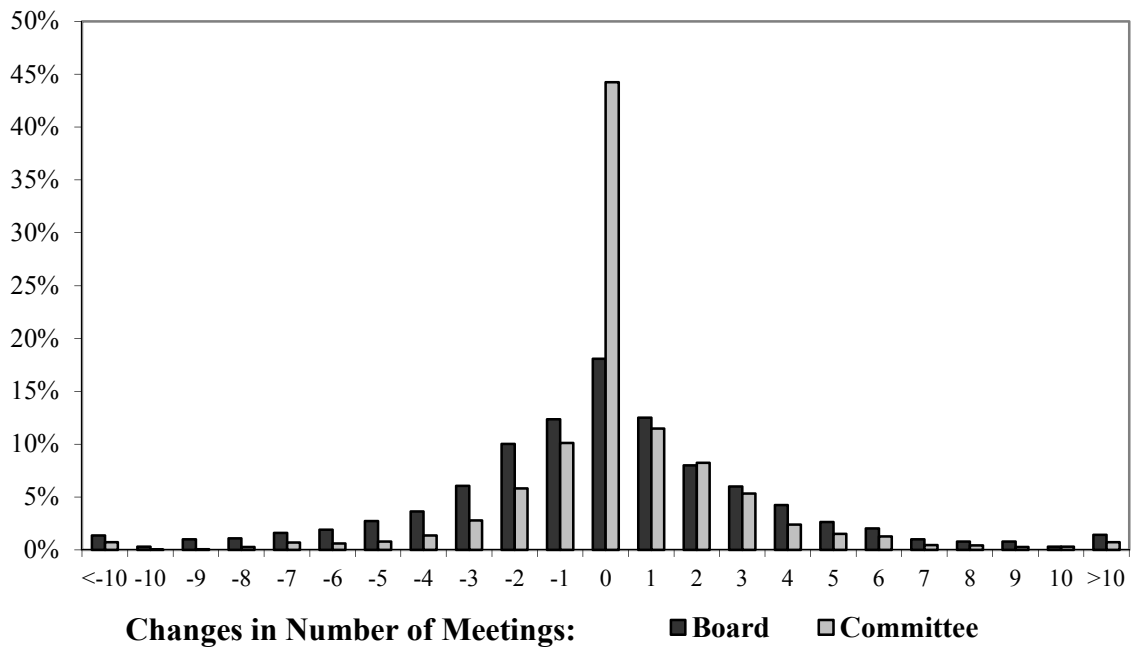


Figure 3 – Outside Directorships: Distribution of Attendance Rates

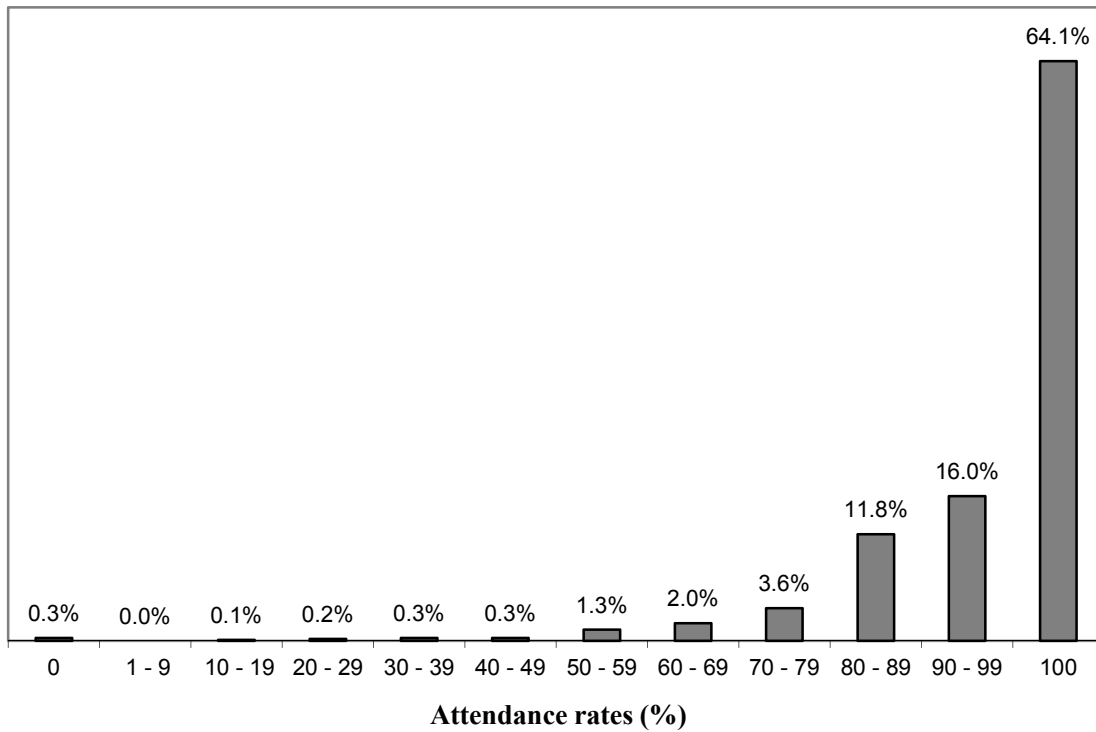


Figure 4 – Inside Directorships: Distribution of Attendance Rates

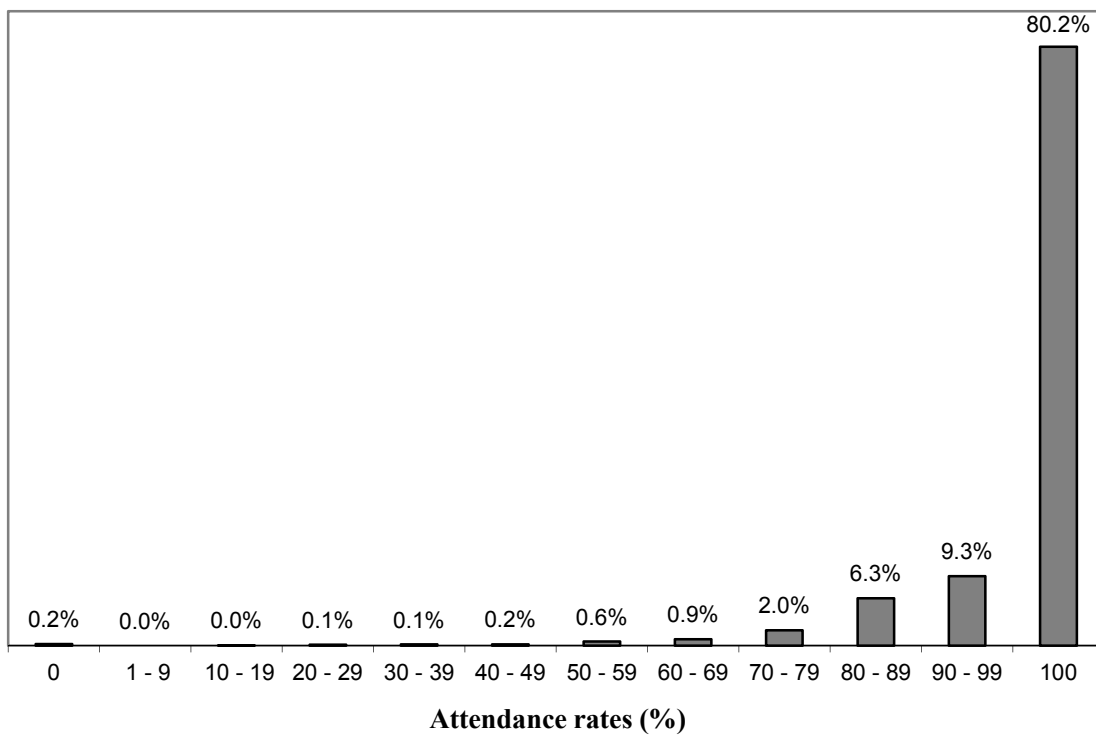


Table 1
Descriptive Statistics – Firms

The sample includes 4,132 firm-year observations of Australian Stock Exchange listed firms over the period 2004 to 2007. The Data and Variables section of the paper provides variable definitions. Data is from Connect4, Aspect and annual reports.

	Mean	Median	Min	Max	Std
Total assets (\$billions)	0.60	0.03	0	115.01	3.59
Return on assets (%)	-16.46	-2.65	-254	117	47.08
Price to book	3.29	2.09	0	17.85	3.51
Debt (%)	33.84	30.52	0	100	26.65
M&A activity	5.05	0	0	100	21.92
Equity offering	3.07	0	0	100	17.26
CEO turnover	12.20	0	0	100	32.73
Board size	5.45	5	2	16	2.05
Board independence (%)	33.20	33.33	0	100	26.51
Board females (%)	3.70	0	0	100	8.85
Duality (%)	7.94	0	0	100	27.04
Meetings	14.75	14	1	71	7.67
Board meetings	10.44	10	1	40	4.53
Committee meetings	4.31	3	0	47	5.08
- Monitoring	3.86	3	0	37	4.19
- Other	0.45	0	0	34	1.85
Board-level attendance rate (%)	95.01	96.65	34.15	100	5.95

Table 2
Descriptive Statistics – Directorships

The sample includes 12,896 directorship-firm-year observations of outside directors and 6,166 directorship-firm-year observations of inside directors from Australian Stock Exchange listed firms over the period 2004 to 2007. The Data and Variables section of the paper provides variable definitions. Data is from Connect4, Aspect and annual reports.

