Independent Directors' Reputation Incentives, Firm Performance, and Accounting Conservatism: Evidence from Australia

Submitted by
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A thesis submitted in total fulfilment
of the requirements for the degree of
Master of Business

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August 2021

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Abstract

This thesis comprises two empirical studies that examine the association between independent directors' reputation incentives and firm performance as well as accounting conservatism, utilising a sample of the top 500 firms listed on the Australian Security Exchange (ASX) during the 16-year period 2004-2019. As presented in Chapter 2, the first study investigates whether and how variation in the reputation incentives of independent directors affect firms' financial performance. The results show that, consistent with Masulis and Mobbs (2014), independent directors with high reputation incentives are willing to contribute their limited time and effort to the firms where these directorships are based. This leads to superior performance at these firms. By contrast, the presence of independent directors with low reputation incentives on the boards is likely to lower the firms' performance. The main findings hold in the case of male independent directors. However, in the case of female directors, the relationships between the proportion of those who have low reputation incentives and all firm performance indicators are not significant.

The second study, presented in Chapter 3, explores the potential association between independent directors' reputation incentives and accounting conservatism. Empirical findings show that the presence of independent directors with high reputation incentives on the boards tends to favour the adoption of conservative accounting practices, whereas the opposite is observed of those with low reputation incentives. These findings provide strong support for prior studies, such as Beekes et al. (2004), Ahmed and Duellman (2007), and García Lara et al. (2009), etc., who report that accounting conservatism acts as a complement for effective corporate governance in mitigating agency conflicts. In the same vein, this study finds that reputation incentives of both male and female independent directors have significant impacts on the adoption of conservative accounting practices by Australian listed firms.

Statement of Authorship

"Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis submitted for the award of any other degree or diploma.

No other person's work has been used without due acknowledgment in the main text of the thesis.

This thesis has not been submitted for the award of any degree or diploma in any other tertiary institution."

Quyen Le
12 August 2021

Acknowledgements

First of all, I would like to express my sincere thanks to my two supervisors, Professor Kamran Ahmed and Dr. Alireza Vafaei, for their valuable guidance, time, suggestions and encouragement throughout my Masters program at La Trobe University. Without their valuable inputs and support, the completion of this thesis would not have been possible

My gratitude also goes to Dr. Victoria Obeng, who provided me with the assistance in some data analysis techniques. I feel greatly indebted to the assistance of Professor Darren Henry, Dr. Mohammad Alipour, and Dr. Shawgat Kutubi for their constructive comments on my papers.

I am thankful to the 11th Financial Markets and Corporate Governance Conference for providing me an opportunity to present my work there. I am also grateful to all professors and participants of the 11th FMCG Conference for their valuable feedbacks during my presentation in relation to my work, which has been implemented into my thesis.

I would like to express my special appreciation to La Trobe Business School for providing me with equipment during COVID-19 lockdown period to conduct my research at home. As a result, I have finished my Masters program in a timely manner without any major disruptions. Appreciation also goes to the Australian Government for providing financial support under the Australian Government Research Training Program.

I am greatly thankful to my parents for their prayers, support and encouragement during the entire period of my Masters program. Finally, I would like to express my loving thanks to my dear husband, who has always been patient and caring, giving me all the strength and inspiration I have needed, and being such a good father to our son. A special thanks to my dearest son for his patience towards his mother's busy times.

Chapter 1:
Introduction

The important roles that independent directors play in corporate governance to ensure the board effectiveness have long been acknowledged in the extant literature (Coles et al., 2008, Lei and Deng, 2014, Jong and Ho, 2019). Aguilera (2005) argues that board independence serves as a mechanism to improve the accountability, transparency and efficiency of corporate governance. It has also been used to address many corporate governance issues (Clarke, 2007), such as inefficient use of resources, mismanagement, fraud, or irresponsible decisions (Mittal, 2011). According to Fuzi et al. (2016), independent board members contribute their independent views, actively participate in board discussion, and monitor executive directors and the top managements. Therefore, the presence of independent directors on the board ensures that decisions made by the boards are free from any influence of inside directors and the top management, thus maximising shareholders' value (Fuzi et al., 2016).

Although being considered as an effective mechanism in reducing agency conflicts that arise as a result of ownership separation (Fama and Jensen, 1983), a review of the existing literature on independent directors' effectiveness has provided mixed results. It has been argued that some of the reasons behind these conflicting empirical evidence are differences in theoretical approach (Bravo and Reguera-Alvarado, 2017), or differences in methodology (Choi et al., 2007, Bhagat and Bolton, 2013). Besides, apart from the ratio of independent board members, various characteristics of independent directors also determine their effectiveness. This includes their tenure (Reguera-Alvarado and Bravo, 2017, James and Wang, 2021), firm-specific knowledge (Carter and Lorsch, 2004, Kor and Sundaramurthy, 2008), industry-related knowledge (Defond et al., 2005, Fich, 2005, Khanna et al., 2013, Wang et al., 2015, Kang et al., 2018), expertise (Mire, 2016, Liu and Sun, 2021), financial incentives (Vafeas, 1999b, Perry and Zenner, 2001, Yermack, 2004, Minnick and Zhao, 2009), and reputation incentives (Masulis and Mobbs, 2014, 2016, 2017, Sila et al., 2017, Huang et al., 2018, Bryan and Mason, 2020), to name a few. Although reputation incentives of independent directors are an important factor of board monitoring, little empirical evidence is currently available. The purpose of thesis is to address this issue using a large sample of Australian listed companies.

