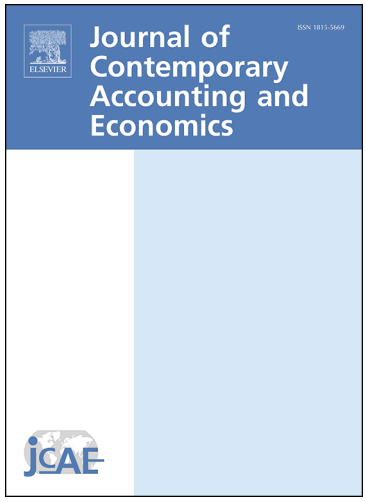

CFO tenure, CFO board membership and accounting conservatism

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CFO tenure, CFO board membership and accounting conservatism

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CFO tenure, CFO board membership, and accounting conservatism

Abstract

We examine the influence of chief financial officer (CFO) tenure and CFO board membership on accounting conservatism among Australian listed companies. The study uses market-based (i.e., timeliness of earnings to news) and accounting-based (i.e., accrual-based loss recognition) measures of conservative accounting. The results show that while longer CFO tenure and CFO board membership increases accounting conservativism, this is not the case when CFOs become entrenched through long board-membership tenure. This entrenchment appears to lead to the use of aggressive accounting practices. Overall, the results indicate that CFO tenure and CFO board membership improve financial-reporting quality by increasing accounting conservatism in organizations, providing evidence of the importance of recognizing these two governance characteristics in policymaking and in regulation.

Keywords: CFO tenure, board membership, accounting conservatism

CFO tenure, CFO board membership, and accounting conservatism

1. Introduction

During the past decade, chief financial officers (CFOs) have received increasing attention from investors in the capital market because of their growing responsibilities in monitoring the production of accounting information and financial statements. Since the enactment of the Sarbanes–Oxley Act (SOX) in the United States (US) in 2002, the Securities and Exchange Commission (SEC) requires CFOs and chief executive officers (CEOs) to certify the accuracy and completeness of their company's annual and quarterly financial reports.[1] By shifting greater fiduciary responsibility to CFOs and CEOs to produce more accurate and reliable financial reports, SOX is ensuring that adequate internal controls for public disclosure have been established and maintained, thereby providing greater confidence to investors and the market. Similar CFO and CEO fiduciary responsibilities also are practiced in Australia, as these responsibilities are a requirement enforced by the Australian Security and Investments Commission (ASIC) under Australia's *Corporations Act 2001*.

The extant literature (e.g., Mian, 2001; Geiger and North, 2006; Dill, 2013) acknowledges that CFOs make an important contribution to top-level strategic decision making in organizations through their knowledge and input into competitive and financial-market strategies, operating policies, and investment decisions. Compared with other executives in the organization, CFOs have substantial control over the firm's financial-reporting practices via their expertise and capacity to determine when and what financial numbers require reporting, and whether annual performance targets are being met (Mian, 2001; Geiger and North, 2006). CFOs also can influence the board of directors' decisions in relation to stricter application of accounting standards to recognize bad news as losses rather

[1] Section 295A of Australia's *Corporations Act 2001* requires CEOs and CFOs of listed entities to sign off on their company's annual accounts and to declare that the company's financial reports present "a true and fair view in accordance with relevant accounting standards."

than recognizing good news as gains, ensuring that conservative accounting practices are being followed. Given CFOs' strategic decision-making position in organizations, it is important to understand their role in the financial-reporting process. Accordingly, we examine whether CFO tenure and membership on the board of directors have any effects on the company's use of conservative accounting practices among Australian listed companies.

Conservative accounting practices can reduce potential earnings manipulation by managers, who might opportunistically increase earnings by choosing aggressive accounting practices that do not require a higher degree of verification for the recognition of good news in financial statements. Given that investors' decision making relies on reported financial information, accounting conservatism demands timely information about bad news precisely because investors, debtholders, and creditors, as residual claimants, are more sensitive to a decline than an increase in firm value (Basu, 1997). Hence, research (e.g., Ball, 2001; Watts, 2003) suggests that accounting conservatism disciplines managerial investment decisions, thereby making it useful for mitigating agency problems.

Organizational behavior theory via the expertise hypothesis postulates two competing arguments on the consequences of the CFO's tenure in organizations. One argument proposes that CFOs with longer tenure and who have unique knowledge about the firm have stronger incentives not to overstate earnings and/or net assets and not to withhold information on expected losses, thereby ensuring a higher degree of verification standards for gain recognition. Longer tenure also has a reputational effect on the CFO's position. Milbourn (2003) argues longer CFO tenure within the firm assists CFOs to establish their reputation in the market, given that longer tenure is an indicator that the CFO has survived previous dismissal decisions by the board. Further, after establishing their reputation, CFOs can become more concerned with reputation protection (Diamond, 1989), and any detection of aggressive accounting practices that do not require strict verification standards for the

recognition of good news in financial statements could adversely affect the CFO's reputation. Thus, concern with preserving their reputation motivates the CFO to avoid such aggressive accounting practices. However, the opposing argument suggests that CFOs with longer tenure could become entrenched in their position (Morck et al., 1988) and thus more powerful in the organization, enabling them to choose more aggressive accounting practices that do not necessarily require strict verification of standards for the recognition of good news in financial statements.

CFOs are top-level executives in the organization who can be invited to sit on the company's board of directors. A CFO's board membership can give them the power to vote on important organizational matters, offer them opportunities to communicate directly and frequently interact with other board members, and provide them with greater responsibility over firm performance (Mobbs, 2011). CFOs who are board members and adopt conservative accounting practices can ensure accountability by explaining to management the implications of enforcing such accounting practices in the firm, particularly the effect of conservative accounting on share-price movements, on corporate management's reputation, on risk, and on internal controls. In contrast, prior research also suggests that board membership provides executive officers with greater powers, which can have a detrimental effect on accruals quality and thus more aggressive accounting practices (Beasley, 1996; Dechow et al., 1996). However, social network theory and the theory of friendly boards suggest (Adams and Ferreira, 2007) that the quality and effectiveness of board decisions improves when company executives cooperate with external board members (Westphal, 1999).

Accordingly, we contend that CFO board membership will influence the firm's conservative accounting practices. Further, consistent with agency theory, we argue that CFOs who hold board memberships, coupled with longer tenure on the board, might become entrenched in their positions. Entrenched CFOs are likely to be motivated to exploit

accounting information to enhance their private interests by linking managerial compensation to reported earnings (Basu, 1997), thereby creating incentives to withhold information that would adversely affect their compensation. Therefore, CFOs with longer board-membership tenure are likely to be more powerful, thereby providing them with the ability and incentive to influence the timely reporting of good and bad news.

Most of the literature on CFOs' role in relation to accounting practices is based on US data, with limited research in the context of the Australian market. In the early 2000s, CFOs were involved in a number of high-profile corporate failures in Australia that resulted in heightened and ongoing scrutiny from Australian regulators and investors.[2] Section 295A of the Australian *Corporations Act 2001* requires CEOs and CFOs of listed entities to sign off on their company's annual accounts, and to declare that the company's financial reports present "a true and fair view in accordance with relevant accounting standards." ASIC also requires the board of directors to ensure that CFOs have the sufficient qualifications, knowledge, competence, experience, and integrity to undertake their roles (ASIC, 2014).

There are several important differences between the institutional environments of the US and Australia. For example, compared with the US, Australia has lower litigation risk (Lim, 2011), higher ownership concentration (La Porta et al., 1998), relatively larger private benefits of control (Nenova, 2003), a relatively weaker monitoring system (Dignam and Galanis, 2004; Muniandy et al., 2016), and Australian firms are significantly smaller than US firms. In addition, unlike in the US, resource (i.e., mining and energy) companies mainly dominate the Australian capital market.[3] Given that mining projects require significant upfront investment, coupled with long project lives and high uncertainty over the prospects of

[2] For example, HIH's CFO, Dominic Fodera, was jailed for two years after failing to discharge his duties as a director, while Harris Scarfe's CFO, Alan Hodgson, pleaded guilty for failing to act honestly as a company officer.

[3] For example, the mining industry contributed 8.2% of Australia's gross domestic profit (GDP) and accounted for 55.5% of exports in the 2017–2018 financial year (DIIS, 2018), whereas mining contributed approximately 2.2% of GDP to the US economy in 2017 (NMA, 2018).

these projects, management decision making in Australia relies on the type of recognition and measurement standards used in the resources sector. For example, higher levels of uncertainty in the resources sector could influence the CFO to adopt accounting policies that would expedite the recognition of expenses/losses and defer revenues/gains. Australia's accounting treatment in relation to certain items in its accounting standards such as AASB 138 is also different from that found in the US Generally Accepted Accounting Principles (GAAP).[4] These environmental and institutional factors suggest that the CFO's board experience, coupled with their tenure in the organization, could play an important role in whether they utilize aggressive or conservative accounting approaches.

