Getting CFO on Board - Its Impact on Firm Performance and Earnings Quality

Abstract

Purpose - This paper investigates the impact of Australian CFOs as board insiders on firm performance and earnings quality with reference to agency theory and theory of friendly board.

Design/methodology/approach - The OLS, 2SLS and PSM regressions are performed with various proxies for firm performance and accruals quality.

Findings - Firms with CFOs as board insiders experience significantly lower firm performance and earnings quality. In firms with powerful CEOs, the negative impact of CFO board membership on earnings quality is further magnified. Additionally, the negative impact of CFO board membership on firm values and earnings quality is only present in firms with bigger boards or firms with less outside directors. Our findings are consistent with the agency perspective and in sharp contrast to the US market.

Originality/value - This is the first Australian study to examine the impact of CFO board membership on firm performance and earnings quality. Our findings suggest that the monitoring of executives is best done by a small or independent board and that the insider board membership should be optimised.

Keywords: CFO Board Membership, Firm Performance, Earnings Quality, CEO Power, Board Monitoring

JEL classification: G34, M41.

1 Introduction

In past decades, the role of Chief Financial Officers (CFOs) has changed substantially. CFOs now actively develop and define their firms' overall strategies instead of simply overseeing the financial aspects (Zorn 2004). A large number of public firms now position their CFOs as board members with fiduciary director responsibilities. There is empirical evidence in the US literature that CFOs' influence on firms' financial management can be stronger than that of the CEOs (Jiang et al. 2010, Chava & Purnanandam 2010). The literature on corporate board governance reveals that board composition, such as the representation of outside or female directors on the board, can have a substantial effect on firm outcomes (Adams & Ferreira 2009). We continue with this line of research by investigating the impact of appointing CFO as a board member on firm performance and earnings quality in Australia.

We study the relation between CFO board membership and firm outcomes within the Australian setting for a number of reasons. Firstly, the significance of the CFO function in Australian organisation has been crystallised after the enactment of legislation imposing a statutory duty on CFOs. Section 295A of the Corporations Act requires both Chief Executive Officers (CEOs) and CFOs to attest to the truth and fairness of published reports.[1] The legislative elevation of CFOs to the same level of financial oversight responsibility expected of CEOs enables the former to be treated as a unique and relatively homogeneous role within the executive ranks. Secondly, given the increasing awareness of the significance of CFOs after the collapse of high-profile corporations such as Enron in the US, HIH Insurance and Harris Scarfe in Australia, it is important to assess whether a CFO who holds a seat on the board of directors influence firm performance and earnings quality, both of which encompass the CFOs' areas of authority. Thirdly, although there are a number of studies in the US that investigate the effect of CFO board membership on firm outcomes (Mobbs 2014, Bedard et al. 2014), it is important to see whether the US findings apply in Australia given the differences in the two markets.[2] For example, the proportion of CFOs who are board members is about five times higher in Australia than the US. Our data show that approximately 42% of the Australian boards have CFOs as board members, whereas this proportion for the US boards is roughly 8% (Bedard et al. 2014). The higher percentage of CFO board members may be subject to less scrutiny by stakeholders in Australia compared with their US counterparts.

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[1] Section 302 of the Sarbanes-Oxley Act is the equivalent legislation in the US about the legislative elevation of CFOs.

[2] It is acknowledged that both countries have similarities, such as similar market structures and corporate participants, and a regulatory framework that requires both CEOs and CFOs to certify firms' financial reports.

Clement & Tse (2005) show that the accuracy of analysts' forecasts is reduced substantially when they have to deal with a number of companies and industries. This indicates that Australian CFOs are likely to create more insider power and could potentially have different influence on firm outcomes compared with their US counterparts. In addition, the regulatory framework for earnings management in Australia generally follows a "principle-based" approach and provides a lower level of scrutiny than that in the US (Wilson 2011).[3] This could potentially make it easier for Australian CFOs with board membership to use their increased power to influence earnings management to benefit themselves at the expense of their shareholders.

There are two contradicting views on the influence of CFOs as board members. Agency theory argues that adding insiders to the board reduces its effectiveness, thus negatively affecting corporate performance and financial reporting quality (Finkelstein 1992, Klein 2002). In contrast, friendly board theory (Adams & Ferreira 2007) claims that insiders can contribute to a board's effectiveness by sharing better communication and collaboration. Under this perspective, the appointment of the firm's CFO on the board of directors may have a positive effect on firm outcomes (Mobbs 2014, Bedard et al. 2014).

We investigate the effect of having CFOs as board insiders on firm performance and earnings quality in connection with both theories using a sample of Australian exchange-listed firms over the 2006-2010 period. Firm performance is controlled by return on assets (ROA), return on equity (ROE) and firm annual stock return. There are two measures of earnings quality: the absolute value of forward-looking discretionary accruals (DA) from the modified Jones (1991) model, and the accrual estimator errors (AEE) developed by Dechow & Dichev (2002). We find that companies with CFOs on the board have significantly lower firm performance and earnings quality. Our findings are contrary to the US evidence (Mobbs 2014, Bedard et al. 2014) and support the agency argument that CFO board membership contributes to insider power on the board. We also find that the negative impact of CFO board membership on earnings quality is further magnified in firms with powerful CEOs, suggesting powerful CEOs may have pressured CFOs to bias earnings reports. Our results are robust to different measures of firm performance and earnings quality, and to tests for endogeneity. We further examine two plausible governance monitoring mechanisms through which CFO serving on

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[3]For example, Section 301 of the Sarbanes-Oxley Act requires that all audit committees of exchange-listed US firms consist of solely independent directors, and at least one member must have accounting or financial expertise. There is, however, no equivalent legislation in Australia about this matter, and Australian firms are merely advised to follow best practice guidelines issued by the Australian Securities Exchange (ASX).

board can negatively affect firm performance and earnings quality. We find that the negative impact of CFO board membership on firm values and earnings quality is only present in firms with bigger boards or firms with less non-executive directors.

Our study contributes to the literature in a number of ways. This is the first Australian study to investigate the effect of CFO board membership on firm performance and earnings quality with reference to both agency and friendly board theories. We differentiate between CFOs as board insiders and other board directors when examining the impact on firm outcomes. Treating all of the directors on the board as a single group implies similarity, yet CFOs differ from other corporate executives due to their specialised role and knowledge in the financial reporting function. It is especially important since the legislative elevation of CFOs to the same level of financial responsibilities as CEOs. Prior literature mainly concentrate on the influence of CEOs on financial reporting quality (Jiang et al. 2010). There has been no research in Australia to date on the fiduciary responsibilities of CFOs who are board members and our study attempts to fill this gap. Our second contribution is to relate the literature of CEO power to CFO fiduciary duties as CFOs need to report directly to CEOs (Mian 2001). By incorporating proxies of CEO power, we find that powerful CEOs have pressured CFOs to bias the earnings report. Our last contribution is to examine two underlying governance monitoring channels (board size and board independence) through which the presence of CFOs on board can negatively impact firm values and earnings quality. This negative association is disappeared in firms with smaller boards or firms with more outside directors. Our results suggest that CFO board membership should be optimised as it is detrimental to firm outcomes unless the board of directors is active in monitoring.