	Outside directorships (n=12,896)				Inside directorships (n=6,166)			
	Mean	Min	Max	Std	Mean	Min	Max	Std
Attendance rate (%)	94.02	0	100	12.29	96.80	0	100	9.34
Board attendance rate (%)	93.99	0	100	12.66	96.97	0	100	9.39
Committee attendance rate (%)	95.46	0	100	13.92	95.61	0	100	15.04
- Monitoring (%)	95.63	0	100	13.82	95.64	0	100	15.25
- Other (%)	94.35	0	100	17.29	95.40	0	100	15.00
Meetings	13.36	1	71	7.17	10.80	1	63	5.84
Board meetings	9.77	1	35	4.62	9.62	1	40	4.65
Committee meetings	3.59	0	47	4.25	1.18	0	41	2.92
- Monitoring	3.18	0	33	3.61	0.89	0	37	2.24
- Other	0.41	0	31	1.45	0.29	0	34	1.47
Director fees (\$000s)	52.27	0	4997.55	68.50	-	-	-	-
Committee fees (\$000s)	0.37	0	90.00	2.90	-	-	-	-
Other compensation (\$000s)	25.05	0	3664.89	98.28	280.15	0	17826.00	821.32
Salary (\$000s)	-	-	-	-	261.80	0	8000.00	354.00
Total compensation (\$000s)	77.69	0	4977.55	125.00	541.95	0	21057.82	1082.21
Female (%)	4.62	0	100	21.00	3.00	0	100	17.06
Independent (%)	54.92	0	100	49.76	-	-	-	-
Other directorships	0.86	0	9	1.27	0.30	0	8	0.76
CEO (%)	-	-	-	-	52.92	0	100	49.92

Table 3**Outside Directorships – Meeting Frequency and Attendance**

Tobit models relate attendance rates to the number of meetings and control variables. The sample in this analysis includes 12,896 directorship-firm-year observations of outside directors from Australian Stock Exchange listed firms over the period 2004 to 2007. Specification 4 shows change models relating changes in attendance rates to changes in meeting frequency and control variables. The sample for the change analysis includes changes in 8,078 directorship-firm-year observations. Changes are for directors that have attendance rates of at least 75 percent in each year. Models include fixed industry and year effects and robust standard errors. The Data and Variables section of the paper provides variable definitions. Data is from Connect4, Aspect and annual reports. T-statistics are shown in parentheses. Significance is denoted at 10% *, 5% ** and 1% ***.

	Tobit: Attendance rate (%)			
	(1)	(2)	(3)	(4)
Meetings	-0.28*** (-6.45)			
Board meetings		-0.72*** (-11.26)	-0.76*** (-11.73)	-0.16*** (-8.38)
Committee meetings		0.33*** (4.24)		
Monitoring committee meetings			0.53*** (5.93)	-0.06* (-1.70)
Other committee meetings			-0.17 (-0.86)	0.01 (0.13)
Director fees	0.08*** (10.74)	0.07*** (10.26)	0.07*** (10.33)	0.001 (0.59)
Committee fees	0.27*** (2.67)	0.23** (2.27)	0.22** (2.16)	0.03 (0.94)
Other compensation	0.001 (0.51)	0.003 (0.93)	0.003 (1.05)	0.0001 (0.57)
Independent	3.96*** (5.35)	3.39*** (4.57)	3.13*** (4.22)	
Female	1.46 (1.00)	1.41 (0.97)	1.43 (0.99)	
No. other directorships	0.42* (1.88)	0.40* (1.82)	0.40* (1.80)	-0.22 (-1.48)
Board size	-1.45*** (-8.81)	-1.58*** (-9.53)	-1.56*** (-9.42)	-0.14*** (-2.17)

Board independence	-6.33*** (-4.35)	-6.16*** (-4.25)	-5.93*** (-4.09)	-1.96** (-2.47)
Board females	6.00 (1.59)	3.84 (1.02)	4.08 (1.08)	-0.06 (-0.03)
Duality	0.37 (0.30)	-0.14 (-0.11)	-0.12 (-0.10)	-0.33 (-0.78)
Log (Total assets)	0.07 (0.32)	-0.17 (-0.73)	-0.19 (-0.85)	-0.37***
Return on assets	0.34 (0.42)	0.25 (0.31)	0.11 (0.13)	(-2.59) 0.62**
Price to book	0.15* (1.69)	0.07 (0.82)	0.06 (0.68)	(2.44) -0.02 (-0.87)
Debt	-1.15 (-0.84)	-1.06 (-0.78)	-1.23 (-0.90)	0.64 (1.23)
Intercept	115.20*** (33.84)	123.20*** (35.08)	123.52*** (35.18)	-0.08 (-0.88)
Log likelihood / R ²	-25952	-25906	-25897	0.02
n	12,896	12,896	12,896	8,078