To achieve our research aims, we examine all non-financial firms listed on the Australian Securities Exchange (ASX) during the period 2001–2014 to measure the effect of CFO tenure and CFO board membership on conservative accounting practices. We follow previous literature and use market-based, that is, Basu's (1997) timeliness of earnings to news, and accounting-based, that is, Ball and Shivakumar's (2005) accrual-based loss recognition, measures of accounting conservativism. Consistent with the reputation and expertise arguments, we find that the CFO's overall tenure in the organization as CFO is significantly and positively associated with conservative accounting practices, suggesting that longer-serving CFOs are more likely to ensure a higher degree of verification standards for the recognition of bad news in financial statements. Similarly, our results show that CFO board membership is significantly and positively associated with a greater degree of accounting conservatism observed in the financial-reporting practices of Australian companies. However, we observe a significant negative effect on accounting conservatism

[4] For example, according to US GAAP, research and development costs are expensed as they are incurred (SFAS 2), whereas in Australia, certain research and development costs such as the design, construction, and testing of pre-production or pre-use prototypes and models that meet specific criteria are permitted to be capitalized as internally generated intangible assets (AASB 138).

for CFOs who have longer board-membership tenure,[5] suggesting entrenched CFOs are less likely to practice accounting conservativism. Our results are robust to alternative measures of accounting conservatism, as well as to the inclusion of additional control parameters such as CEO tenure and self-selection bias. Overall, our results suggest that CFO tenure in the organization and board membership are important CFO characteristics that influence conservative accounting financial-reporting practices.

Our study contributes to the extant literature and to practice. First, it is one of the first investigations to provide robust evidence on the role of CFOs in conservative accounting practices. Second, it expands the limited Australian evidence on the role of CFOs in organizations, particularly by identifying which CFO corporate-governance characteristic is potentially affecting conservative accounting practices among listed companies in Australia. Third, it examines the unique effect on accounting conservatism of the CFO's tenure in the organization, their corporate board membership, and their tenure as a member on the board of directors. Prior research has considered only CFO characteristics such as gender (Barua et al., 2010), equity incentives (Billings et al., 2014), new CFO appointments (Geiger and North, 2006), and financial expertise combined with educational background (Aier et al., 2005).

By differentiating between the CFO's membership on the board of directors and their tenure as a member of the board of directors, we are able not only to uniquely examine the entrenchment effect, but also gauge which of these governance characteristics specifically affects the financial-reporting process. In doing so, our study provides useful insights into some of the contrasting perspectives presented in the extant literature (e.g., Geiger and North, 2006; Ali and Zhang, 2015) on the role of top management's tenure and board membership in relation to financial-information disclosure. For example, while Geiger and North (2006)

[5] CFOBTEN is a unique variable specifically constructed to measure the CFO's tenure only as a member on the company's board of directors, thereby enabling an examination of the entrenchment argument.

show a significant reduction in discretionary accruals in the period following the appointment of a new CFO, Ali and Zhang (2015) find greater earnings management in the early years (i.e., first three years) of CEO service compared to the later years of CEO service (i.e., one year prior to the CEO turnover year).

Our study contributes to these contrasting perspectives by discerning that while longer CFO tenure in the organization and CFO board membership improves financial reporting via the greater use of conservative accounting practices, this is not the case when CFO's become entrenched on the company's corporate board because this entrenchment appears to lead to the use of aggressive accounting practices. The findings of this study are relevant for policy makers because they enable identification of the specific roles that CFOs can play in enhancing the governance of organizations, as well as how their expertise and preservation of reputation can positively affect improvements in financial-reporting quality.

The remainder of the paper is organized as follows: Section 2 presents the literature review and hypothesis development; Section 3 outlines the research methodology and sample-selection procedures; Section 4 discusses the results of the empirical tests; Section 5 presents additional analyses; and Section 6 briefly summarizes the paper and offers conclusions.

2. Literature review and hypothesis development

2.1 Background

Extant research on the role of CFOs in business organizations documents that the CFO's financial knowledge and expertise enhances the quality of internal-control systems within organizations (Krishnan, 2005; Zhang et al., 2007). Aier et al. (2005) report that the financial expertise of CFOs (measured by past and current experience working as a CFO in combination with the CFO's educational background such as completion of a Master of Business Administration and/or professional certification) is negatively associated with the

likelihood of earnings restatements. Wang (2010) finds that after the passage of SOX, CFOs employed in firms with weak internal controls received lower compensation and experienced higher forced-turnover rates. In contrast, CFOs of firms with strong internal controls received higher compensation and did not experience significant changes in forced-turnover rates (Wang 2010).

Meanwhile, Geiger et al. (2008) observe positive market reactions and better financial-reporting quality when CFOs are hired from external audit firms. Survey evidence in Graham et al. (2005) suggests that CFOs are concerned with beating earnings benchmarks, and they seek to report smoother series of earnings. Consistent with this, Mergenthaler et al. (2008) find that CFO turnover increases following the failure to meet certain earnings benchmarks. Billings et al. (2014) report that while CFO equity incentives are positively associated with audit fees, CEO equity incentives are unrelated to audit fees, suggesting that auditors perceive heightened audit risk associated with CFO equity incentives. Collectively, the findings of these studies provide evidence of the importance of CFOs in business organizations. Although CFOs play a major role in the financial-reporting process, there is a lack of evidence on the CFO's role in conservative accounting practices.

2.2 Accounting conservatism

Basu (1997) defines accounting conservatism as asymmetric timeliness in the recognition of good versus bad news in earnings. That is, accounting conservatism responds to unrealized losses more quickly than to unrealized gains, thereby requiring a higher degree of verification of good news than of bad news. Given that accounting conservatism ensures that the accounting numbers used to determine cash flows are estimated conservatively, it can also help to alleviate agency problems by playing an important *ex ante* efficiency role in contracting. Previous research (e.g., Ahmed and Duellman, 2007) suggests that accounting conservatism can enhance the usefulness of financial statements for users of accounting

information by reducing residual losses that may arise from asymmetric information between managers and external users.

The concept of accounting conservatism has been investigated in several different contexts. For example, Givoly and Hayn (2000) examined whether accounting conservatism changes over time, and concluded that the degree of accounting conservatism has increased in financial reporting in the US over the past four decades. In a multi-country setting, Bushman and Piotroski (2006) observed that firms in countries with stronger investor protections and higher-quality judicial systems reflect bad news in reported earnings numbers in a more-timely fashion than do firms in countries characterized by weaker investor protections and lower-quality judicial systems. Nikolaev (2010) shows evidence that reliance on covenants in public debt contracts is positively associated with the degree of timely loss recognition. Ahmed and Duellman (2007) find that the percentage of inside directors is negatively related to accounting conservatism, and the percentage of outside directors' shareholdings is positively related to accounting conservatism. In the context of Australia, Lim (2011) examined the effect of several different governance attributes on accounting conservatism and found that board independence and separation of the CEO and chairperson's roles are positively associated with conservative accounting. Ahmed and Henry (2012) documented that voluntary audit-committee formation, increasing board independence, and decreasing board size are positively associated with unconditional accounting conservatism and negatively associated with the degree of conditional accounting conservatism of Australian firms. This literature review demonstrates that although accounting conservatism has been examined in different contexts, there is a paucity of research that investigates accounting conservatism in relation to CFO characteristics, namely, CFO tenure, CFO board membership and CFO board membership tenure.

2.3 CFO tenure and accounting conservatism

Research on organizational behavior indicates that there is a positive association between tenure and employee commitment (Buchanan, 1974). The expertise hypothesis suggests that long-serving CFOs can accumulate unique expertise and knowledge about the firm and its environment, which will assist them in better understanding the organization's financial-reporting systems and to communicate financial information more effectively to external stakeholders. A CFO with longer tenure should have a sound understanding of how the organization's internal accounting system aggregates information and whether internal-control systems are adequate. For example, proper maintenance of accounting policies and adequate internal-control procedures are followed by the organization when non-routine transactions are recorded. In the absence of these proper accounting procedures and internal controls, management could expedite the recognition of revenues/gains and delay the recognition of expenses/losses, introducing a lower degree of verification in the recognition of good news in financial statements, and thus biasing the organization's accounting measures. Further, through their experience and interactions with capital-market participants, CFOs are likely to be aware of the information needs of lenders, analysts, and institutional shareholders, thereby making them more cognizant of the need for better accounting and disclosure quality.

Longer-serving CFOs also have incentives to protect shareholders and maintain their reputation as top executives. Ali and Zhang (2015) contend that while market participants consider top executives to be talented people, they are more uncertain about top executives' (e.g., CEOs') abilities in their early years of service in a firm. This is consistent with the notion that newer executives are less experienced than executives who have been in their position for a longer period, suggesting that tenure and experience are positively associated with each other. Matsunaga et al. (2013) argue that CFO tenure is shortened when they are

unable to serve the financial markets because of lack of experience and inability to produce higher-quality accounting disclosures.

The literature provides contrasting perspectives on the role of tenure in relation to financial-information disclosure. The expertise hypothesis predicts that CFOs with longer tenure will have stronger incentives to ensure that financial statements are accurate. Accordingly, it is expected that CFOs who have been in their position for a longer period will be more aware of the negative effects of earnings manipulation and the need for high-quality financial information, whereas CFOs with relatively shorter tenures might not have accumulated sufficient knowledge and expertise, and may therefore be less cognizant of the need for better accounting and disclosure quality. However, the entrenchment hypothesis suggests that accounting conservatism is negatively associated with CFO tenure because longer tenure increases the CFO's power. This hypothesis suggests that greater entrenchment and power can provide CFOs with greater freedom to choose more aggressive accounting practices that do not require a higher degree of verification for the recognition of good news in financial statements.