This thesis consists of two studies on independent directors' reputation incentives in Australia, which are presented in Chapter 2 and 3. The first study investigates the association between independent directors' reputation incentives and firms' financial performance. The second study examines the relationship between accounting conservatism and reputation incentives of independent directors.

For decades, directors' reputation has attracted considerable attention by academics, researchers and policy makers. Directors, generally speaking, consider their reputation as a

determinative incentive to perform their monitoring and advisory roles effectively. Kreps (1990) considers reputation as a tradeable asset and managers who honour trust improve their reputations and earn a premium over others who do not, while reputation is deemed a valuable asset for executives (Alchian and Demsetz, 1972), and for independent directors (Adams and Ferreira, 2008). Levit and Malenko (2016) acknowledge that one of the major concerns for independent directors, executive directors, and CEOs is reputational consequences, as changes in their reputation can be under the forms of either awards or penalties. The authors assert that directors are motivated to build and enhance their reputation so that they can acquire director appointments in the future. Many other scholars also come into an agreement that having high reputation is a powerful incentive for directors, including independent directors (Kreps, 1990, Gössling, 2003, Masulis and Mobbs, 2014, Jiang et al., 2015).

The vital roles of independent directors' reputation incentives have been widely emphasised in the extant literature. Firstly, reputation acts as a signalling mechanism to convey a specific individual's position in an institutional setting to the external world legitimatised by a group of shared beliefs (Rao, 1994). Fama (1980) and Fama and Jensen (1983) point out that the primary motivation of a director is protecting and enhancing their reputation in order to signal their expertise to the internal and external directors' labour market. They propose that a high reputation as an active monitor of management improves the director's value of human capital and rewards them with additional directorships.

Secondly, the reputation of independent directors signals the characteristics of the companies where their directorships are based to external stakeholders (Eminet and Guedri, 2010). To be specific, it is documented that the market witness positive reactions following the announcements of appointing new prestigious independent directors to the boards (Peng and King, 2008, Gogolin et al., 2018). Not only financial but also visible and other non-financial attributes that were signalled by prestigious independent board members about their firms (Eminet and Guedri, 2010). For instance, reputable outside directors also signal their firms' reputation. Pursuant to Deutsch and Ross (2003), newly-listed firms in which stakeholders decline to align themselves, can opt to appoint independent directors with high reputation to their boards to signal their legitimacy and market positions

Thirdly, independent directors' reputation incentives not only play a signalling role by delivering the directors' images of expertise, ability and integrity to the market (Certo, 2003), but also provides the boards with better access to vital resources (Pfeffer, 1972). In fact, information asymmetry relevant to lacking the firms' information causes independent director's inefficiency in exercising his/her monitoring and advisory roles (Byrd and Hickman, 1992, Charan, 1998, Ahmed and Duellman, 2007). By participating in multiple boards, outside directors obtain and provide comprehensive and accurate information that can be important for the focal firms (Haunschild and Beckman, 1998, Carpenter and Westphal, 2001, Baum and Ingram, 2002), contributing to a more transparent information environment.

Besides, directors' reputational concerns mitigate agency problems (Yermack, 2004). According to Fama (1980) and Fama and Jensen (1983), efficient monitors of the top management enhance their reputation and are rewarded with additional board seats and benefits, whereas inefficient monitors who act against shareholders' interest suffer a reduction in their reputation and are penalized with the loss of board positions and fines to pay. Due to the unfavorable effects of damaged reputation, independent directors are incentivized to improve their effectiveness in carrying out their monitoring and advisory tasks, and align their interests with those of shareholders, leading to a decrease in agency conflicts.

Due to the importance of reputation, independent directors are likely to take steps to actively manage their reputation. The consequences of these managerial choices have certain influences on the firms' operating, investing, and financing decisions. Although independent directors' reputation incentives have been investigated in a large and growing body of literature (e.g., Masulis and Mobbs, 2014, 2016, 2017, Sila et al., 2017, Huang et al., 2018, etc.), some important areas still remain unexplored, especially in the context of Australia. The aim of this thesis is to develop a better understanding of the role of independent directors' reputation incentives in Australian firms. This thesis presents two empirical studies that seek to address the following research questions:

1. How do independent directors' reputation incentives affect the financial performance of firms?
2. How are independent directors' reputation incentives associated with the firms' earnings quality, as measured by accounting conservatism?