Table 4
Inside Directorships – Meeting Frequency and Attendance

Tobit models relate attendance rates to the number of meetings and control variables. The sample in this analysis includes 6,166 directorship-firm-year observations of inside directors from Australian Stock Exchange listed firms over the period 2004 to 2007. Specification 4 shows change models relating changes in attendance rates to changes in meeting frequency and control variables. The sample in the change analysis includes changes in 3,274 directorship-firm-year observations. Changes are for directors that have attendance rates of at least 75 percent in each year. Models include fixed industry and year effects and robust standard errors. The Data and Variables section of the paper provides variable definitions. Data is from Connect4, Aspect and annual reports. T-statistics are shown in parentheses. Significance is denoted at 10% *, 5% ** and 1% ***.

	Tobit: Attendance rate (%)			
	(1)	(2)	(3)	(4)
Meetings	-0.82*** (-8.80)			
Board meetings		-0.85*** (-7.27)	-0.85*** (-7.23)	-0.14*** (-5.92)
Committee meetings		-0.75*** (-4.51)		
Monitoring committee meetings			-0.76*** (-3.53)	-0.21*** (-3.46)
Other committee meetings			-0.74** (-2.32)	0.03 (0.78)
Salary	0.01*** (4.67)	0.01*** (4.64)	0.01*** (4.58)	0.001* (1.79)
Other compensation	-0.001 (-1.37)	-0.001 (-1.39)	-0.001 (-1.52)	-0.0001 (-0.47)
CEO	12.25*** (10.62)	12.25*** (10.62)	12.17*** (10.57)	
Female	-0.99 (-0.29)	-0.78 (-0.22)	-0.42 (-0.12)	
No. other directorships	0.50 (0.70)	0.47 (0.65)	0.41 (0.57)	0.02 (0.07)
Board size	-2.84*** (-8.32)	-2.86*** (-8.35)	-2.88*** (-8.41)	-0.15 (-1.57)
Board independence	-3.95* (-1.64)	-4.26* (-1.76)	-4.76** (-1.97)	0.70 (0.75)

Board females	3.67 (0.48)	3.58 (0.47)	3.06 (0.40)	-0.18 (-0.07)
Duality	2.62 (1.32)	2.21 (1.12)	1.68 (0.86)	-0.13 (-0.24)
Log (Total assets)	0.47 (0.98)	0.52 (1.07)	0.61 (1.27)	-0.11 (-0.67)
Return on assets	0.86 (0.54)	0.79 (0.50)	0.30 (0.19)	-0.07 (-0.21)
Price to book	0.03 (0.17)	0.02 (0.14)	0.02 (0.12)	-0.02 (-0.53)
Debt	-0.05 (-0.02)	-0.07 (-0.03)	-0.21 (-0.09)	-0.14 (-0.21)
Intercept	134.58*** (17.73)	134.33*** (17.61)	132.91*** (17.44)	0.06 (0.68)
Log likelihood / R ²	-7478	-7478	-7479	0.02
n	6,166	6,166	6,166	3,274

Table 5
Subsequent Changes in Firm Performance

This table displays changes in return on assets from the current period to the subsequent period when firms hold more meetings, board meetings and committee meetings in the current period. Change in return on assets is divided into two categories, when the board-level attendance rate improves and when the board-level attendance rate stays the same or decreases. Results are shown for all observations with sufficient data and for a sub-sample of observations of firms with poor performance (when firm return on assets is lower than average industry return on assets) in the current period. Mean tests are for differences in means between the two categories, with t-values reported. The number of observations in each category is shown in square parentheses. Data is from Connect4, Aspect and annual reports. Significance is denoted at 10% *, 5% ** and 1% ***.

	Δ Return on assets _{t+1}		Difference (t-statistic)
	Δ Board-level attendance rate _t >0	Δ Board-level attendance rate _t <=0	
<i>All observations</i>			
Δ Meetings _t >0	1.49 [452]	-3.42 [631]	4.91* (1.70)
Δ Board meetings _t >0	1.47 [365]	-3.85 [598]	5.32* (1.68)
Δ Committee meetings _t >0	-0.01 [363]	-1.63 [428]	1.62 (0.63)
<i>ROA_t < Industry ROA_t</i>			
Δ Meetings _t >0	18.32 [122]	2.33 [227]	15.99** (2.03)
Δ Board meetings _t >0	19.04 [97]	2.59 [210]	16.45* (1.88)
Δ Committee meetings _t >0	11.34 [80]	4.43 [123]	6.91 (0.85)