Empirical research observes that companies with short-tenured CFOs have better accruals quality (Geiger and North, 2006). This is because these new CFOs have incentives to reduce discretionary accruals to create a more favorable impression on the market so that they can maintain their employment with the firm. Geiger and North (2006) also find that firms that do not appoint a new CEO during a given period report significant reductions in discretionary accruals, whereas firms appointing a new CEO concurrently to appointing a new CFO exhibit no significant reductions in discretionary accruals compared with non-hiring firms. Meanwhile, Ali and Zhang (2015) report that longer CEO tenure is associated with better accruals quality, arguing that the market is likely to perceive CEOs who have been with their firms longer as more able and talented than CEOs who have been with their

firms for a shorter period. Having established a reputation of high ability and talent, CEOs with longer tenure are interested in protecting their reputation, and are thus less likely to engage in opportunistic behavior through accruals management.

Given that research finds that the tenure of top executives such as CEOs and CFOs can influence accruals management, we contend that CFO tenure is associated with accounting conservatism. In particular, we posit that an entrenched CFO has incentives to expedite recognition of good news and postpone or hide bad news, particularly when recognition of bad news might jeopardize their tenure and/or adversely affect their earnings-based compensation. Therefore, CFO discretion over accruals might decrease the level of conditional accounting conservatism. However, a CFO who is not entrenched is likely to be aware of their reputation and of the litigation costs associated with overstatement of earnings through speedier recognition of good news than bad news. In such cases, the CFO will exercise their discretion over accruals to enhance the degree of accounting conservatism. Given that CFO tenure can be viewed from both the entrenchment and reputation perspectives, our arguments are summarized in a non-directional hypothesis below:

H1: There is a significant association between a CFO tenure and accounting conservatism.

2.4 CFO board membership and accounting conservatism

In line with the theory of friendly boards, CFOs who are board members can obtain greater information advantage through their collaboration with top executives and outside directors compared with their counterparts who are not board members (Adams and Ferreira, 2007). To ensure that transparency of financial reports is accomplished, outside directors typically play an important role in monitoring the activities of a firm. Outside directors often have no direct access to detailed company data, particularly when CFOs are not elected to the board, and consequently, the information they obtain is inferior to the information inside directors obtain (e.g., Ravina and Sapienza, 2010). This is because outside directors rely

solely on internal management for information, and the nature of the information they receive might dictate the scope of board deliberations. Moreover, the quality of decisions made by the board depends on cooperation from company executives (Bedard et al., 2014). When CFOs sit on the board, they are likely to develop relationships with other directors because of frequent meetings as co-directors. This means the CFO can engage in mutual trust relationships with other board members, increasing the likelihood that they will seek and give guidance in relation to board decisions (Westphal, 1999). Therefore, when CFOs are appointed to the board, outside directors are able to obtain information directly from CFOs, enabling the outside directors to communicate more easily with CFOs directly, facilitating more efficient and effective discussion of matters relating to financial reporting and internal controls, and improving the quality of information that outside directors obtain.

Social network theory proposes that executives who sit on corporate boards and who meet frequently with other board members as colleagues are in a position to develop better relationships with these board members, suggesting that CFOs who sit on boards can develop better networking relations with board directors. Bedard et al. (2014) document that CFOs who are board members can establish mutually beneficial relationships with other board members, leading to better cooperation and commitments on future voting. CFOs' personal contacts and interactions with other board members can assist in developing trust-based relationships (Mayer et al., 1995), which enables these CFOs to provide their opinions on financial-reporting matters (Westphal, 1999). A CFO who adopts conservative accounting practices and is a board member can easily explain to executive the implications of enforcing such practices in the firm, particularly its effect on share-price movements, on corporate management's reputation, on risks, and on internal control. However, when a CFO is not a board member, confusion from stakeholders can arise about the CFO's accountability. Investors and other stakeholders should have confidence that the CFO has sufficient status in

the firm to ensure the firm has strong financial discipline and management, and to provide valuable input into the firm's strategic and operational decision making. Overall, CFOs who hold board membership are expected to provide better leadership over the management and production of financial information.

In contrast to social network theory, agency theory suggests that a CFO serving on the board can become too powerful. Fama and Jensen (1983) argue that separation of top executives such as CFOs from the decision-making process at the board level ensures the protection of shareholders' interests. Consistent with this idea, research shows that the presence of insiders on the board adversely affects financial-reporting quality (e.g. Beasley, 1996; Dechow et al., 1996; Klein, 2002). Ahmed and Duellman (2007) document that the percentage of inside directors on the board is negatively related to accounting conservatism. A CFO with a board seat might also become entrenched. An entrenched CFO is more likely to be concerned with their self-interest such as salary, bonuses, and stock incentives, thereby enabling them to influence decisions about the financial-reporting process such as choice of accounting method for income recognition, and potentially using accounting information as a tool to seek private interests at the expense of shareholders. Because of their frequent meetings with and easy access to outside directors, internal board members can prioritize their own interests over those of other shareholders. To prevent discovery of their expropriating behaviors, entrenched CFOs might practice lower levels of accounting conservatism and financial transparency by producing more favorable financial reports that present good news in a more-timely manner than they do bad news. Given the competing arguments outlined above, we propose the following non-directional hypothesis.

H2: There is a significant association between a CFO's board membership and accounting conservatism.

2.5 Effect of CFO board-membership tenure on accounting conservatism

In the previous section, we discussed that CFOs who hold board membership can become too powerful, particularly when their tenure on the board grows with the passage of time, leading to a detrimental effect on the quality of financial information produced by the firm. Under such circumstances of becoming too powerful, CFOs who are members of the board might become entrenched in their position, enabling them to exploit their insider position because of which they have greater access to information to gain advantage by potentially protecting themselves from dismissal. Entrenched CFOs can potentially be more concerned about their self-interests such as increasing their compensation through bonuses and stock incentives. For example, entrenched CFOs can use accounting information as a tool to enhance their private interests by linking managerial compensation to reported earnings (Basu, 1997), thereby creating incentives to withhold any information that would adversely affect their compensation. Fama and Jensen (1983) argue that the segregation of top executives such as CFOs from boardroom decision making better protects shareholder interests. Consistent with this argument, empirical research finds that the presence of insiders on the board adversely affects financial-reporting quality (e.g. Beasley, 1996; Dechow et al., 1996; Klein, 2002). Given that the length of the CFO's board-membership tenure could have an adverse effect on accounting conservatism, we propose the following directional hypothesis.

H3: CFOs who have longer board-membership tenure will be negatively associated with accounting conservatism.

3. Sample and method

3.1 Sample selection and data collection

This study utilizes all non-financial firms listed on the ASX during the period 2001–2014. The sample data are obtained from various database sources such as Connect4, DatAnalysis, SIRCA and DataStream. We use DatAnalysis to collect financial-report

information, SIRCA and Connect4 to acquire corporate-governance information, and DataStream to obtain share-price data. ASX firm data from DatAnalysis and SIRCA were merged for the years 2001 to 2014, and the following criteria were used to finalize the initial sample: i) firms must have corporate-governance and financial information; ii) firms must report financial-statement values in Australian dollars. As a result, our initial sample includes 8,125 firm-year observations. After excluding firms from the financial and utilities sectors, as these firms operate under different regulations and have different financial-reporting characteristics, our accrual-based loss recognition models comprise 7,040 firm-year observations, whereas due to missing share-price information, our models of timely loss recognition in earnings comprise 5,176 firm-year observations.

A summary of the sample-selection process is presented in Table 1 (see Panel A), and Panel B reports the industry distributions, measured using the Global Industrial Classification Standard (GICS) for sample firms during the period 2001–2014. Panel B also indicates that the highest and lowest proportions of firms in the sample (26.80% and 2.90%) are from the material and telecommunications industries, respectively.

Table 1 about here

3.2 Measurement of conservatism

Accounting conservatism can be conceptualized in different ways. The literature portrays earnings conservatism in accounting as a function of either: i) accrual-based loss recognition (Ball and Shivakumar, 2005), or ii) timeliness of earnings to news (Basu, 1997)

3.2.1 Accrual-based loss recognition

Ball and Shivakumar (2005) introduced a model based on the extent to which accruals are timely in reflecting cash flows. In this model, operating cash flows are used to determine bad news and good news and accounting conservatism exists when negative cash flows are recognized earlier than positive cash flows (Ball and Shivakumar, 2005). Equation (1) details

the accrual-based loss recognition model when the coefficient of $DCFLO_{jt}$*$CFLO_{jt}$ is predicted to be positive and significant if conservatism exists.

$$ACC_{jt} = \beta_0 + \beta_1 DCFLO_{jt} + \beta_2 CFLO_{jt} + \beta_3 DCFLO_{jt} * CFLO_{jt} + \varepsilon_{jt} \quad (1)$$

where,

ACC_{jt} = accruals (i.e., the difference between operating profit and cash flow from operations) scaled by the book value of total assets at the beginning of the fiscal year;

$CFLO_{jt}$ = cash flow from operating activities scaled by the book value of total assets at the beginning of the fiscal year;

$DCFLO_{jt}$ = Binary variable coded as 1 if $CFLO_{jt}$ is negative, and 0 otherwise;

$CFLO_{jt}$ * $DCFLO_{jt}$ = two-way interaction term between cash flow from operating activities and an indicator variable showing whether cash flow from operating activities is negative.