The rest of our study is structured as follows. Section 2 provides an overview of the literature and hypothesis development. In Section 3, data sample and research methodology are presented. The empirical results are discussed in Section 4, followed by a number of robustness tests. Section 5 presents concluding remarks.

2 Literature review and hypothesis development

2.1 Background

The literature on board governance reveals that the composition of a firm's board of directors can influence firm performance and financial reporting quality (e.g. Wang & Oliver 2009, Be-

dard et al. 2014). Liu et al. (2015) show a significant association between board independence and firm value. Yermack (1996) documents that companies with smaller boards have higher firm performance and more favourable financial ratios. Cheng (2008) finds board size is negatively associated with stock returns, ROA and accounting accruals. Masulis et al. (2012) show that firms with foreign independent directors (FIDs) on the board exhibit significantly lower ROA. Bae et al. (2012) find that Asian firms with weaker corporate governance experienced a larger drop in their share values during the 1997 Asian financial crisis.

Prior literature on the effect of corporate governance on earnings management generally indicate that the composition of the board can improve the estimation of accounting accruals by senior managers. It is well-documented that the presence of independent outside directors on the board reduces the use of discretionary accruals (Klein 2002, Peasnell et al. 2005, Cornett et al. 2008). Firms with female directors on the board (Srinidhi et al. 2011) or firms whose CFOs hold board seats (Bedard et al. 2014) exhibit higher accruals quality. Previous research also shows that the structure of a firm's audit committee can influence earnings quality. Klein (2002) documents that the independence of the audit committee leads to lower magnitudes of discretionary accruals. Badolato et al. (2014) argue that an active, well-functioning, and well-structured audit committee may be able to prevent earnings management. In particular, they show that audit committees with both financial expertise and high relative status are associated with lower levels of earnings management, as measured by accounting irregularities and abnormal accruals.

2.2 CFO board membership

With the legislative elevation of CFOs to the same level of financial oversight responsibility as CEOs, it is arguable that CFOs can significantly influence their firm performance and earnings quality. Many studies show that CFOs play an active role in controlling abnormal accruals. Geiger & North (2006) find that a firm's discretionary accruals are reduced during the appointment of a new CFO. Dichev et al. (2013) indicate that 99.4% of CFOs (in a survey of 169 CFOs) believe that at least some firms manage earnings. Dejong & Ling (2013) demonstrate that CFOs tend to have a larger influence on abnormal accruals than CEOs after controlling for firm policy decisions. Sun et al. (2017) find an association between inflated earnings and CFO characteristics such as age, gender and educational backgrounds.

There is documented evidence in the literature that CFOs can have an important impact

on firm performance. Girigori (2013) shows that CFO expertise can significantly affect firm profitability. Wang et al. (2012) find that CFO purchases are followed by more positive future earnings surprises than those made by CEOs, suggesting trades made by CFOs are more informative about future stock returns than those made by CEOs. In summary, the literature shows that CFOs could significantly influence earnings management and firm profitability. This suggests that the appointment of CFOs on the board of directors may also affect firm outcomes. CFO board membership can create more insider power on the board as the CFOs can vote on many important corporate issues. This creates interdependency similar to that created when the CEO chairs the board meeting (Bedard et al. 2014).

Agency theory argues that having board membership could provide executives with more power and influence (Finkelstein 1992), thereby reducing the board's independence in exercising its monitoring role. The literature shows that less board independence can have a significantly negative effect on firm performance and earnings quality because the executive (as a board insider) can align with the CEO against the shareholders' best interests (Klein 2002). CFOs holding board seats could hence reduce the board's effectiveness, which is detrimental to corporate performance and reporting quality.

In contrast, friendly board theory, which is advanced by Adams & Ferreira (2007), claims that board's advisory role is more effective when management shares more information. Several studies find that firm performance improvements are associated with greater involvement of insiders on the board. For example, Klein (1998) finds that insiders on the finance and investment committees are related to higher firm stock market returns. Similarly, Adams et al. (2005) document that a lack of insiders on the board is associated with increased volatility of firm performance. Board seats allow CFOs to share more relevant financial information with other board members, which may strengthen the board's advisory role. Under this perspective, CFOs holding board seats may improve companies' overall performance and enhance the quality of financial reporting.

There is evidence in the US literature that firm performance and financial reporting quality are positively influenced by boards that include their CFOs. Bedard et al. (2014) document that companies with CFOs who hold board seats exhibit higher earnings quality. Their result implies that the CFOs in those firms perform their roles better than other CFOs. Mobbs (2014) argues that CFOs are granted board seats for strategic purposes, and that firms with

CFOs as board insiders are associated with improved operating performance. Their results generally supports the theory of friendly board. However, Collins et al. (2018), guided by managerial power theory and the theory of power and self-focus, find that firms with powerful CFOs with short pay durations tend to experience lower level of earnings quality. To date, there is no Australian evidence on the effect of CFO board membership on firm outcomes. Given the conflicting results in the US literature, we propose the first non-directional hypothesis regarding the impact of CFO board membership on firm performance and earnings quality in the Australian setting as follows:

H_{1a}: There is an association between CFO board membership and firm performance.

H_{1b}: There is an association between CFO board membership and earnings quality.

Mian (2001) additionally shows that CEOs hold power over CFOs since CFOs need to report to the CEOs for a diverse set of business activities as part of their fiduciary duties to the shareholders and the board. CEO power can be used in pressuring the CFO to manipulate the reporting system and overstate the performance (Friedman 2014). Our study further investigates whether the relationship of CFO board membership on firm performance or earnings quality is impacted by CEO power. We state the second non-directional hypothesis regarding the moderating impact of CEO power on the association between CFO board membership and firm performance and earnings quality as follows:

H_{2a}: The association of CFO board membership and firm performance is moderated by CEO power.

H_{2b}: The association of CFO board membership and earnings quality is moderated by CEO power.

3 Data and methodology

3.1 Research method

The following model is estimated to examine the association of CFO board membership with firm performance (H_{1a}), or with earnings quality (H_{1b}):

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\begin{aligned}
FirmPerformance/EarningsQuality = {} & \gamma_0 + \gamma_1(CFOBoard) + \gamma_k(CFOCharacteristics) \\
& + \gamma_m(CorporateGovernance) + \gamma_n(FinancialVariables) \\
& + [YearDummies] + [IndustryDummies] + \epsilon
\end{aligned}
\tag{1}
$$

To measure firm performance, we use both accounting and stock market returns: return on assets (ROA), and return on equity (ROE), and firm's lagged annualised average weekly stock return (*Stock return*). We use two measures for the extent to which managers use their flexibility with accruals to manage earnings. The first measure is the absolute value of forward-looking discretionary accruals (DA) from the modified model of Jones (1991), developed by Dechow et al. (2003). A higher absolute value of discretionary accruals signifies lower earnings quality.[4]. The second measure of earnings quality is based on the accrual estimator errors (AEE) developed by Dechow & Dichev (2002). This measure maps accruals with past, current and future operating cash flows, and is calculated as a standard deviation over the last five years, where a higher standard deviation denotes lower earnings quality.