Chapter 2 examines the association between independent directors' reputation incentives and Australian firms' financial performance. Over the decades, numerous studies have been carried out to investigate the effects of board independence on firm performance and have provided conflicting results. Hillman and Dalziel (2003) and Kroll et al. (2008) indicate that relying solely on the proportion of independent directors on the boards to assess their effectiveness is not sufficient. There are other important attributes, which should be also considered, including independent directors' reputation incentives. To date, little evidence has been found associating firms' financial performance and independent directors' reputation incentives, except for Masulis and Mobbs (2014), which was conducted in the U.S. context. However, it is impracticable to generalise U.S. results in Australia, because of many differences between the two countries. Therefore, chapter 2 seeks to obtain data from Australia which will help to address this research gap.

The purpose of Chapter 3 is to explore the potential relationship between independent directors' reputation incentives and accounting conservatism. Accounting conservatism has long been considered as a desirable and enduring feature of accounting information (Ball and Brown, 1968, Basu, 1997, Ruch and Taylor, 2015). As accounting conservatism is one of the important attributes of financial reporting

quality (Ball et al., 2000, Basu, 2005), knowledge of its nature and determinants is essential. A great number of studies have been conducted to investigate various firm and board characteristics that potentially influence the level of accounting conservatism. Despite that, no known empirical research has focused on exploring the relationships between independent directors' reputation incentives and the adoption of conservative accounting practices by Australian firms. Accordingly, chapter 3 attempts to fill this gap, adding to the growing body of research by indicating that reputation incentives of independent board members are important determinants of accounting conservatism.

Finally, Chapter 4 summarises the main findings of the two previous chapters and their practical implications, identifies the limitations and suggests possible future research.

Chapter 2: Independent Directors' Reputation Incentives and Firm Performance – An Australian Perspective

Abstract

This study investigates the association between independent directors' reputation incentives and firm performance using Australia's top 500 listed firms for the period 2004-2019. The analyses reveal that firm performance is positively (negatively) associated with the proportion of independent directors viewing their directorships as more (less) prestigious. In addition, I examine the association between firm performance and reputational incentives based on independent board members' gender. I address endogeneity issues systematically by employing both propensity score matching (PSM) and the Heckman two-stage approach and find that the results are robust. This study has several implications. For shareholders and the firms, reputational concerns should be accounted for when evaluating the effectiveness of independent directors in protecting shareholders' interests. For policy-makers, the study offers some useful insights so that rules and policies that also take into account the effects of reputation incentives can be established to enhance the effectiveness of independent directors for superior firm performance.

Keywords: Reputation incentives; Independent directors; Firm performance; Corporate governance; Australia

2.1 Introduction

Numerous studies have acknowledged the important roles of boards of directors in corporate governance (Fama and Jensen, 1983, Rosenstein and Wyatt, 1990, Yermack, 1996, Perry, 2000, Fich and Shivdasani, 2006). Independent directors are vital for these boards' effective monitoring duties and alleviating agency conflicts. A review of the literature on the effects of independent directors on firms' performance provides mixed results, with many studies demonstrating that a high proportion of independent directors on company boards enables better firm performance (Hutchinson, 2002, Panasian et al., 2004, Dahya and McConnell, 2007, Bhagat and Bolton, 2013, Shan, 2019). In contrast, some studies report a negative association between board independence and corporate performance (Koerniadi and Tourani-Rad, 2012, Swan and Forsberg, 2014, Moursli, 2020), and again others find no significant relationship (Hermalin and Weisbach, 1991, Klein, 1998, Lawrence and Stapledon, 1999, Bhagat and Black, 2001).

Although board independence is an important determinant of firm performance, relying solely on it is not enough to evaluate the effectiveness of independent directors on the boards (Hillman and Dalziel, 2003, Kroll et al., 2008). Other attributes of independent directors are important in determining their effectiveness, such as their firm-specific knowledge (Carter and Lorsch, 2004), expertise (Kor and Sundaramurthy, 2008, Khanna et al., 2013, Wang et al., 2015), and motivations (Vafeas, 1999b, Masulis and Mobbs, 2014, Bravo and Reguera-Alvarado, 2017). Apart from financial incentives, independent directors also pay substantial attention to reputation matters. According to Fama (1980) and Fama and Jensen (1983), reputation is an equally valuable attribute for outside directors. Existing literature suggests that directors' reputation plays an important role as it facilitates companies' access to scarce resources (Pfeffer, 1972), signals directors' expertise to the market (Certo, 2003), mitigates agency conflicts (Yermack, 2004), increases firm's full disclosure (Sila et al., 2017), and enhances firm reputation (Tirole, 1996).