To test H1, Equation (2) is developed. If CFO tenure (CFOTEN) positively influences accounting conservativism, the coefficient on the three-way interaction term CFLOjt*DCFLOjt*$CFOTEN_{jt}$ is predicted to be positive and significant and vice versa.

$$ACC_{jt} = \beta_0 + \beta_1 DCFLO_{jt} + \beta_2 CFLO_{jt} + \beta_3 DCFLO_{jt} * CFLO_{jt} + \beta_4 CFOTEN_{jt} + \beta_5 DCFLO_{jt} * CFOTEN_{jt} + \beta_6 CFLO_{jt} * CFOTEN_{jt} + \beta_7 DCFLO_{jt} * CFLO_{jt} * CFOTEN_{jt} + [Controls] + \varepsilon_{jt} \quad (2)$$

To test H2 and H3, in Equation (2), we replace CFO tenure (CFOTEN) with two explanatory variables, that is, CFO board membership (CFODIR) and CFO board-membership tenure (CFOBTEN), respectively. According to H2 and H3, if both CFO board membership (CFODIR) and CFO board-membership tenure (CFOBTEN) positively influence accounting conservativism, the coefficients on the interaction terms $CFLO_{jt}$*$DCFLO_{jt}$*$CFODIR_{jt}$ and $CFLO_{jt}$*$DCFLO_{jt}$*$CFOBTEN_{jt}$ are expected to be positive and significant and vice versa.

3.2.2 Timeliness of earnings to news

Basu (1997) argues that earnings are more likely to reflect bad news fully (as shown in contemporaneous stock returns) than they are to reflect good news fully. As shown in Equation (3), timeliness of earnings to news is conditional on the responsiveness of accounting income to changes in market value (Basu, 1997). Negative market-adjusted stock returns proxy for bad news, and positive market-adjusted stock returns proxy for good news. The asymmetric timeliness recognition of bad news relative to good news will be captured by a positive coefficient on the interaction term RRA_{jt}*DR_{jt}.

$$OPPROF_{jt} = \beta_0 + \beta_1 DR_{jt} + \beta_2 RRA_{jt} + \beta_3 RRA_{jt} * DR_{jt} + \varepsilon_{jt} \qquad (3)$$

where,

$OPPROF_{jt}$ = operating profit after tax deflated by market value of equity at beginning of the fiscal year;

RRA_{jt} = annual share returns for the firm from three months after the previous fiscal year to three months after the current fiscal year, adjusted for the All Ordinaries Index over the same period;

DR_{jt} = Binary variable coded as 1 if RRA_{jt} is negative, and 0 otherwise;

RRA_{jt} * DR_{jt} = two-way interaction term between annual share returns (as defined above) and whether annual share returns are negative.

To test H1, Equation (4) is developed. If CFO tenure (CFOTEN) positively influences accounting conservatism, the coefficient on the three-way interaction term RRA_{jt}*DR_{jt}*$CFOTEN_{jt}$ is expected to be positive and significant and vice versa. The same control variables used in Equation (2) are used in Equation (4).

$$OPPROF_{jt} = \beta_0 + \beta_1 DR_{jt} + \beta_2 RRA_{jt} + \beta_3 RRA_{jt} * DR_{jt} + \beta_4 CFOTEN_{jt} + \beta_5 DR_{jt} * CFOTEN_{jt} + \beta_6 RRA_{jt} * CFOTEN_{jt} + \beta_7 RRA_{jt} * DR_{jt} * CFOTEN_{jt} + [Controls] + \varepsilon_{jt} \quad (4)$$

To test H2 and H3, in Equation (4), we replace CFO tenure (CFOTEN) with CFO board membership (CFODIR) and CFO board-membership tenure (CFOBTEN), respectively. If both CFO board membership (CFODIR) and CFO board-membership tenure (CFOBTEN) positively influence accounting conservativism, the coefficients on the interaction terms RRA_{jt}*DR_{jt}*$CFODIR_{jt}$ (RRA_{jt}*DR_{jt}*$CFOBTEN_{jt}$) are expected to be both positive and significant and vice versa.

3.3 Measurement of explanatory variables

CFO tenure (CFOTEN) measures the overall number of years the CFO has been in the position of CFO in the organization and is transformed by using natural logarithms (Duong and Evans, 2016). CFO board membership or CFO as an insider director (CFODIR) is a binary variable coded as 1 if the CFO serves on the board, and 0 otherwise (Bedard et al., 2014). In contrast to CFO board membership, CFO board-membership tenure (CFOBTEN) measures the number of years since the CFO was appointed to be a member of the board and is transformed using natural logarithms.

3.4 Measurement of control variables

This study utilizes several control variables that can affect accounting conservatism, namely, board independence (BIND), firm size (FSIZE), leverage (LEV), growth options (MTB), as well as year and CFO–firm fixed effects. Firms with greater board independence, measured as the proportion of independent directors on the board, follow more-conservative accounting practices and thus a positive association is expected between accounting conservatism and board independence (Ahmed and Duellman, 2007). A negative association is expected between accounting conservatism and firm size (i.e., natural logarithm of total

assets) because larger firms are less conservative (Givoly et al., 2007; Lafond and Watts, 2008). Goh and Li (2011) contend that bondholder–shareholder conflicts are exacerbated when firms have higher debt levels, thus potentially increasing demand for accounting conservativism. Leverage, measured as the ratio of long-term and short-term debt scaled by total assets, is used to control for financial debt. Given that the firms' growth options can potentially influence accounting conservativism (Lafond and Roychowdhury, 2008), a market-to-book ratio of equity is used to control for growth options.

4. Empirical results

4.1 Descriptive statistics and correlations

Table 2 presents the descriptive statistics for the variables used in this study. The average operating profit (OPPROF) of the sample firm is −0.044, and its median value is 0.041. The average value of the market-adjusted stock returns (RRA) is positive 0.089, and its median value is −0.067. The negative (positive) skewness of earnings (returns) is consistent with the asymmetric timeliness of earnings and returns (Basu, 1997). The average and median value of accruals (ACC) are −0.068 and −0.041, respectively. The ACC results suggest the presence of accounting conservatism among our sample firms.

Turning to the independent and control variables, Table 2 shows that the mean CFO tenure (CFOTEN) is 5.065 years since appointment to the position of CFO, and 7.2% of CFOs in our sample are members of the board of directors (CFODIR). The average tenure of CFOs since the appointment as a board member (CFOBTEN) is 6.741 years, and the average tenure of CFOs who are not board members is approximately five years, suggesting that the average tenure of CFOs increases when CFOs are also members on the board. On average, 43.5% of the directors on the board are independent (BIND). The average value of total assets (FSIZE) is AU$135.1 million (logged value: 18.722), while the mean leverage (LEV) and market-to-book ratio (MTB) ratios are 0.173 and 2.541, respectively.

Table 2 about here

Table 3 presents the Pearson correlation matrix for all the variables used in this study. We find that CFO tenure (CFOTEN) is positively and significantly correlated with accruals (ACC) and average operating profit (OPPROF). CFO board membership (CFODIR) is positively and significantly associated with average operating profit (OPPROF). Firm size (FSIZE) is positively and significantly correlated with accruals (ACC) and average operating profit (OPPROF). Our correlation matrix further suggests that while larger firms (FSIZE) have more independent directors (BIND) on the board and are more leveraged (LEV), they have lower growth opportunities (MTB). Board independence (BIND) is positively associated with accruals (ACC) and average operating profit (OPPROF). Leverage (LEV) is significantly and negatively associated with accruals (ACC), average operating profit (OPPROF), and stock returns (RRA). Market-to-book ratio (MTB) is negatively associated with accruals (ACC) and positively associated with stock returns (RRA).

Table 3 about here

4.2 Accrual-based loss recognition

Model 1 in Table 4 presents the regression results for the accrual-based loss recognition model developed by Ball and Shivakumar (2005) (see Equation 1). CFLO is significant and negative, but the interaction term DCFLO*CFLO is positive and statically significant at the 1% level ($p<0.01$), indicating that accruals play a significant mitigating role when cash flows are negative. This finding is consistent with Ball and Shivakumar's (2005) findings. We also find that DCFLO*CFLO is statistically significant across the remaining regression estimations presented in Models 2 to 5.