Our main variable of interest, *CFO Board*, is a binary variable equal to 1 if the firm CFO is on its board of directors. If the agency perspective is prevalent, more CFO participation on the board might be detrimental to firm performance, thus the coefficient of the *CFO Board* variable is expected to be significantly negative. Alternatively, as a member of the board, the CFO can potentially leverage the knowledge and experience of other board members and extract valuable strategic inputs to improve overall firm performance. Under the theory of friendly board, the presence of the CFO on their firm board is positively associated with firm performance. The coefficient of the *CFO Board* variable is consequently expected to be significantly positive for all types of firm performance measures. The agency perspective also suggests that CFOs with board membership might take advantage of the flexibility in accruals to manipulate earnings and reduce financial reporting quality. As a result, a significantly positive association is expected between *CFO Board* and all measures of earnings quality (DA and AEE) under the agency approach. However, the theory of friendly board contends that CFOs sitting on the board can better collaborate with other board members, and consequently develop better plans and obtain more resources to address any identified problems in the financial reporting process. Accordingly, the coefficient of the *CFO Board* variable should be significantly negative for both DA and AEE measures under the theory of friendly board.

To test for hypotheses H_{2a} and H_{2b}, we introduce proxies of CEO power and the interaction

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[4]Besides accruals quality, a number of studies in the literature have used other proxies for financial reporting quality such as disclosed internal control weaknesses or accounting restatements (Aier et al. 2005, Chan et al. 2008). It is, however, not possible to obtain data on disclosed internal control weaknesses or accounting restatement in Australia. Therefore, our analysis focuses on accruals quality as a proxy for financial reporting quality. Chan et al. (2008) find that firms reporting material internal control weaknesses are more likely to have higher absolute discretionary accruals than other firms.

variables between CEO power and *CFO Board* into equation (1).

$$
\begin{aligned}
FirmPerformance/EarningsQuality = {} & \alpha_0 + \alpha_1(CFOBoard) + \alpha_i(CEOPower) \\
& + \gamma_j(CFOBoard * CEOPower) + \alpha_k(CFOCharacteristics) + \\
& + \alpha_m(CorporateGovernance) + \alpha_n(FinancialVariables) \qquad (2)\\
& + [YearDummies] + [IndustryDummies] + \epsilon
\end{aligned}
$$

Friedman (2014) lists a number of empirical proxies for CEO power including the presence of CEO on the board and in particular board sub-committees. We use two proxies for CEO power, namely, *CEO Duality* and *CEO Nominating* (a dummy variable if the CEO is also the chairman of the board, and if the CEO is also a member of the nominating committee, respectively). It is expected that a CEO who also acts as the chairman will be able to have more influence over the board. Similarly, a CEO who also sits in the nominating committee should be able to influence the selection of new directors who may feel compelled to act in the interest of the CEO. To investigate the impact of CFO board membership on firm performance and earnings quality in firms with powerful CEOs, we interact the *CFO Board* variable with the *CEO Duality* and *CEO Nominating*.

The remaining independent variables in model (1) and (2) are from the literature and provide controls for CFO characteristics, corporate governance and firm financial characteristics (Larcker et al. 2007, Srinidhi et al. 2011). Table 1 contains definitions of control variables. For each dependent variable, we estimate two regressions as two independent variables, *Board Size* and *AC Size*, are included alternatively due to the high degree of correlation between these variables. In all regressions, we also control for industry and time fixed effects due to the differences in firm performance and earnings quality across industries and over time. Following Petersen (2009), we estimate the standard errors of the coefficients using clustered standard errors in each regression, as this method better accounts for the dependence in a panel data set.

[Insert Table 1]

3.2 Sample and descriptive statistics

Our sample is drawn from the All Ordinaries Index which consists of the largest companies by market capitalization on the ASX. The period of our study is for the years 2006-2010[5]

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[5]Our sample starts from the year 2006 since corporate governance data in Australia is generally not available until the early 2000s. Furthermore, most of the data on CFO board membership and CFO characteristics (approximately two-thirds of the sample firms) cannot be extracted from electronic databases. The high level of manual collection of the required data from company annual reports results in a five-year sample period. In addition, our sample covers the period 2006-2010 which timely captures the impact of GFC on firm

and information is obtained from the S&P Capital IQ database. Data on CFO board membership, CFO characteristics and corporate governance are originally sourced from the S&P Capital IQ and SIRCA Corporate Governance databases. The companies' annual reports are manually checked to obtain the required information when it is not available on the electronic databases. Firm financial information is extracted from the DatAnalysis database. Companies with joint CEOs or change in CEOs during any financial year are excluded from our sample. The final sample contains 510 firm-year observations for firm performance analysis, 418 observations for *DA* analysis, and 334 observations for *AEE* analysis. The sample deviation is summarised in Panel A of Table 2. Panel B of Table 2, which shows the breakdown of firms with CFOs on the board classified by industry, indicates that 41.57% of the firms in our sample include their CFOs as board members. The proportion of Australian firms that include their CFOs on their boards is four to five times larger than that reported in the US.[6]

[Insert Table 2]

Table 3 shows the descriptive statistics of all variables. It reveals significant differences between firms with and without CFOs on the board. CFOs who are board insiders have, on average, higher stock ownership (0.33% versus 0.09%) and stay longer in their positions (6.24 versus 4.65 years). For firms with CFOs on their boards, the board is less independent and larger, and the size of the audit committee is slightly smaller. With reference to firm financial characteristics, firms with CFO board memberships have been incorporated longer, have more financial leverage, higher growth opportunity (M/B ratio) and lower levels of capital expenditures to sales. Firms with their CFOs on the boards are also, on average, less likely to incur a net loss (18.65% versus 30.76%) and tend to have a higher ratio of inventory and receivables to total assets (0.26 versus 0.16). The volatility of ROA, of cash flows to total assets and of sales to total assets are all higher among firms with CFOs on their boards than their counterparts. The median figures of both (inverse) measures of earnings quality are higher in firms with CFOs having board membership (0.10 versus 0.07 for the *DA* measure and 0.074 versus 0.051 for the *AEE* measure), implying that earnings quality is lower in those firms. Firms with CFOs as board insiders also have lower stock market returns with average figures of 5.95% versus 13.27%. However, the difference between the two groups of firms is not significant for the accounting performance (*ROA* and *ROE*), firm size, the proportion of financial expertise on the audit committee, the proportion of CEOs being the chairman of

the board, and the proportion of CEOs being a member of the nominating committee.