Although several studies have examined the association between board independence and firms' performance, to the best of my knowledge, little research has been conducted to examine the effects of independent directors' reputation incentives on corporate financial performance except for Masulis and Mobbs (2014), which was carried out in the U.S. Due to differences between Australia and the U.S. in terms of institutional, regulatory and reporting environments, composition of the boards of directors, it stands to question whether the findings reported by Masulis and Mobbs (2014) will hold in Australia.

According to Qu et al. (2020), Australia survived particularly well during the global financial crisis thanks to its corporate governance system, which more closely resembles the world's best practice. The Australian environment features higher ownership concentration, permitting closer

monitoring of the firm's management than the U.S' (Monem, 2013). Therefore, the demand for alternative governance mechanisms in Australian firms such as board independence may reduce, leading to differences in the motivations to appoint independent directors on the boards. Consistently, Bugeja et al. (2012) find that the Australian directors' boards, unlike the U.S., are typically smaller and have fewer independent directors. Another distinction that can be observed between the two countries is the way independent directors are being compensated. Particularly, Burns et al. (2020) find that independent directors in more corrupt jurisdictions, such as the U.S., receive greater compensation compared to those in Australia. This is to compensate for greater monitoring effort provided by independent directors to mitigate the negative effects of corruption. At the same time, the Australian market for corporate control is less active as a corrective mechanism against management entrenchment and corporate failure, making the role of independent boards and director incentives more important in Australia than in the U.S. (Pham et al., 2012). Furthermore, the Australian regulatory framework on corporate governance is more flexible than the "rule-based" regulations in the U.S. Despite new governance principles have been progressively issued by the ASX from 2003 to 2019, only the requirements for audit committees were made mandatory for the 500 ASX listed companies, whereas the remaining principles stick to the "if not, why not" approach allowed (Méndez et al., 2015). The flexibility in these governance choices is especially important, considering that Australian firms are generally smaller in comparison with the U.S. (Lama and Anderson, 2015), and the "one-size-fit-all" approach is not suitable for all firms. This provides Australian listed firms with significant discretion towards their choice of governance structure that best suits their situation, leading to substantial differences in governance practices, including independent director composition between Australia and the U.S. In view of the above, I cannot assume that evidence reported in the U.S. context on the relationship between independent directors' reputation incentives and firm performance can be entirely generalised to Australia.

The ASX Corporate Governance Council (2019) recommends that firms should have a majority of independent directors on their boards. We notice that the sample firms witnessed an upward trend in the proportion of independent directors on the boards during the sample period, consistent with Henry (2010) that Australian firms are moving towards greater compliance with the ASX recommendations. However, the benefits of the call for an increased presence of independent directors are not entirely without doubt, given the mixed evidence obtained regarding the relationship between board independence and firm performance. One of the questions that has yet to be investigated in the Australian context is that apart from board independence, whether reputation incentives of independent board members also matter in determining firm performance. As stated in Masulis (2020), appointing the right kind of directors is especially important to enhance the boards' effectiveness. Therefore, new empirical evidence on the association between independent directors' reputation incentives and firm performance in the Australian context is warranted.

Based on a sample of the top 500 largest listed Australian companies for 2004 – 2019, I explore how reputation incentives of independent directors influence Australian firms' performance. According to Masulis and Mobbs (2014), a director with multiple directorships may consider one of them to be more prestigious than the others, and devote more time and effort to this directorship. Therefore, from the resource dependence theory's perspective, I argue that Australian firms benefit from the talent and expertise of independent directors who highly rank their directorships, and vice versa. I follow Masulis and Mobbs (2014) to measure the reputation incentives of independent directors. Particularly, an independent director is deemed to have high (low) reputation incentive if the focal firm is at least 10% higher (lower) in market capitalisation than the smallest (largest) firm. Reputation measures are then aggregated into firm-level variables (*HIGH* and *LOW*), which indicate the proportion of outsiders with high or low reputation incentives on the boards. I employ five different measures to capture firm performance, namely return on assets (*ROA),* return on equity (*ROE),* operating cash flows divided by total assets (*CFO/TA),* Tobin's Q (*TOBIN'S Q),* and share returns (*RETURN*). Consistent with Masulis and Mobbs (2016, 2017), I include firm size (*FIRMSIZE)* and its square value in the regression models to alleviate possible effects of firm size.

I run Hausman (1978) tests to determine if random effects or fixed effects models should be used in this study. Results indicate that fixed effects models are preferred. This is also consistent and supported by prior studies (e.g., Guest, 2009, Ntim and Soobaroyen, 2013) which used fixed effects to control for potential endogeneity that could arise from unobserved heterogeneity. I carry out the analyses using industry and year fixed effects. I find from the main regressions that reputation incentives of independent directors have significant associations with the performance of ASX 500 firms. Particularly, superior firm performance is attributable to independent directors who consider their directorships as highly prestigious, whilst those with low reputation incentives compromise the performance of the firms. This is consistent with the empirical evidence documented by Masulis and Mobbs (2014). Findings of this study make the following significant contributions.