For CFO tenure (CFOTEN), our key variable of interest in Model 2 is the three-way interaction term DCFLO*CFLO*CFOTEN, which is positive and statistically significant at the 1% level ($p<0.01$). Our results show that CFO tenure (CFOTEN) is associated with

asymmetric timeliness of accruals, suggesting that in the presence of longer-serving CFOs, there is accounting conservatism, providing support to the expertise hypothesis, which is the basis for H1. This finding is also consistent with the argument that longer-serving CFOs are more concerned with their reputation in the market. While our results are at odds with those of Geiger and North (2006), who find that new CFOs implement less-aggressive accounting policies when they are new and vice versa, our results appear to be consistent with those of Ali and Zhang (2015), who find that longer CEO tenure is associated with better accruals quality. Ali and Zhang (2015) argue that top-level managers such as CEOs and CFOs adopt less-aggressive accounting practices in later rather than earlier years of service to preserve their reputation of high ability and talent in the marketplace.

We test H2 via the three-way interaction term DCFLO*CFLO*CFODIR in Model 3. We document a positive and significant coefficient for the three-way interaction term at the 1% level ($p<0.01$), providing support to H2. The positive result for the interaction term demonstrates that CFO board membership is associated with asymmetric timeliness of accruals, suggesting a greater degree of accounting conservatism. This result is consistent with the friendly board and social network theories, which argue there will be a positive effect of CFO board membership on accounting conservatism.

In Model 4, we merge Models 2 and 3 and re-run the regression model. Our key variables of interest, the two three-way interaction terms DCFLO*CFLO*CFOTEN and DCFLO*CFLO*CFODIR, are positive and statistically significant at the 1% and 10% levels, respectively. We also document a significantly larger coefficient for the DCFLO*CFLO*CFOTEN interaction term than for the coefficient for the

DCFLO*CFLO*CFODIR interaction term,[6] suggesting that CFO tenure has a relatively stronger effect than CFO board membership on asymmetric timeliness of accruals.

In Model 5, H3 is examined via the three-way interaction term DCFLO*CFLO*CFOBTEN. We observe a negative and significant coefficient on the three-way interaction term at the 5% level ($p<0.05$), providing support to H3. The negative association between the three-way interaction term and the asymmetric timeliness of accruals measure implies that the presence of more-entrenched CFOs via their board membership and longer tenure leads to lower levels of accounting conservatism.

For the control variables, we find that firm size (FSIZE) is negatively and significantly associated with asymmetric timeliness of accruals, suggesting lower accounting conservatism in larger firms (Givoly et al., 2007). Leverage (LEV) is positively and significantly associated with asymmetric timeliness of accruals, suggesting that more leveraged firms are subject to stricter monitoring, as reflected by the adoption of more-conservative accounting policies (Ahmed and Henry, 2012). All the models in Table 4 are statistically significant, and the adjusted R^2 values account for between 29 and 43% of the variance in the five models.

Table 4 about here

4.3 Timeliness of loss recognition in earnings

Table 5 reports the regression results estimating the effect of CFO tenure (CFOTEN), CFO board membership (CFODIR), and CFO board-membership tenure (CFOBTEN) on asymmetric timeliness of loss recognition in earnings. The coefficient on the two-way interaction term DR*RRA in Model 1 is significant and positive, suggesting that accounting conservatism is practiced among Australian firms.

[6] The Wald test between these two regression coefficients shows a statistically significant F value of 100.17 ($p<0.01$).

We test H1 for the timeliness of earnings to bad news in Model 2. For, CFO tenure (CFOTEN), Model 2 indicates that the three-way interaction term DR*RRA*CFOTEN coefficient is positive and significant at the 5% level ($p<0.05$), providing support to H1. The positive coefficient result is consistent with the reputation and expertise theories, suggesting that longer-serving CFOs promote accounting conservatism via early recognition of bad news.

H2 is tested by using the three-way interaction term DR*RRA*CFODIR in Model 3, which shows a weak positive and significant coefficient result at the 10% level ($p<0.10$), providing some support for H2. Consistent with the friendly board and social network theories, these results suggest that the CFO's board membership improves financial-reporting quality via early recognition of bad news.

In Model 4, we merge Models 2 and 3 and re-run the regression model. Our key variables of interest are the two-way interaction terms DR*RRA*CFOTEN and DR*RRA*CFODIR; these are both positive and statistically significant at the 5% and 10% levels, respectively. We also document a significantly larger coefficient for the three-way interaction term DR*RRA*CFOTEN than for the three-way interaction term coefficient for DR*RRA*CFODIR,[7] suggesting that CFO tenure has a relatively stronger effect than CFO board membership on asymmetric timeliness of earnings.

The effect of CFO board-membership tenure (CFOBTEN) via the three-way interaction term DR*RRA*CFOBTEN on the association with asymmetric timeliness of earnings is examined in Model 5. The negative and statistically significant result at the 1% level ($p<0.01$) between the interaction term and asymmetric timeliness of earnings provides support to H3, suggesting that the combined effect of the CFO's board membership tenure

[7] The Wald test between these two regression coefficients shows a statistically significant F value of 2.60 ($p<0.10$).

leads to a delay in the early recognition of bad news, resulting in lower levels of accounting conservatism in the organization.

With the control variables, firm size (FSIZE) is negatively and significantly associated with timely loss recognition in earnings, whereas leverage (LEV) is positively and significantly associated with timely loss recognition in earnings across all the models. All the models in Table 5 are statistically significant, and the adjusted R^2 values account for between 46 and 63% of the variance in the five models.

Table 5 about here

5. Additional analysis

5.1 CFO tenure, CEO tenure, and accounting conservatism

Ali and Zhang (2015) document that CEO tenure is an important determinant of earnings management. We therefore examine the effect of CEO tenure on accounting conservatism by incorporating variables for CEO and CFO tenure in our base models.

Model 1 in Table 6 presents the regression results based on the accrual-based loss recognition model developed by Ball and Shivakumar (2005). Turning to the two key three-way interaction terms (DCFLO*CFLO*CFOTEN and DCFLO*CFLO*CEOTEN) examining CFO and CEO tenure, we find a positive and significant coefficient for the interaction term DCFLO*CFLO*CFOTEN at the 1% level, but a negative and significant coefficient for the interaction term DCFLO*CFLO*CEOTEN at the 1% level. The result for the interaction term that includes CFO tenure is consistent with our original results reported in Model 2 (Table 4), suggesting longer CFO tenure increases accounting conservatism. However, the CEO tenure interaction result suggests that longer CEO tenure decreases accounting conservatism. Our results for CEO tenure are consistent with the arguments of entrenchment theory, suggesting that longer-serving CEOs are entrenched, which leads to a negative association with asymmetric timeliness of accruals, thus decreasing accounting conservatism.

Ali and Zhang (2015) compare earnings management practices of CEOs in their early years of service (i.e., first three years) with those of CEOs in their last year of service. However, we specifically gauge, whether accounting conservatism practices change over the CEO's tenure in the organization (i.e., as a continuum measured by the number of years), particularly in the presence of the CFO. Including both CEO tenure and CFO tenure in the same regression model, our results indicate that the effect of CEO tenure is ameliorated by CFO tenure, suggesting that longer CFO tenure is beneficial to accounting conservatism, while longer CEO tenure is detrimental to accounting conservatism. We thereby provide insight into the effect of CEO tenure on accounting conservatism, particularly in the presence of the CFO.

Geiger and North (2006) specifically examine discretionary accruals in relation to the appointment of a new external CFO in US firms between the years 1994 and 2000. In contrast to Geiger and North (2006), we focus on examining whether CFO's tenure and membership on the board of directors has any bearing on the company's use of accounting conservatism by Australian firms in the period 2001 and 2014. Given that our study is conducted primarily post-SOX, a period that has placed greater fiduciary responsibility on CFOs and CEOs, it is possible that these contrasting periods of the pre-SOX and post-SOX eras explain differences in Geiger and North and our results. For example, Geiger and North (2006) find that discretionary accruals in the pre-SOX period are significantly higher in the year prior to the new CFO's appointment but are significantly lower in the first year after the new CFO's appointment, whereas our post-SOX results suggest that longer CFO tenure increases accounting conservatism, which is consistent with the reputation and expertise theories.

Model 2 in Table 6 shows the regression results in relation to the effect of CFO and CEO tenure on asymmetric timeliness of earnings. Our two key variables of interest are the

two three-way interaction terms: DR*RRA*CFOTEN and DR*RRA*CEOTEN. We document a positive and significant coefficient result for the three-way interaction term DR*RRA*CFOTEN at the 5% level. This interaction coefficient result suggests that CFO tenure leads to a speedier recognition of bad news in earnings, resulting in greater accounting conservatism. However, we fail to document a significant coefficient for the interaction term DR*RRA*CEOTEN. Overall, our results suggest that longer CFO tenure is beneficial to accounting conservatism, whereas longer CEO tenure leads to a decrease in accounting conservatism in organizations.

Table 6 about here

5.2 CFO tenure without CFO board membership and accounting conservatism

We previously documented that firms with more-entrenched CFOs via board membership and longer tenure have lower levels of accounting conservatism. Table 7 shows the results of the effect of CFO tenure without CFO board membership on accounting conservatism. We include a new variable, CFONBTEN, in the model measuring the length of CFO tenure (overall number of years) without CFO board membership. Model 1 (Table 7) presents the regression results based on Ball and Shivakumar's (2005) accrual-based loss recognition model. The three-way interaction term DCFLO*CFLO*CFONBTEN shows a positive and significant coefficient at the 1% level ($p<0.01$), suggesting that CFO tenure without CFO board membership leads to an increase in cash flows, thus increasing accounting conservatism.