[Insert Table 3]

4 Empirical results

4.1 Firm accounting and stock performance

Table 4 presents the results of the association between CFO board membership and firm performance. Panel A of Table 4 reveals that the coefficient of the *CFO Board* variable is significantly negative for *ROA* and *ROE* when the *AC Size* is used in the regression instead of *Board Size*.[7] Firms with CFO as board insiders have ROA (or ROE) 5% (or 6%) lower than that of firms without CFO board membership. There is also a negative relationship between CFO board membership and stock market performance at the 5% significance level. Controlling for other factors, firms with CFO board memberships have around 11% lower annual stock returns than those without. These results support our hypothesis H_{1a}, and are consistent with the univariate results presented in Table 3. They are, nevertheless, contrary to the results in the US market (Mobbs 2014) where the presence of a CFO on the board results in better firm operating performance. Our results instead provide support for agency theory which indicates that CFOs on the board do not always act in shareholders' best interests, which can result in decreased firm performance.

[Insert Table 4]

In Panel B of Table 4, similar results are observed for *CFO Board* variable, but proxies for CEO power (*CEO Duality* and *CEO Nominating*) are negative but not significant on all measures of performance. The interaction variables between *CFO Board* and two variables of CEO power are, however, insignificantly positive. Our result does not support the hypothesis H_{2a}. It implies that the negative impact of CFO board membership on firm performance is reduced in firms with powerful CEOs though the reduction is not statistically significant. For example, the coefficients of *CFO Board* and *CEO Nominating* variables are -0.05 and -0.01 in the regression of ROA (Column (1) of Panel B). Those coefficients in firms with CFO having board membership and CEO sitting on the nominating committee becomes -0.02 (-0.05 + 0.03) and 0.02 (-0.01 + 0.03), respectively.

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[7]The negative relationship between firm performance and the size of its board of directors is well-document in the literature (Yermack 1996). Table 3 indicates that firms with CFOs on the board have significantly bigger board size than firms without. To address this possible endogeneity issue, we perform the propensity matching score (PSM) procedure which control for firm size, leverage, firm age, board size, industry and year (see Section 4.3.5 for details). The regression results of PSM sample show that *CFO Board* variable is significantly negative when including either *AC Size* or *Board Size* variable.

The results for our control variables are generally consistent with the literature. The coefficient of the *Board Size* variable is significantly negative for both measures of accounting performance and consistent with Yermack (1996)'s suggestion that firms with larger boards perform worse than those with smaller boards. A positive relationship is found between the audit committee size and firm stock market performance, suggesting that having more members in the audit committee provides more effective monitoring, and improving firm stock market performance. There is a negative association between leverage and ROA, implying that the cost of bankruptcy in highly financial-levered firms may have a negative effect on firm value (Horne 2002). The coefficient of the *CAPEX/Sales* variable is found to be significantly negative for accounting performance measures, as capital expenditures reduce net income and lead to lower firm value. Firms with higher growth opportunities (proxy by *M/B ratio*) are found to have significantly higher stock performance. Mature firms (proxy by *Firm Age*) are positively related to measures of accounting performance. We find firm size to be positively associated with accounting performance, but negatively related to stock market performance. Our finding of a negative relationship between firm size and the stock market return is consistent with the well-known size effect, whereby smaller firms persistently, on average, generate higher stock returns (Banz 1981).

4.2   Earnings quality

The results of analysing earnings quality are presented in Table 5. Panel A of Table 5 shows significantly positive coefficients of *CFO Board* for both (inverse) measures of earnings quality (*DA* and *AEE*). Our results provide support for the hypothesis H_{1b}, implying that the quality of earnings is lower for firms with CFOs serving on the board of directors than that for other firms. They are consistent with the univariate tests in Table 3, but are in contrast to the evidence presented in the US market by Bedard et al. (2014). Our findings again support the agency perspective that CFOs with seats on the board could potentially use their increased power to add more bias into the financial reporting process.

[Insert Table 5]

In Panel B of Table 5, proxies for CEO power (*CEO Duality* and *CEO Nominating*) are positive but not significant on all measures of earnings quality. While the interaction variable between *CFO Board* and *CEO Duality* are significantly positive for both measures of earnings quality, the interaction between *CFO Board* and *CEO Nominating* is positive but

only significant in the case of discretionary accruals. Our results support the hypothesis H_{2b}, suggesting that the positive relationship between CFO board membership and (inverse) measures of earnings quality is further enhanced in firms with powerful CEOs. For instance, the coefficients of *CFO Board* and *CEO Duality* variables are 0.04 and 0.01 in the regression of *AEE* (Column (3) in Panel B). Those coefficients in firms with CFOs as board insiders and CEOs as chairman of the board becomes 0.17 (0.04 + 0.13) and 0.14 (0.01 + 0.13), respectively. Our findings support the argument of Friedman (2014) that CFOs are subject to more pressure to bias earnings reports in firms with powerful CEOs.

Consistent with prior studies on earnings management (Dechow & Dichev 2002, Cornett et al. 2008), firm size is significantly negative, indicating that larger firms are associated with higher quality of earnings. This is probably due to the management in larger firms facing more scrutiny from regulators, which may cause them to be less involved in managing accruals. Board size is positively related to *DA*, signifying that firms with larger boards are associated with greater use of earnings management. This is consistent with Yermack (1996)'s conclusion that smaller boards are more effective monitors than larger boards. The negative relationship between firm leverage and *AEE* indicates that companies with high financial leverage deliver higher earnings quality. This is likely due to the degree of lender monitoring, and managers in these firms, therefore, may be less likely to use income-increasing or income-decreasing abnormal accruals. Similar to Klein (2002), we find that *DA* is positively associated with *M/B ratio*, indicating that growth companies are more likely to have higher discretionary accruals. We also find a negative relationship between *Firm Age* and *DA*, implying that more mature companies have better earnings quality (Ashbaugh-Skaife et al. 2007). The coefficients of *Prop. Loss Years* and *Std dev(Sales/TA)* variables are positive, suggesting that firms with more years of reported net loss or firms with higher sales volatility experience lower quality of earnings (Dechow & Dichev 2002).

4.3 Robustness tests

4.3.1 Global Financial Crisis (GFC) effect

We replace the fixed time effect in the regression models (1) and (2) by another variable, *During GFC* (a binary variable to indicate if firms are in the crisis period (2008 or 2009)), to control for the impact of GFC on firm performance and earnings quality. We re-run the regression models (1) and (2) and find similar results to those reported in Table 4 and 5.