First, I extend prior studies, including Masulis and Mobbs (2014), by employing a large sample of the top ASX 500 listed firms for the years 2004 – 2019, by utilising various proxies for firm performance, and addressing the endogeneity concerns systemically. Second, prior studies argue that female directors play a significant role in the business management field as they bring to their profession values and criteria which are different from those of male directors. For example, Eagly et al. (2003) indicate that women possess more communal traits that enables them to care more for stakeholders' needs. Additionally, they tend to have higher level of education (Solimene et al., 2017), are less risk taking and less competitive (Eckel and Füllbrunn, 2017), and are less overconfident than males (Barber and Odean, 2001). These differences allow female directors to provide different viewpoints, which can be beneficial for the firm's decision-making process (Hoobler et al., 2016), thus having significant

impacts on the performance of the firm. Therefore, I examine the association between firm performance and reputational incentives based on independent board members' gender. I find that unlike their male counterparts, results slightly vary for female independent directors. Specifically, female directors ranking their directorships as high have a significantly positive association with firm performance, while the relationship between those who view their directorships as low and firm performance is insignificant.

Third, for the purpose of robustness, I re-examine the baseline models by adopting alternative measures of independent directors' reputation incentives, including using market value of total assets to rank the directorships (Masulis and Mobbs, 2014). I employ 5% and 20% as the alternative cut-off instead of 10% (Sila et al., 2017), and use one-year lagged measures of independent directors' reputation incentives (Masulis and Mobbs, 2016, 2017, Moursli, 2019). The results show that the baseline findings hold across all models. Fourth, to further mitigate the concern that firm size and other observable endogenous associations have moderated the significant association between firm performance and independent directors' reputation incentives, following Rosenbaum and Rubin (1983), I perform PSM analyses. Regression results from the matched sample provide strong evidence to support the baseline results. While PSM controls for observable factors, I perform Heckman (1979) two-stage estimation to alleviate endogeneity biases due to unobservable factors (Tucker, 2010, Wolfolds and Siegel, 2019). After controlling for endogeneity, the main results remain qualitatively unchanged.

Fifth, the results from this study add to the two emerging streams of literature, i.e., corporate governance and firm performance, by demonstrating that the reputational concerns of independent directors have significant impacts on firm performance. Because of different reputational effects each directorship could offer, independent directors are likely to prioritise their most prestigious directorships instead of treating them as identically significant. Therefore, it is essential that future research considers these key determinants when evaluating the performance of Australian publicly listed firms, particularly the role of independent directors. Sixth, findings of this study could be useful for current shareholders and potential investors. Specifically, they can better assess independent directors' effectiveness in protecting shareholder's interests and overseeing managers' decisions. The evidence that corporate performance is influenced by not only the presence of independent directors on the boards, but also their reputation incentives, offers insights that maybe useful for policymakers in better driving their establishment of mixed rules and policies that can help improve the effectiveness of independent directors for superior firm performance.

The remainder of this chapter is structured as follows. Section 2.2 summarises Australia's institutional setting, and section 2.3 reviews the literature and develops hypotheses. Research design including sample selection, measurements of variables and model specification will be described in

section 2.4. In section 2.5, empirical results of the study are discussed, followed by additional robustness tests to address possible endogeneity issues in section 2.6. Finally, section 2.7 concludes the chapter.

2.2 Australian Institutional Setting

Since the 1970s, the independent director system has been extensively accepted and become a popular choice for many corporations to improve their corporate governance (Cheng and Sun, 2018). Simply put, independent directors do not have any fiduciary relationship with the firms they are serving. In Australia, the independence of board members is regulated by the ASX Corporate Governance Council, with its first edition of the Principles of Good Corporate Governance and Best Practice Recommendations released in 2003. Although ASX Principles have been progressively updated, there is little change with regard to the requirements of independent directors. An independent director is defined as "a director who is free of any interest, position or relationship that might influence, or reasonably be perceived to influence, in a material respect their capacity to bring an independent judgement to bear on issues before the board and to act in the best interests of the entity as a whole rather than those of an individual security holder or other party" (ASX Corporate Governance Council, 2019, p.35).

ASX Corporate Governance Council (2019) recommends that the number of independent directors on Australian listed firms' boards should constitute the majority. This will help prevent executive directors from dominating the decision-making process, and to make sure that decisions made are in the firms' best interests, thus protecting shareholders' interests. Although Australian listed firms are encouraged to maintain many independent directors, no specific number is indicated in this guideline. Additionally, compliance is based on an "if not, why not" approach, meaning firms listed on the ASX can either comply with the recommendations or provide explanations for their non-compliance. Hence, this is the policy motivation for this study.