Model 2 (Table 7) reports Basu's (1997) model of asymmetric timeliness of earnings. Our key variable of interest is the three-way interaction term DR*RRA*CFONBTEN, which is positive and significant at the 5% level ($p<0.05$). This interaction result indicates that CFO

tenure without CFO board membership leads to speedier recognition of bad news in earnings, suggesting greater accounting conservatism.

Table 7 about here

5.3 Self-selection bias

In the context of this study, the hypothesized variables related to CFO characteristics could be dependent on firm characteristics and the contracting environment influencing the degree of accounting conservatism. Given that the selection of CFO tenure, CFO board membership, and CFO board-membership tenure is not random in this study, this potential self-selection issue might lead to biased results. To reduce the risk of selection bias, we use Heckman's (1979) two-step Probit regression modeling procedure. The three probability models in the first stage, as outlined in Table 8 (Panel A), include binary measures of the CFO's tenure in the organization (Model 1), CFO's board membership (Model 2), and CFO's board-membership tenure (Model 3). CFO tenure and CFO board-membership tenure are based on a median split, that is, CFOTENM equals 1 if CFO tenure is above the median, and 0 otherwise; and CFOBTENM equals 1 if CFO board-membership tenure is above the median, and 0 otherwise.

The first stage models the probability that CFOTENM, CFODIR, and CFOBTENM are a function of board independence (BIND), CEO duality (CEODU), CFO gender (CFOFEMALE), CFO share ownership (CFOOWN), CFO bonus (CFOBONUS), firm size (FSIZE), leverage (LEV), asset tangibility (ASSETTAN), and market-to-book ratio (MTB), controlling for industry and year fixed effects. Board independence could potentially influence the CFO variables studied in this paper. For example, greater board independence could potentially enhance the monitoring of entrenched CFOs. Since CEO duality can lead to CEOs accruing more power on the board, these CEOs could influence the governance mechanisms of the organization, including CFO tenure, CFO board membership, and CFO

board-membership tenure. The gender of the CFO can also affect CFO tenure. For example, research reports that females stay longer in their positions than do males (Lyness and Judiesch, 2001), suggesting female CFOs might have longer tenures. The incentive system offered by companies such as the provision of shares (increasing ownership) and bonuses to directors could influence a CFO's intention to stay longer in the company. Larger firms are more complex, and might place higher demands on certain governance structures, including CFO characteristics (Lara et al., 2009). Research documents that growth opportunities explain cross-sectional differences in governance configurations (Lara et al., 2009). Firms with more tangible assets might require less monitoring, resulting in less-rigorous governance structures. The parameters from the first-stage model are then used to compute the inverse Mills ratio (IMR). The IMR fundamentally reflects how the variables in the first stage are related to the selection of the sample. In the second stage, we estimate our original equations, including the IMR to control for potential selection bias.

The results of the first-stage model (see Table 8, Panel A [Model 1]) demonstrate that the probability of CFO tenure (CFOTENM) above the median is positively and significantly associated with CEO duality, but negatively and significantly associated with the CFO's gender, bonus, and firm size. Model 2 reveals the probability that CFO board membership (CFODIR) is positively and significantly determined by the CFO's ownership, firm size, and market-to-book ratio, but negatively and significantly influenced by board independence and CFO bonus. Model 3 shows that the probability of CFO board-membership tenure (CFOBTENM) above the median is positively and significantly influenced by board independence and firm size, but negatively and significantly influenced by asset tangibility. Overall, most variables included in Models 1 to 3 appear to be significant determinants of the relevant key variables.

Panel B reports the regression results of the accrual-based loss recognition model, revealing that the IMR coefficient is significant in Models 1 to 3. Further, the coefficients for the two three-way interaction terms DCFLO*CFLO*CFOTEN, DCFLO*CFLO*CFODIR, and DCFLO*CFLO*CFOBTEN, remain significant, with the signs of the coefficients consistent with the regression results reported in Table 4. Overall, our results suggest that after using Heckman's two-stage modeling procedure, the interaction terms show that CFO tenure and CFO board membership lead to either an increase (decrease) in cash flows, which indicate increasing (decreasing) accounting conservatism consistent with earlier results.

Panel C reports the regression results for asymmetric timeliness of earnings, which indicates that the coefficient on the IMR is significant across all the models (Models 1 to 3). The coefficients for the three-way interaction terms DR*RRA*CFOTEN, DR*RRA*CFODIR, and DR*RRA*CFOBTEN are also significant and consistent with our original results reported in Table 5. Overall, our results suggest that after using Heckman's two-stage modeling procedure, CFO tenure and CFO board membership lead to either quicker (slower) recognition of bad news in earnings, suggesting greater (lower) accounting conservatism consistent with results reported earlier.[8]

Table 8 about here

5.4 Other analyses

Several robustness checks and other additional analyses are conducted to verify the results. For example, we examine whether the results hold when using the median values of CFOTEN and CFOBTEN. Untabulated results for the three-way interaction terms remain qualitatively similar to our key findings reported in Tables 4 and 5. Given that CFOs' incentives can influence financial-reporting practices, we control for CFO bonus and CFO

[8] In all the Heckman models reported in this study, we exclude leverage (LEV) and asset tangibility (ASSETTAN) in the second-stage models to satisfy the exclusion criteria (see Lara et al., 2009).

ownership, and the untabulated results of the regression model are qualitatively consistent with the results presented in Tables 4 and 5. In particular, both the accrual-based loss recognition and timely loss recognition models, as well as CFO tenure and CFO board membership in these models are positively associated with accounting conservatism, whereas longer CFO board-membership tenure is negatively associated with accounting conservatism. We also control for other CFO characteristics such as the gender and accounting qualifications of the CFO, and re-run all models and the untabulated results remain qualitatively similar to the main results.

Khan and Watts (2009) suggest that Basu's (1997) and Ball and Shivakumar's (2005) models are limited because they rely too heavily on calculating average conservatism across both time and firms, which reduces the generalizability of the results. To corroborate the strength of the association of CFOTEN, CFODIR, and CFOBTEN with accounting conservatism, we apply the C-Score approach developed by Khan and Watts (2009), where a higher C-Score indicates greater conservatism. Our untabulated regression results are qualitatively consistent with the results presented in Tables 4 and 5. Khan and Watts's (2009) C-Score continues to show a positive and significant association between accounting conservatism and CFO tenure (CFOTEN) at the 1% level, and between accounting conservatism and CFO board membership (CFODIR) at the 10% level. For the measure of CFO board-membership tenure (CFOBTEN), we document that the association is negative and significant at the 10% level.

Finally, as a part of other additional analysis conducted in this study, firm fixed effects were included in our regressions and our original models were re-run. The untabulated results remain qualitatively similar to our key findings.

6. Conclusions

We examine the effects of CFO tenure and board membership on accounting conservatism among Australian listed companies. Given the growing importance of the role of CFOs in the financial-reporting process, we hypothesize that CFO tenure, CFO board membership, and CFO board-membership tenure affect the application of accounting conservatism practices in an organization. Because of the paucity of research and uniqueness of the Australian institutional environment, we use a sample of Australian listed companies.

Consistent with prior literature we use a market-based measure of accounting conservatism, that is, timeliness of earnings (Basu, 1997) and an accounting-based measure of accounting conservatism, that is, accrual-based loss recognition (Ball and Shivakumar, 2005), and find that both CFO tenure and CFO board membership improve financial reporting by influencing the speedier recognition of bad news and thus, accounting conservatism. However, longer CFO board-membership tenure delays the recognition of bad news, resulting in lower accounting conservativism. Additional analyses also suggest that CFO tenure increases accounting conservatism, whereas CEO tenure reduces accounting conservatism. Indeed, both our CFO–firm fixed effect and our year fixed-effect models indicate that CFO tenure increases accounting conservatism over time. While it is possible that exogenous factors such as the global financial crisis (GFC) in 2007-08 might have led to greater accounting conservatism arising from market uncertainty, our fixed-effect models (which include the GFC crisis period) do not show this to be the case.

This research adds to the growing literature on the association between CFO characteristics and financial-reporting quality. Our study has implications for regulators, corporate boards, and investors because it reveals that CFO board membership improves financial-reporting quality by increasing accounting conservatism practices in organizations, which is beneficial to both investors and shareholders. These findings suggest that because of the CFOs' superior understanding of the organization's financial-reporting system and

structures, corporate boards should offer board membership to CFOs to inform board meetings on financial matters.

Although our findings suggest that both CFO tenure and CFO board membership are significantly associated with accounting conservatism, our results are subject to some limitations. While we examine our data for endogeneity problems and control model estimates for sample-selection bias using fixed effects and Heckman's procedures, however because these procedures are unable to address these endogeneity concerns completely, our model results should be interpreted with some degree of caution.