4.3.2 Alternative measures of firm performance

We perform additional sensitivity tests using different measures of firm stock return: (i) annual stock return; (ii) industry-adjusted stock returns which capture firms' annual excess returns on their GICS industry sectors.[8] The new regressions yield coefficient estimates similar to those shown in Columns (5) and (6) of Table 4. Additionally, we re-run Table 4 with dependent variables being ROA_{t+1}, ROE_{t+1} and $StockReturn_{t+1}$ since governance structures can be associated with firms' future performance (Larcker et al. 2007). We find similar results to those presented in Table 4.

4.3.3 Alternative measures of earnings quality

The DA variable is re-estimated with two alternative models: (i) the forward-looking Jones model developed by Kothari et. al (2005); (ii) the margin model developed by Peasnell et al. (2000). We find similar results to those reported in Columns (1) and (2) of Table 5, indicating our results are robust with respect to alternative accruals models.

The AEE variable is originally calculated as the standard deviation of the residuals over the last five years (Dechow & Dichev 2002). We change the calculation of the AEE variable to the absolute value of the residuals (Ittonen et al. 2013). The different measure of AEE also produces similar results to those presented in Column (3) and (4) of Table 5, with comparable coefficient estimates in both sign and magnitude.

The proxy of accruals management is replaced by a variable that captures the effects of real earnings management as firms can also manage earnings by altering their real activities (Roychowdhury 2006). We following Duong & Evans (2015)'s method to compute a measure of total effects of real earnings management (REM). The higher absolute value of REM, the more likely that the firm is engaging in manipulations of real activities. Table 5 is replicated with the absolute value of REM, instead of DA and AEE variables. We find similar results to those presented in Table 5, suggesting that our results are robust to alternative measures of earnings management.

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[8]The data on the returns of 10 GICS industry sectors are obtained from the S&P/ASX 200 index.

4.3.4 Two-stage least-squares (2SLS) regression

We use a two-stage instrumental variable approach to address the potential endogeneity issue among corporate governance structures which are developed through choice, for example, the CFO board insider variable, and other firm characteristics. Our instrument variable, *CFO Tenure*, satisfies the necessary conditions for being a valid instrument.[9] We replicate the regressions of Table 4 and Table 5 using the 2SLS procedure with *CFO Tenure* as the instrumental variable. Overall, the 2SLS regressions produce coefficient estimates of the same sign, similar magnitudes and significance levels.

4.3.5 Propensity score matching (PSM) analysis

To address the endogeneity concern and potential selection bias of CFOs with board membership not being randomly assigned to firms, we use PSM procedure to match firms with CFO board membership and firms without. In each year, we run a logit regression to model the probability of a firm having CFO board membership with independent variables being firm size, leverage, firm age and board size, controlling for industry effects. For each firm with CFO having board seat, we choose a control firm with CFO not having board membership by performing a one-to-one nearest neighbor match with replacement. The matching procedure is based on the closest propensity score with a caliper width of 0.10. We pool the treatment sample (firms with CFO board membership) and the matched sample[10] (firms without CFO board membership) together and re-estimate the regression models (1) and (2). We find similar results to those reported in Table 4 and Table 5: the presence of CFO on board negatively affect firm performance and earnings quality.

4.3.6 Governance monitoring mechanisms

We explore two governance mechanisms through which CFO serving on board can negatively affect firm performance and earnings quality. As indicated in Section 2.1, board size and board independence have significant influences on earnings management and firm value.

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[9]There is a strong association between the CFO's presence on the board and the experience with the CFO's own firm. Univariate tests (Table 3) show that CFO tenure is significantly higher for firms with their CFOs on the board. The logistic regression of CFO board membership against a list of factors that can be associated with the CFO's presence on the board also confirms this finding. Furthermore, Bedard et al. (2014) show that CFO tenure can be an appropriate instrumental variable when investigating earnings quality. In addition, the post-estimation test for weak instruments (the Cragg-Donald Wald F test) found that our instrument, *CFO Tenure*, is valid.

[10]Untabulated results show that there is insignificant difference between the treated firms and the matched firms.

Jensen (1993) contends that non-executive directors in bigger boards are less likely to function effectively and it is easier for executives to influence the board's decisions. Cheng (2008) indicates that both coordination/communication problems and agency problems become more severe as a board grows larger. We thus postulate that if smaller boards are better in monitoring executives, the negative impact of CFO board membership on firm value and earnings quality is only apparent in firms with bigger boards. As such, we separate our original sample into two subsamples: bigger boards (i.e. firms with board size being equal or greater than the sample median[11] of 8) and smaller boards (i.e. firms with board size less than the sample median). We then replicate the regressions of Table 4 and Table 5 on those two subsamples of board size.[12] It is found that *CFO Board* variable is only significant in the bigger board sample, implying that the negative effect of CFO board membership on firm values and earnings quality is largely driven by larger boards which are less effective in monitoring.

Board independence is also considered as another important monitoring tool of internal governance mechanisms as independent directors limit insider self-dealing and improve efficiency. Peasnell et al. (2005) suggest that outside directors contribute towards the integrity of financial statements while Liu et al. (2015) find board independence increases firm performance. We argue that if board independence is an effective monitoring mechanism, the negative influence of CFOs as board insiders is only visible in firms with less independent boards. We hence divide our original sample into 2 subsamples: less independent boards (i.e. firms with proportion of executive directors on board (*Insider Ratio*) being equal or greater than the sample median of 0.375) and more independent boards (i.e. firms with *Insider Ratio* less than the sample median), and re-estimate the regressions of Table 4 and Table 5 on those two subsamples. The coefficient estimates of *CFO Board* are found only significant in the "less independent board" sample, whereas they are insignificant in the "more independent board" sample. This evidence suggests that the negative impact of CFO board membership on firm performance and earnings quality is disappeared in firms with board independence which are more actively engaged in monitoring.

5   Conclusion

This paper investigates whether CFOs who become board members with fiduciary director responsibilities influence firm performance and earnings quality, with reference to the agency

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[11]Jensen (1993) also indicates that board is big when contains more than 7 or 8 directors.

[12]Results will be available upon request.

perspective and friendly board theory. Our work focuses on CFOs since there has been a significant shift in their roles in the last two decades, from undertaking operational responsibility to developing and instigating strategic changes.

We find that having the CFO on the board does not improve firm outcomes. Firms with CFO board membership have significantly lower performance and earnings quality. Moreover, powerful CEOs tend to put more pressure on CFOs to bias earnings report. Firms with powerful CEOs show further negative relationship between CFO board membership and earnings quality. Our findings are consistent with the prediction of agency theory but contrary to the US market, where CFO board members are more likely to lead to positive firm outcomes, likely due to enhanced director communication. We further document that the negative relationship between CFO board membership and firm performance (or earnings quality) is driven by bigger boards or boards with less independent directors. Our results have implications for boards to decide whether awarding board memberships to their CFOs will enhance the firms' monitoring effectiveness and outcomes.

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Table 1: Variable definitions.