Figure 2. 1: The Proportion of Independent Directors by Industry Sector during the Period 2004-2019

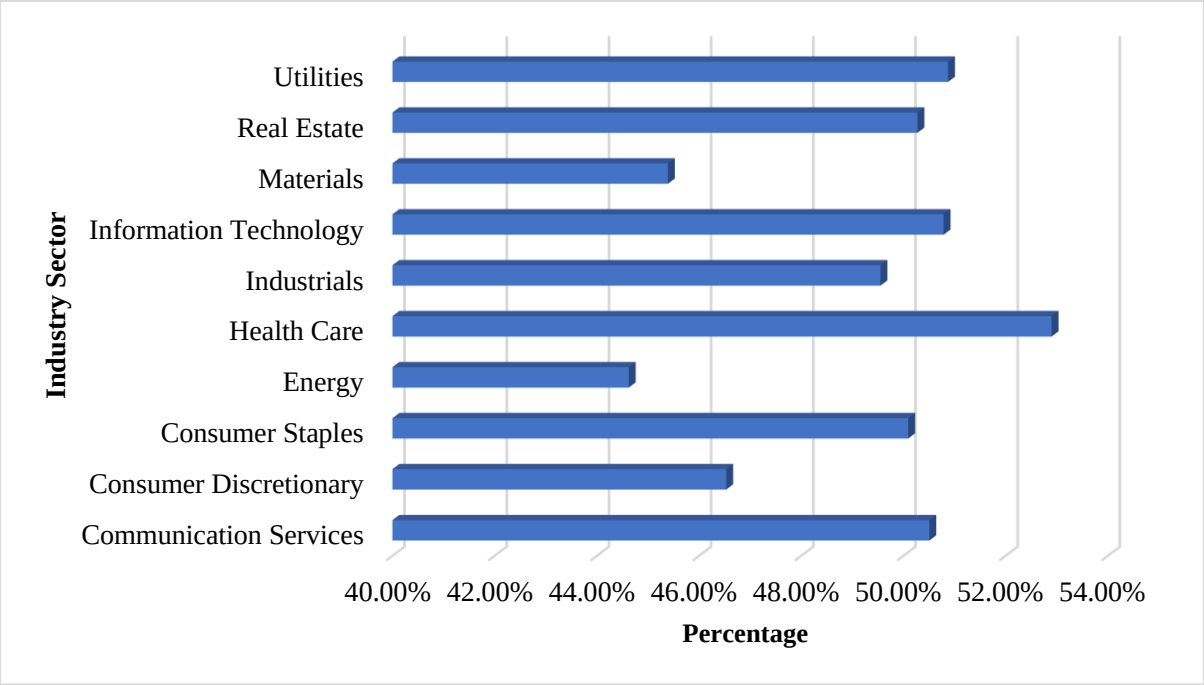


Figure 2.1 compares the proportion of independent directors across 10 industries as classified by the Global Industry Classification Standard (hereafter "GICS"). According to the bar chart, there is only small difference in the proportion of independent directors appointed across various industry sectors, with figures fluctuating between 44.63% (Energy sector) and 52.90% (Health Care sector). Broadly speaking, the presence of independent directors represents well over 50% of board members in more than half of the industries.

Figure 2. 2: The Proportion of Independent Directors on ASX 500's Boards during the Period 2004-2019