Another possible limitation of our study is the non-inclusion of financial and utility firms, and firms reporting in US dollars, which might result in the exclusion of some prominent and important Australian companies. Given that our study was undertaken in the context of publicly listed companies, the results of our research may not be applicable to all companies in the Australian economy, particularly proprietary companies. Moreover, our study does not distinguish between conditional and unconditional accounting conservatism. In addition, it does not control for earnings restatements, ASX enforcement actions, CFO experience in previous roles, internal versus external appointment of a new CFO, appointment of new CEOs with new agendas that override CFO agendas, or shareholder litigation to explore whether CFO tenure and board membership are associated with these proxies, areas of interest that could be valuable areas for future research to pursue.

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Appendix A: List of variables

ACC = Accruals (i.e., difference between operating profit and cash flow from operations) scaled by the book value of total assets at the beginning of the fiscal year

DCFLO = Binary variable coded as 1 if CFO_{jt} is negative, and 0 otherwise

CFLO = Cash flow from operating activities scaled by the book value of total assets at the beginning of the fiscal year

CFOTEN = Number of years since the CFO was appointed to the position of CFO in the organization

CFOBTEN = Number of years since the CFO was appointed to the board of directors

CFONBTEN = Length of CFO's tenure (overall number of years) in the organization without board membership

CFOTENM = Binary variable coded 1 if the CFOTEN is above median value, and 0 otherwise

CFOBTENM = Binary variable coded 1 if the CFOBTEN is above median value, and 0 otherwise

CFODIR = Binary variable coded 1 if the CFO serves on the board of directors, and 0 otherwise

BIND = Total number of independent directors scaled by the total number of directors on the board

CEODU = Binary variable coded 1 if a CEO also holds the position of chairperson in a company, and 0 otherwise

LEV = Total debt scaled by total assets

FSIZE = Natural logarithm of book value of total assets

MTB = Market value of equity scaled by the book value of equity

OPPROF = Operating profit after tax deflated by market value of equity at beginning of the fiscal year

RRA = Annual share returns for the firm from three months after the previous fiscal year to three months after the current fiscal year, adjusted for the All Ordinaries Index over the same period

DR = = Binary variable coded as 1 if RRA_{jt} is negative, 0 otherwise.

CFOOWN = Percentage of company shares owned by CFO

CFOBONUS = Natural logarithm of CFO bonus

CFOFEMALE = Binary variable coded 1 if the CFO is female, and 0 otherwise.

ASSETTAN = Ratio of fixed assets to total assets

Table 1: Sample selection and industry breakdown

Panel A: Sample selection

Total firm-year observations	8,125
Exclusions: Financial and utility firm-year observations	(1,085)
Total number of observations in accrual-based model	7,040
Exclusions: Missing price data in DataStream database	(1,864)
Total number of observations in model of timely loss recognition in earnings	5,176

Panel B: Sample description by industry

Industry name	Firm-year observations	Percentage
Consumer discretionary	1,141	0.162
Consumer staple	387	0.055
Energy	842	0.120
Healthcare	728	0.103
Information technology	518	0.074
Industrial	1,331	0.189
Material	1,886	0.268
Telecommunications	207	0.029
Total	7,040	100

Table 2: Descriptive statistics

Variables	N	Mean	Q1	Median	Q3	Std. Dev.
ACC	7,040	−0.068	−0.104	−0.041	−0.000	0.142
OPPROF	5,176	−0.044	−0.088	0.041	0.090	0.327
DCFLO	7,040	0.374	0.000	0.000	1.000	0.484
CFLO	7,040	−0.001	0.000	0.051	0.132	0.325
RRA	5,176	0.089	0.089	−0.067	0.319	0.751
DR	5,176	0.554	0.000	1	1	0.497
CFODIR	7,040	0.072	0.000	0.000	0.000	0.259
CFOTEN (logged value)	7,040	1.585	1.098	1.609	2.101	0.680
CFOTEN (in years)	7,040	5.065	1.997	4	7.170	4.000
CFOBTEN (logged value)	611	1.858	1.386	1.946	2.303	0.630
CFOBTEN (in years)	611	6.741	3	6	9	4.795
CFONBTEN (logged value)	6,429	1.576	1.096	1.609	2.080	0.676
CFONBTEN (in years)	6,429	5.002	1.994	4	7.003	3.955
BIND	7,040	0.435	0.250	0.500	0.667	0.273
CFOFEMALE	7,040	0.071	0.000	0.000	0.000	0.257
CFOOWN	7,040	0.046	0.000	0.000	0.000	0.306
CFO BONUS(logged value)	7,040	4.392	0.000	0.000	10.119	5.162
FSIZE (logged value)	7,040	18.722	17.348	18.630	20.041	2.086
FSIZE (in million AU$)	7,040	1,530	34.2	124	505	8,200
LEV	7,040	0.173	0.001	0.126	0.270	0.211
MTB	7,040	2.541	0.855	1.639	2.968	3.830

Table 3: Correlation matrix

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ACC	1														
2	OPPROF	0.419***	1													
3	CFOTEN	0.035***	0.143***	1												
4	CFODIR	-0.005	0.035**	0.067***	1											
5	DCFLO	-0.026**	-0.427***	-0.127***	0.001	1										
6	CFLO	0.034***	0.391***	0.087***	-0.020*	-0.584***	1									
7	RRA	0.012	0.132***	-0.035**	-0.002	-0.028*	0.011	1								
8	DR	-0.047***	-0.168***	-0.011	0.017	0.101***	-0.083***	-0.678***	1							
9	BIND	0.070***	0.122***	0.216***	-0.092***	-0.176***	0.118***	-0.007	-0.036**	1						
10	CFO	0.004	-0.010	0.050***	-0.011	0.023	0.010	-0.010	0.013	0.032***						
11	FEMALE	-0.014	-0.016	0.068***	0.051***	0.026**	0.003	-0.001	0.011	0.020*	1 0.025**					
12	CFO OWN CFO BONUS	0.059***	0.170***	0.118***	-0.160***	-0.257***	0.188***	0.034**	-0.091***	0.302***	0.046***	1 -0.019	1			
13	FSIZE	0.215***	0.331***	0.142***	0.014	-0.495***	0.390***	0.020	-0.092***	0.377***	-0.016	-0.070**	0.326***	1		
14	LEV	-0.055***	-0.082***	0.016	-0.008	-0.103***	0.008	-0.091***	0.031***	0.021*	-0.030**	0.027**	0.161***	0.161***	1	
15	MTB	-0.068***	-0.012	-0.034**	0.014	0.042***	-0.073***	0.176***	-0.139***	-0.008	0.024**	0.010	-0.108***	-0.108***	-0.142***	1

*, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Table 4: CFO tenure, CFO board membership, and accruals-based loss recognition

VARIABLES	Model 1 ACC	Model 2 ACC	Model 3 ACC	Model 4 ACC	Model 5 ACC
Constant	−0.617***	−0.669***	−0.599***	−0.687***	−0.406*
	(0.056)	(0.055)	(0.056)	(0.058)	(0.239)
DCFLO	0.034***	0.045***	0.089***	0.058***	0.216***
	(0.007)	(0.012)	(0.006)	(0.012)	(0.071)
CFLO	−0.439***	−0.047***	−0.022***	0.016***	−0.844***
	(0.021)	(0.012)	(0.004)	(0.004)	(0.240)
DCFLO*CFLO	0.436***	0.014***	0.020***	−0.024**	0.720***
	(0.023)	(0.004)	(0.005)	(0.011)	(0.249)
CFOTEN		0.013**		0.015**	
		(0.007)		(0.006)	
DCFLO*CFOTEN		0.006		0.002	
		(0.007)		(0.007)	
CFLO*CFOTEN		−0.126***		−0.140***	
		(0.010)		(0.009)	
DCFLO*CFLO*CFOTEN		0.125***		0.143***	
		(0.012)		(0.010)	
CFODIR			0.029**	0.012	
			(0.014)	(0.014)	
DCFLO*CFODIR			−0.037*	−0.022	
			(0.019)	(0.019)	
CFLO*CFODIR			−0.272***	−0.115**	
			(0.065)	(0.059)	
DCFLO*CFLO*CFODIR			0.257***	0.102*	
			(0.066)	(0.060)	
CFOBTEN					−0.027
					(0.027)
DCFLO* CFOBTEN					−0.057
					(0.035)
CFLO* CFOBTEN					0.271**
					(0.125)
DCFLO*CFLO* CFOBTEN					−0.258**
					(0.128)
Control variables	Included	Included	Included	Included	Included
Year	Yes	Yes	Yes	Yes	Yes
CFO_Firm FE	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.347	0.331	0.299	0.332	0.425
F-statistic	35.26***	24.03***	14.91***	21.67***	4.20***
Observations	7,040	7,040	7,040	7,040	611

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Table 5: CFO tenure, CFO board membership, and timely loss recognition in earnings