Variables	Definition
Firm accounting and stock performance	
ROA	Earnings before tax divided by total assets.
ROE	Earnings before tax divided by book value of shareholders' equity.
Stock return	Firm annual stock return, calculated as the lagged annualised average weekly returns.
Earnings quality	
Discretionary Accruals (DA)	The absolute value of the difference between total accruals (measured as the difference between firm earnings and operating cash flows, scaled by total assets in previous year) and estimated forward-looking non-discretionary accruals from the modified Jones model which was developed by Dechow et al. (2003).
Accrual Estimation Errors (AEE)	The standard deviation of residuals (obtained from firm-specific regressions of changes in working capital on past, present and future operating cash flows) over the past 5 years. It is based on the model of Dechow & Dichev (2002).
Financial characteristics	
Total Assets	The book value of total assets in the prior year.
Leverage	Total debt divided by the market value of equity. &
M/B Ratio	The market value of equity divided by the book value of equity.
Firm Age	The number of years from the current year to the year of incorporation.
CAPEX/Sales	Capital expenditures over sales.
INVREC	Inventory plus receivables to total assets.
Prop. Loss Years	The proportion of years that a firm made loss over the last 6 years.
Std dev (ROA)	Standard deviation of ROA over the last five years.
Std dev (ROE)	Standard deviation of ROE over the last five years.
Std dev (Stock return)	Standard deviation of firm stock return over the past five years.
Std dev (Sales/TA)	Standard deviation of sales scaled by total assets over the last 5 years
Std dev (CF/TA)	Standard deviation of operating cash flows scaled by total assets over the last 5 years
Governance and CFO characteristics	
CFO Board	A binary variable coded as 1 if the CFO is on the board, 0 otherwise.
CFO Ownership	The percentage of firm shares owned by the CFO.
CFO Tenure	The number of years since the CFO was appointed.
CEO Duality	A binary variable coded 1 if the CEO is also the chairman of the board, 0 otherwise
CEO Nominating	A binary variable coded 1 if the CEO is also a member of the nominating committee, 0 otherwise
Board Size	The number of directors on the board of directors.
Insider Ratio	The percentage of executive directors on the board.
PAFE	The proportion of audit committee members who are financial accounting experts, i.e. the biography indicates at least one of the followings: CPA, CFO, auditor, controller, treasurer, or finance manager.
AC Size	The number of directors on the audit committee.

Table 2: Nature of the sample.

Panel A: Sample deviation

	Observations
Initial sample from the All Ordinaries Index (2006-2010)	2,330
Less:	
Firms without CFO names	(534)
Firms without information on CFO tenure, CFO ownership and corporate governance	(1,195)
Firms without required financial information	(46)
Firms with joint CEOs or change in CEOs during financial year	(45)
Final sample - firm performance	**510**
Less:	
Financial firms	(82)
Firms without accounting data to calculate discretionary accruals (DA)	(10)
Final sample - discretionary accruals (DA)	**418**
Less:	
Firms without accounting data over the last 5 years to calculate accruals estimation errors (AEE)	(84)
Final sample - accruals estimation errors (AEE)	**334**

Panel B: Sample by industry (Firm performance sample)

Industry sector	Number of observations	Firms with CFOs on Board	Firms without CFOs on Board	Proportion of firms with CFOs on Board
Consumer Discretionary	51	21	30	41.18%
Consumer Staples	33	16	17	48.48%
Energy	57	18	39	31.58%
Financials	79	23	56	29.11%
Healthcare	46	15	31	32.61%
Industrials	88	55	33	62.50%
Materials	123	57	66	46.34%
Information Technology	18	0	18	0%
Telecommunications	11	7	4	63.64%
Utilities	4	0	4	0%
Total	**510**	**212**	**298**	**41.57%**

Table 3: Descriptive Statistics.

Variables	Pooled sample	CFO on Board	CFO not on Board	(2)-(3)
	Mean	Mean	Mean	t-stat
	(Median)	(Median)	(Median)	(Mann-Whitney)
	(1)	(2)	(3)	(4)

Panel A: Firm accounting and stock performance

	N = 510	N = 212	N = 298	

Dependent Variables

ROA	3.39%	3.23%	3.46%	-0.04
	(6.58%)	(5.64%)	(6.75%)	(1.59)
ROE	13.95%	12.68%	14.53%	-1.29
	(16.48%)	(15.49%)	(18.48%)	(1.41)
Stock return	8.79%	5.95%	13.27%	**-2.11****
	(9.98%)	(6.87%)	(11.92%)	**(2.13)****

Independent variables

CFO Board	41.57%			
CFO Ownership	0.19%	0.33%	0.09%	**4.97***
	(0.03%)	(0.06%)	(0.02%)	**(3.78***)**
CFO Tenure (years)	5.31	6.24	4.65	**4.64***
	(4.21)	(5.38)	(3.58)	**(5.25***)**
CEO Duality	4.12%	3.30%	4.70%	-0.78
CEO Nominating	20.59%	22.64%	19.13%	0.97
PAFE	55.07%	56.04%	55.46%	0.23
	(60.57%)	(66.67%)	(55.00%)	(0.46)
AC Size	3.46	3.37	3.52	**-1.75***
	(3.00)	(3.00)	(3.00)	(1.15)
Board Size	7.75	8.33	7.34	**4.41***
	(8.00)	(8.00)	(7.00)	**(4.04)***
Insider Ratio	41.63%	44.80%	35.21%	**7.46***
	(40.00%)	(43.65%)	(33.33%)	**(7.20***)**
Total Assets$_{t-1}$ ($mil)	21,270	16,649	24,557	-1.02
	(621)	(885)	(484)	(1.37)
Leverage	0.46	0.50	0.43	**3.11****
	(0.47)	(0.53)	(0.44)	**(3.99***)**
M/B Ratio	3.37	3.43	3.33	0.25
	(2.29)	(2.78)	(2.11)	**(1.93*)**
Firm Age (years)	49.31	61.26	46.26	**3.57***
	(41.00)	(52.50)	(25.00)	**(4.62***)**
CAPEX/Sales	1.45	1.12	1.59	-0.83
	(0.06)	(0.06)	(0.07)	**(2.05**)**
Std dev (ROA)	10.66%	15.13%	7.47%	**2.62***
	(2.92%)	(3.27%)	(2.81%)	(1.37)
Std dev (ROE)	13.56%	14.27%	12.49%	1.19
	(7.43%)	(8.62%)	(6.81%)	(1.61)
Std dev (Stock return)	53.97%	51.17%	56.24%	-1.52
	(42.62%)	(42.01%)	(44.15%)	(1.63)

continued on next page

Variables	Pooled sample	CFO on Board	CFO not on Board	(2)-(3)
	Mean	Mean	Mean	t-stat
	(Median)	(Median)	(Median)	(Mann-Whitney)
	(1)	(2)	(3)	(4)