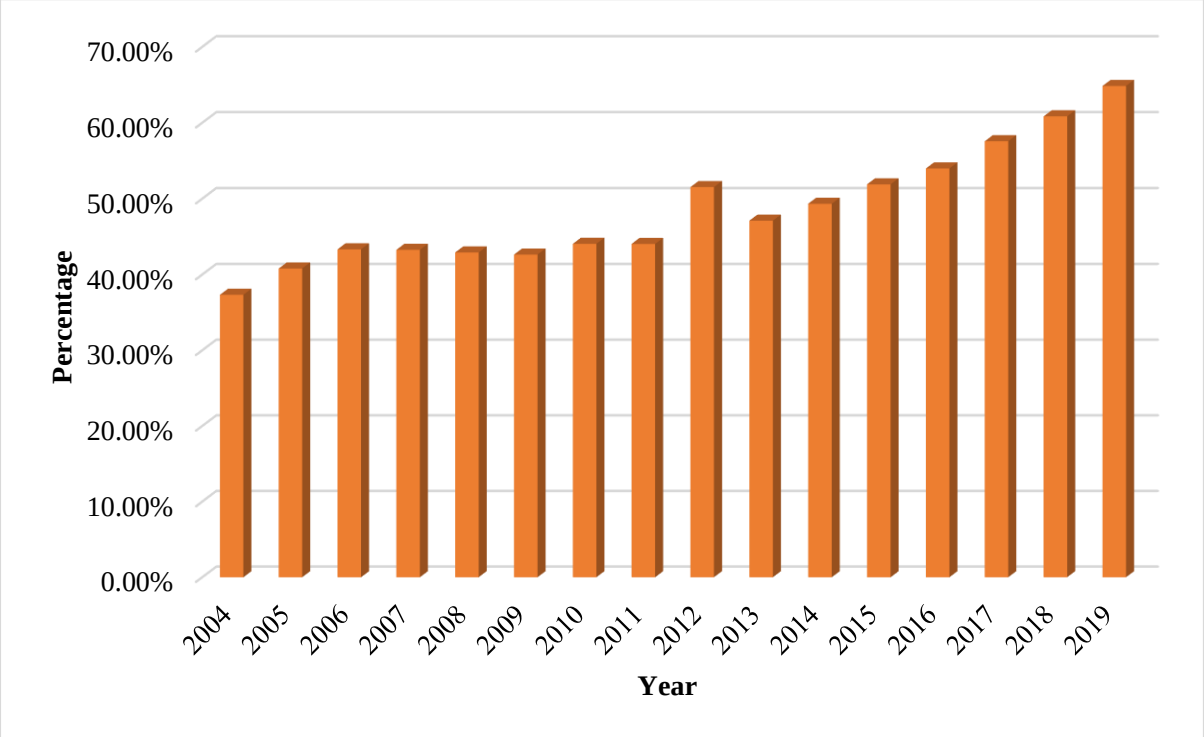


Figure 2.2 shows that ASX 500 firms have experienced a significant improvement in the proportion of independent directors on boards throughout the period 2004-2019. Particularly, at the aggregate level, this ratio slightly rises from 37.33% in 2004 to 43.32% in 2006, hovering around this level up until 2011, and then increases dramatically to the peak of 64.85% in 2019. While witnessing the progress in the number of independent directors on company boards, complying with the recommendations published by ASX Corporate Governance Council (2019), I am interested in examining how these directors' reputation incentives affect the performance of the top 500 firms listed on the ASX.

2.3 Literature Review and Hypotheses Development

2.3.1 Conflicting Empirical Evidence on the Effectiveness of Independent Directors

Echoing Moursli (2020) and Veltrop et al. (2018), academics and practitioners tend to agree that monitoring management and providing advice are the two main roles of independent directors. From the perspective of agency theory, many scholars emphasise that the monitoring function of independent directors plays an essential role in mitigating the potential conflict of interest between managers and shareholders to ensure that managers' interests are aligned with those of shareholders (Jensen and Meckling, 1976, Fama, 1980, Fama and Jensen, 1983, Westphal, 1999). Complementing their role as supervisors, independent directors are also expected to provide sound counsel to their senior managers regarding important decisions, firm strategies, daily operating activities, etc. (Holmstrom,

2006, Adams and Ferreira, 2007, Brooks et al., 2009, Hillman et al., 2011, Minichilli et al., 2012). In line with resource dependence theory originally proposed by Pfeffer and Salancik (1978), independent board members bring in valuable resources, including expertise, knowledge, legitimacy, and social connections, which enhance their roles (Hillman et al., 2002).

Despite the importance of independent directors, the existing literature has delivered conflicting evidence on the association between board independence and corporate financial outcomes. The aim of independent directors is to dilute internal control, mitigate agency cost, and thus improve the firm's value. However, there is no real agreement about independent board members' influence on corporate performance (Tan et al., 2007). Many researchers assert that independent directors improve the quality of the boards, leading to better firm performance (Hutchinson, 2002, Panasian et al., 2004, Gani and Jermias, 2006, Dahya and McConnell, 2007, Dahya et al., 2008, Bhagat and Bolton, 2013, Moscariello et al., 2019, Shan, 2019). Yet many studies find evidence that having more independent directors on the boards compromise firms' performance (Agrawal and Knoeber, 1996, Bhagat and Bolton, 2009, Koerniadi and Tourani-Rad, 2012, Moursli, 2020). Others report that the contribution of independent directors to firm performance is insignificant (Molz, 1988, Fosberg, 1989, Hermalin and Weisbach, 1991, Klein, 1998, Lawrence and Stapledon, 1999). Many analysts suggest that the relationship between firm value and board independence depends on firm complexity (Coles et al., 2008), firms' level of information asymmetry (Duchin et al., 2010), boards' gender diversity (Terjesen et al., 2016), or independent directors' financial expertise (Adams and Jiang, 2016).

It has been argued that some of the reasons behind these conflicting examples of empirical evidence are differences in theoretical approach (Bravo and Reguera-Alvarado, 2017), or methodology (Choi et al., 2007, Bhagat and Bolton, 2013). When investigating the effectiveness of independent directors, previous studies tend to rely on the ratio of independent board members (Crespí-Cladera and Pascual-Fuster, 2014). However, focusing on board independence only is not sufficient to evaluate their effectiveness (Hillman and Dalziel, 2003, Kroll et al., 2008). Many other factors can also impact the effectiveness of independent directors, such as: firm-specific information; board culture; directors' incentives (Jensen, 1993, Adams and Ferreira, 2007); experience; expertise; motivations (Aguilera and Cuervo-Cazurra, 2009); and directors' ability (Hillman and Dalziel, 2003, Tian et al., 2011), etc. I thus focus on analysing the effects of independent directors' reputation incentives on their effectiveness, which can potentially impact firm performance.