VARIABLES	Model 1 OPPROF	Model 2 OPPROF	Model 3 OPPROF	Model 4 OPPROF	Model 5 OPPROF
Constant	−0.876***	−1.006***	−0.794***	−0.867***	−1.166*
	(0.138)	(0.134)	(0.131)	(0.136)	(0.655)
DR	0.006	−0.030	0.006	−0.028	0.089
	(0.013)	(0.031)	(0.013)	(0.032)	(0.161)
RRA	0.023*	0.032*	0.015*	0.034*	−0.463***
	(0.013)	(0.018)	(0.008)	(0.019)	(0.097)
DR*RRA	0.131***	−0.028	0.113***	−0.039	1.467***
	(0.028)	(0.062)	(0.026)	(0.063)	(0.299)
CFOTEN		0.024*		−0.006	
		(0.014)		(0.013)	
DR*CFOTEN		0.021		0.020	
		(0.017)		(0.017)	
RRA*CFOTEN		−0.010		−0.009	
		(0.010)		(0.011)	
DR*RRA*CFOTEN		0.080**		0.084**	
		(0.034)		(0.035)	
CFODIR			0.110***	0.055*	
			(0.035)	(0.033)	
DR*CFODIR			−0.081*	0.006	
			(0.047)	(0.044)	
RRA*CFODIR			−0.144***	−0.054*	
			(0.032)	(0.030)	
DR*RRA*CFODIR			0.172*	0.068*	
			(0.097)	(0.039)	
CFOBTEN					0.138
					(0.139)
DR* CFOBTEN					−0.077
					(0.077)
RRA* CFOBTEN					0.239***
					(0.054)
DR*RRA* CFOBTEN					−0.798***
					(0.152)
Control variables	Included	Included	Included	Included	Included
Year	Yes	Yes	Yes	Yes	Yes
CFO_Firm FE	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.464	0.475	0.433	0.467	0.634
F-statistic	9.16***	10.03***	10.15***	6.97***	3.03***
Observations	5,176	5,176	5,176	5,176	403

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Table 6: CFO tenure, CEO tenure, and accounting conservatism

VARIABLES	Model 1 ACC	Model 2 OPPROF
Constant	−0.692***	−1.051***
	(0.061)	(0.147)
DCFLO	0.023	
	(0.018)	
CFLO	−0.007	
	(0.039)	
DCFLO*CFLO	0.050	
	(0.042)	
CFOTEN	0.019***	0.039**
	(0.007)	(0.016)
DCFLO*CFOTEN	−0.001	
	(0.008)	
CEOTEN	−0.017**	−0.019
	(0.007)	(0.017)
DCFLO*CEOTEN	0.020**	
	(0.009)	
CFLO*CFOTEN	−0.139***	
	(0.010)	
CFLO*CEOTEN	0.011	
	(0.018)	
DCFLO*CFLO*CFOTEN	0.161***	
	(0.011)	
DCFLO*CFLO*CEOTEN	−0.053***	
	(0.020)	
DR		−0.013
		(0.046)
RRA		0.019
		(0.027)
DR*RRA		0.105
		(0.090)
DR*CFOTEN		0.019
		(0.019)
DR*CEOTEN		−0.008
		(0.020)
RRA*CFOTEN		−0.015
		(0.012)
RRA*CEOTEN		0.011
		(0.013)
DR*RRA*CFOTEN		0.092**
		(0.039)
DR*RRA*CEOTEN		−0.062
		(0.041)
Control variables	Included	Included
Year	Yes	Yes
CFO_Firm FE	Yes	Yes
Adjusted R^2	0.338	0.468
F-statistic	20.77***	8.18***
Observations	7,040	5,176

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Table 7: CFO not on the board tenure and accounting conservatism

VARIABLES	Model 1 ACC	Model 2 OPPROF
Constant	−0.664***	−1.268***
	(0.060)	(0.149)
DCFLO	0.055***	
	(0.013)	
CFLO	0.015***	
	(0.004)	
DCFLO*CFLO	−0.011	
	(0.012)	
CFONBTEN	0.013*	0.034**
	(0.007)	(0.015)
DCFLO*CFONBTEN	0.002	
	(0.007)	
CFLO*CFONBTEN	−0.140***	
	(0.009)	
DCFLO*CFLO*CFONBTEN	0.137***	
	(0.011)	
DR		−0.017
		(0.032)
RRA		0.036*
		(0.019)
DR*RRA		−0.011
		(0.064)
DR*CFONBTEN		0.016
		(0.018)
RRA*CFONBTEN		−0.012
		(0.011)
DR*RRA*CFONBTEN		0.083**
		(0.036)
Control variables	Included	Included
Year	Yes	Yes
CFO_Firm FE	Yes	Yes
Adjusted R^2	0.338	0.481
F-statistic	22.56***	9.35***
Observations	6,429	4,773

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Table 8: Regression results addressing self-selection bias

Panel A: First stage

VARIABLES	Model 1 CFOTENM	Model 2 CFODIR	Model 3 CFOBTENM
Constant	2.365***	−3.947***	−1.617***
	(0.132)	(0.214)	(0.484)
BIND	−0.065	−0.938***	0.416*
	(0.053)	(0.102)	(0.253)
CEODU	0.132***	−0.060	0.137
	(0.039)	(0.072)	(0.170)
CFOFEMALE	−0.203***	−0.016	−0.015
	(0.056)	(0.101)	(0.242)
CFOOWN	−0.043	0.227***	0.045
	(0.049)	(0.055)	(0.107)
CFOBONUS	−0.024***	−0.107***	0.015
	(0.003)	(0.008)	(0.019)
FSIZE	−0.110***	0.161***	0.073***
	(0.007)	(0.012)	(0.025)
LEV	−0.004	0.051*	−0.050
	(0.011)	(0.026)	(0.065)
MTB	−0.007**	0.017***	0.020
	(0.003)	(0.006)	(0.014)
ASSETTAN	−0.023	0.013	−0.775***
	(0.057)	(0.101)	(0.230)
Industry	Included	Included	Included
Year	Included	Included	Included
Pseudo R2	0.073	0.137	0.092
Observations	7,040	7,040	611

Panel B: Heckman estimation of accruals-based loss recognition: second stage

	Model 1	Model 2	Model 3
VARIABLES	ACC	ACC	ACC
Constant	−0.839***	−0.688***	0.027
	(0.077)	(0.081)	(0.306)
DCFLO	0.055***	0.082***	0.262***
	(0.012)	(0.006)	(0.069)
CFLO	0.015***	−0.021***	−0.836***
	(0.004)	(0.003)	(0.233)
DCFLO*CFLO	−0.024**	0.027***	0.867***
	(0.010)	(0.004)	(0.244)
CFOTEN	0.015**		
	(0.007)		
DCFLO*CFOTEN	0.002		
	(0.007)		
CFLO*CFOTEN	−0.139***		
	(0.009)		
DCFLO*CFLO*CFOTEN	0.142***		
	(0.010)		
CFODIR		0.039***	
		(0.014)	
DCFLO*CFODIR		−0.043**	
		(0.019)	
CFLO*CFODIR		−0.286***	
		(0.058)	
DCFLO*CFLO*CFODIR		0.265***	
		(0.059)	
CFOBTEN			−0.027
			(0.026)
DCFLO* CFOBTEN			−0.081**
			(0.034)
CFLO* CFOBTEN			0.267**
			(0.122)
DCFLO*CFLO* CFOBTEN			−0.306**
			(0.125)
Inverse Mills ratio	−0.227**	0.026**	−0.197*
	(0.090)	(0.012)	(0.102)
Control variables	Included	Included	Included
Year	Yes	Yes	Yes
CFO_Firm FE	Yes	Yes	Yes
Adjusted R^2	0.328	0.277	0.437
F-statistic	22.97***	16.62***	4.410***
Observations	7,040	7,040	611

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.

Panel C: Heckman estimation of timeliness of earnings to news: second stage

VARIABLES	Model 1 OPPROF	Model 2 OPPROF	Model 3 OPPROF
Constant	−1.261***	−1.132***	−2.193**
	(0.166)	(0.182)	(0.925)
DR	−0.031	0.007	0.054
	(0.032)	(0.013)	(0.160)
RRA	0.030	0.013	−0.488***
	(0.018)	(0.008)	(0.092)
DR*RRA	−0.015	0.121***	1.513***
	(0.065)	(0.026)	(0.307)
CFOTEN	0.033**		
	(0.015)		
DR*CFOTEN	0.022		
	(0.017)		
RRA*CFOTEN	−0.009		
	(0.010)		
DR*RRA*CFOTEN	0.074**		
	(0.035)		
CFODIR		0.117***	
		(0.035)	
DR*CFODIR		−0.082*	
		(0.048)	
RRA*CFODIR		−0.142***	
		(0.032)	
DR*RRA*CFODIR		0.170*	
		(0.100)	
CFOBTEN			−0.103
			(0.104)
DR* CFOBTEN			−0.057
			(0.077)
RRA* CFOBTEN			0.245***
			(0.052)
DR*RRA* CFOBTEN			−0.813***
			(0.155)
Inverse Mills ratio	−0.195*	0.043*	0.702**
	(0.102)	(0.024)	(0.317)
Control variables	Included	Included	Included
Year	Yes	Yes	Yes
CFO_Firm FE	Yes	Yes	Yes
Adjusted R^2	0.463	0.430	0.623
F-statistic	9.17***	11.29***	2.88***
Observations	5,176	5,176	403

Standard errors in parentheses; *, **, *** = statistically significant at less than 0.10, 0.05, and 0.01, respectively.