Panel B: Earnings quality

Dependent Variables

	N = 418	N = 185	N = 233	
DA	0.56	0.61	0.48	0.84
	(0.09)	(0.10)	(0.07)	**(1.81*)**
	N = 334	N = 156	N = 178	
AEE	0.096	0.099	0.095	0.46
	(0.063)	(0.074)	(0.051)	**(1.86*)**

Additional independent variables

	N = 418	N = 185	N = 233	
INVREC	0.20	0.26	0.16	**6.04*****
	(0.15)	(0.24)	(0.12)	**(6.02)*****
Prop. Loss Years	25.40%	18.65%	30.76%	**-3.32*****
	(0.00%)	(0.00%)	(0.00%)	**(2.87***)**
Std dev (Sales/TA)	24.91%	30.09%	20.79%	**1.70***
	(14.89%)	(17.66%)	(11.44%)	**(3.84***)**
Std dev (CF/TA)	13.17%	18.56%	11.25%	**3.09*****
	(5.21%)	(5.78%)	(4.02%)	**(1.78*)**

This table presents the summary statistics, reported for the whole sample and also partitioned by CFO board membership. Panel A has variables used to analyse firm performance. Panel B contains additional variables for the analysis of earnings quality. All variables are defined in Table 1. Tests for difference in mean and median of each variable in the two sub-samples are presented. Bold figures show a significant difference between the two sub-samples with *, **, *** for the 10%, 5% or 1% level, respectively.

Table 4: Regression Results of Firm Accounting and Stock Performance.

Panel A: CFO board membership variable only

	ROA		ROE		Stock return	
	(1)	(2)	(3)	(4)	(5)	(6)
CFO Board	**-0.05****	-0.01	**-0.06***	-0.01	**-0.11****	**-0.12****
	[-1.97]	[-0.55]	**[-1.68]**	[-0.32]	**[-1.98]**	**[-2.05]**
CFO Ownership	-0.03	-0.03	-0.03	-0.03	-0.07	-0.07
	[-1.06]	[-0.97]	[-0.88]	[-0.72]	[-1.54]	[-1.63]
CFO Tenure (ln)	0.03	0.02	0.04	0.03	0.003	0.002
	[1.36]	[1.56]	[1.19]	[1.60]	[0.10]	[0.08]
PAFE	0.01	0.02	0.0003	0.01	0.11	0.08
	[0.27]	[0.50]	[0.004]	[0.15]	[1.16]	[0.90]
AC Size	-0.01		-0.01		**0.04***	
	[-0.87]		[-0.56]		**[1.91]**	
Board Size		**-0.02****		**-0.03*****		0.01
		[-2.28]		**[-2.75]**		[0.46]
Insider Ratio	0.14	0.06	0.13	0.01	0.07	0.09
	[1.57]	[0.79]	[1.02]	[0.04]	[0.38]	[0.42]
Total $Assets_{t-1}$ (ln)	**0.02***	**0.03****	**0.03****	**0.05*****	**-0.05*****	**-0.04****
	[1.83]	**[2.36]**	**[2.74]**	**[3.70]**	**[-2.60]**	**[-2.24]**
Leverage	**-0.12*****	**-0.13*****	**-0.05****	**-0.04****	**-0.13*****	**-0.13*****
	[-8.91]	**[-9.56]**	**[-2.55]**	**[-2.48]**	**[-5.31]**	**[-5.27]**
M/B Ratio	0.002	0.002	0.01	0.001	**0.02*****	**0.02*****
	[0.97]	[1.23]	[1.62]	[0.79]	**[2.88]**	**[2.97]**
Firm Age (ln)	**0.03*****	**0.03*****	**0.04****	**0.01***	0.04	0.04
	[2.86]	**[2.90]**	**[2.27]**	**[1.76]**	[1.42]	[1.38]
CAPEX/Sales	**-0.01***	**-0.01***	**-0.01****	**-0.01*****	-0.001	-0.001
	[-1.83]	**[-1.91]**	**[-2.52]**	**[-2.64]**	[-0.06]	[-0.08]
Std dev(ROA)	-0.01	-0.01				
	[-0.28]	[-0.19]				
Std dev(ROE)			0.03	0.03		
			[0.61]	[0.60]		
Std dev (Stock return)					0.05	0.05
					[0.38]	[0.34]
Adjusted R^2	28.38%	30.82%	20.59%	22.40%	21.86%	20.55%
Total observations	510	510	510	510	510	510

Panel B: With CEO power variables

	ROA		ROE		Stock return	
	(1)	(2)	(3)	(4)	(5)	(6)
CFO Board	**-0.05****	-0.02	**-0.07***	-0.02	**-0.12****	**-0.13****
	[-2.15]	[-0.74]	**[-1.72]**	[-0.54]	**[-2.08]**	**[-2.24]**
CEO Duality	-0.04	-0.03	-0.06	-0.05	-0.004	-0.01
	[-0.42]	[-0.40]	[-0.45]	[-0.44]	[-0.03]	[-0.05]
(CEO Duality)*(CFO Board)	0.17	0.17	0.23	0.25	0.13	0.12
	[1.53]	[1.57]	[1.46]	[1.49]	[0.53]	[0.49]
CEO Nominating	-0.01	-0.003	-0.02	-0.01	-0.03	-0.02
	[-0.33]	[-0.11]	[-0.44]	[-0.15]	[-0.40]	[-0.29]
(CEO Nominating)*(CFO Board)	0.03	0.03	0.03	0.02	0.12	0.11
	[0.57]	[0.61]	[0.32]	[0.27]	[1.12]	[1.01]
CFO Ownership	-0.03	-0.03	-0.03	-0.02	-0.06	-0.07
	[-0.88]	[-0.75]	[-0.78]	[-0.59]	[-1.60]	[-1.58]
CFO Tenure (ln)	0.03	0.02	0.04	0.03	0.004	0.01
	[1.63]	[1.57]	[1.14]	[1.56]	[0.14]	[0.24]
PAFE	-0.002	0.01	-0.04	-0.03	0.07	0.04
	[-0.06]	[0.31]	[-0.65]	[-0.41]	[0.68]	[0.41]
AC Size	-0.01		-0.01		**0.04***	
	[-1.08]		[-0.47]		**[1.86]**	
Board Size		**-0.02*****		**-0.03*****		0.01
		[-2.83]		**[-2.68]**		[0.72]
Insider Ratio	0.18	0.10	0.15	0.01	0.09	0.09
	[1.50]	[1.36]	[1.05]	[0.06]	[0.41]	[0.37]
Total $Assets_{t-1}$ (ln)	**0.02****	**0.03*****	**0.04*****	**0.026*****	**-0.04****	**-0.04***
	[2.18]	**[2.90]**	**[2.67]**	**[3.48]**	**[-1.96]**	**[-1.87]**
Leverage	**-0.08***	**-0.08***	-0.03	-0.03	-0.28	-0.29
	[-1.67]	**[-1.69]**	[-0.17]	[-0.21]	[-1.50]	[-1.56]
M/B Ratio	0.002	0.002	0.01	0.02	**0.02*****	**0.02*****
	[0.73]	[0.10]	[1.63]	[1.58]	**[3.00]**	**[3.11]**
Firm Age (ln)	**0.03*****	**0.03*****	**0.05****	**0.04****	0.05	0.05
	[3.48]	**[3.37]**	**[2.27]**	**[2.09]**	[1.45]	[1.43]
CAPEX/Sales	**-0.01****	**-0.01****	**-0.01****	**-0.01****	0.004	0.005
	[-2.15]	**[-2.29]**	**[-2.18]**	**[-2.33]**	[0.56]	[0.59]
Std dev(ROA)	0.02	0.02				
	[0.43]	[0.54]				
Std dev(ROE)			0.05	0.05		
			[1.33]	[1.32]		
Std dev (Stock return)					0.08	0.08
					[0.51]	[0.66]
Adjusted R^2	17.94%	21.01%	21.90%	23.87%	22.95%	21.03%
Total observations	510	510	510	510	510	510

This table presents the regression results on firm performance. Panel A and B present the results for testing H_{1a} and H_{2a}, respectively. All variables are defined in Table 1. Figures in square brackets are *t*-statistics. Emboldened figures indicate statistical significance with *, **, *** for the 10%, 5% or 1% level, respectively.

Table 5: Regression Results of Earnings Quality.

Panel A: CFO board membership variable only

	Discretionary Accruals (DA)		Accrual Estimation Errors (AEE)	
	(1)	(2)	(3)	(4)
CFO Board	**0.16***	**0.11***	**0.03****	**0.02***
	[1.76]	**[1.66]**	**[1.96]**	**[1.70]**
CFO Ownership	-0.08	-0.09	0.02	0.02
	[-1.21]	[-1.49]	[0.93]	[0.83]
CFO Tenure (ln)	0.06	0.07	0.003	0.002
	[1.04]	[1.23]	[0.41]	[0.36]
PAFE	-0.05	-0.12	0.03	0.02
	[-0.41]	[-1.15]	[1.13]	[0.85]
AC Size	0.07		0.01	
	[1.43]		[1.13]	
Board Size		**0.04***		0.003
		[1.94]		[0.97]
Insider Ratio	-0.31	-0.23	-0.03	-0.02
	[-0.83]	[-0.61]	[-0.63]	[-0.44]
Total $Assets_{t-1}$ (ln)	**-0.02****	**-0.03*****	**-0.02*****	**-0.02*****
	[-2.55]	**[-2.74]**	**[-4.12]**	**[-3.71]**
Leverage	0.03	-0.03	**-0.05***	**-0.05***
	[0.12]	[-0.10]	**[-1.85]**	**[-1.90]**
M/B Ratio	**0.02***	**0.02***	0.0001	0.0001
	[1.80]	**[1.87]**	[0.13]	[0.24]
Firm Age (ln)	**-0.09****	**-0.10****	0.01	0.01
	[-2.14]	**[-2.43]**	[0.76]	[0.76]
INVREC	0.33	0.26	-0.05	-0.05
	[1.20]	[0.96]	[-1.60]	[-1.63]
Prop. Loss Years	**0.28***	**0.29***	**0.07*****	**0.06*****
	[1.85]	**[1.88]**	**[2.96]**	**[2.89]**
Std dev(Sales/TA)	0.07	0.07	**0.01****	**0.01****
	[0.66]	[0.62]	**[2.17]**	**[2.18]**
Std dev(CF/TA)	0.21	0.22	-0.01	-0.01
	[1.04]	[1.03]	[-0.40]	[-0.39]
Adjusted R^2	28.22%	28.37%	25.11%	25.23%
Total observations	418	418	334	334

Panel B: With CEO power variables

	Discretionary Accruals (DA)		Accrual Estimation Errors (AEE)	
	(1)	(2)	(3)	(4)
CFO Board	**0.17***	**0.11***	**0.04****	**0.03****
	[1.70]	**[1.66]**	**[2.38]**	**[2.08]**
CEO Duality	0.28	0.28	0.01	0.01
	[0.73]	[0.71]	[0.30]	[0.34]
(CEO Duality)*(CFO Board)	**1.67***	**1.65***	**0.13*****	**0.13*****
	[1.87]	**[1.84]**	**[2.73]**	**[2.80]**
CEO Nominating	0.13	0.14	0.01	0.01
	[1.31]	[1.28]	[0.79]	[0.75]
(CEO Nominating)*(CFO Board)	**0.28***	**0.28***	0.02	0.01
	[1.90]	**[1.84]**	[0.64]	[0.45]
CFO Ownership	-0.03	-0.04	0.01	0.01
	[-0.49]	[-0.85]	[0.75]	[0.58]
CFO Tenure (ln)	0.04	0.06	-0.001	-0.001
	[0.94]	[1.17]	[-0.13]	[-0.13]
PAFE	-0.05	-0.13	0.04	0.02
	[-0.48]	[-1.23]	[1.26]	[0.94]
AC Size	0.06		0.01	
	[1.37]		[1.13]	
Board Size		**0.04***		0.004
		[1.95]		[1.39]
Insider Ratio	-0.01	0.09	-0.07	-0.05
	[-0.03]	[0.29]	[-1.41]	[-1.13]
Total $Assets_{t-1}$ (ln)	**-0.02****	**-0.01*****	**-0.02*****	**-0.02*****
	[-2.47]	**[-2.71]**	**[-4.48]**	**[-4.27]**
Leverage	0.09	0.03	**-0.06***	**-0.06****
	[0.39]	[0.14]	**[-1.96]**	**[-1.98]**
M/B Ratio	**0.02***	**0.02***	0.0001	0.0001
	[1.87]	**[1.96]**	[0.02]	[0.15]
Firm Age (ln)	**-0.10****	**-0.11****	0.01	0.01
	[-2.27]	**[-2.57]**	[0.68]	[0.75]
INVREC	0.23	0.16	-0.04	-0.04
	[0.86]	[0.61]	[-1.42]	[-1.33]
Prop. Loss Years	**0.27***	**0.28***	**0.07*****	**0.07*****
	[1.81]	**[1.88]**	**[3.03]**	**[2.85]**
Std dev(Sales/TA)	0.05	0.05	**0.02***	**0.01***
	[0.72]	[0.66]	**[1.86]**	**[1.85]**
Std dev(CF/TA)	0.23	0.23	-0.02	-0.01
	[1.24]	[1.23]	[-0.48]	[-0.41]
Adjusted R^2	37.31%	37.57%	26.27%	26.52%
Total observations	418	418	334	334

This table presents the regression results on earnings quality. Panel A and B present the results for testing H_{1b} and H_{2b}, respectively. All variables are defined in Table 1. Figures in square brackets are *t*-statistics. Emboldened figures indicate statistical significance with *, **, *** for the 10%, 5% or 1% level, respectively.