2.3.2 The Link between the Reputation Incentives of Independent Directors and Firm Performance

Pursuant to the Experience Hypothesis, independent directors with multiple directorships are more highly valued (Fama and Jensen, 1983), possess a wide range of knowledge, skills, experience

(Clements et al., 2015), and an extensive network of contacts (Sarkar and Sarkar, 2009). Possessing this reputational capital (Vafeas, 1999a, Lee and Lee, 2014, Masulis and Mobbs, 2014), means that such reputable independent directors are rewarded with additional future board seats, whereas those with impaired reputation will suffer a loss of current or future board appointments (Fama, 1980, Fama and Jensen, 1983). Since reputable independent directors have more to lose in terms of their human capital, they have reputation incentives to enhance their monitoring and advisory roles if they want to maintain their reputation (Keys and Li, 2005, Bravo and Reguera-Alvarado, 2017). Jiang et al. (2015) also provide the empirical evidence that independent directors who are aligned with investors instead of management is ultimately rewarded with future directorships and a lower risk of regulatory sanctions. Based on the Experience Hypothesis, it can be inferred that independent directors sitting on multiple boards contribute to enhanced firm performance.

In contrast, the proponents of the Busyness Hypothesis argue that due to limited time and energy, sitting on many boards simultaneously restricts the time and effort that independent directors can devote to each board membership (Bonazzi and Islam, 2007, Laksmana, 2008, Ferris and Liao, 2019) thus undermining their efficiency, resulting in unfavourable outcomes. Although the Busyness Hypothesis remains valid, the assumption is that directors evaluate their board appointments equally (Moursli, 2019). Notwithstanding this, James et al. (2018) argue that not all board appointments are considered equally important, and that each board seat has its own value and prestige. If the directors consider one of their directorships more reputable than the others, then it can be expected that they are likely to contribute more to the firm where that directorship is based, and spend less time on the firms where these directorships do not really affect their reputational capital (Moursli, 2019). Likewise, Yu et al. (2018) state that independent directors' reputation incentives are influenced by the distribution of their time and effort. Specifically, instead of allocating their time and effort uniformly across all of their directorships, independent directors are likely to prioritise directorships that promote their reputation. By using firm size to measure the prestige of directorships, Masulis and Mobbs (2014) contend that independent directors are likely to prioritise their time and effort for larger firms as these firms provide better visibility and reputation, compensation, and opportunity of securing additional director appointments. When larger firms provide greater reputation incentives for independent directors to become effective overseers of senior management, these firms are then likely to benefit from such abilities and talents of independent directors (Masulis and Mobbs, 2014).

The resource dependence theory, developed by Pfeffer and Salancik (1978), highlights the importance of the board of directors in facilitating firms' access to external resources, and using the directors' networks and external connections to add value to the business. The key argument of resource dependence theory is that firms seek to control their external environment and accumulate valuable resources needed for their survival or expansion, and boards of directors are the critical link between

the firms and these essential resources (Pfeffer and Salancik, 1978). From the perspective of this theory, independent directors have stronger reputation incentives to provide relatively large firms with many resources that they acquire via their external board memberships. These resources include, but are not limited to: skills; experience; knowledge; networks, etc., which enable them to provide better advice and counsel, contributing to favourable outcomes at large firms. Furthermore, empirical evidence from Masulis and Mobbs (2014) and Moursli (2019) highlight that when serving on multiple boards concurrently, at the most visible firms, there is greater likelihood that the independent directors attend board meetings, and serve on a major board committee. Since board meetings enable independent directors to coordinate and participate in decisions, and carry out their monitoring and advisory duties, it can be argued that independent directors have a strong incentive to effectively monitor management (Adams and Ferreira, 2008, Jiraporn et al., 2009). This ultimately leads to better corporate performance at their prestigious directorships.

Masulis and Mobbs (2014) maintain that a higher proportion of independent directors with high reputation incentives results in superior firm performance, higher likelihood of forced CEO turnover but less chance of directors' resignation when firm performance deteriorates. Furthermore, Moursli (2019) provides evidence that a high ratio of independent directors with high reputation incentives results in firms' better market valuation. I argue that at the firm level, the higher the ratio of independent directors who rank their directorships as more prestigious, the more likely their firms will benefit from their expertise and contribution. Conversely, independent board members ranking their directorships as less prestigious have little or no incentive to devote their limited time and effort to firms where these directorships are based. Thus, the following hypotheses are proposed for empirical testing:

Hypothesis 1a: Firms with more independent directors ranking their directorships as high are associated with better performance.

Hypothesis 1b: Firms with more independent directors ranking their directorships as low are associated with inferior performance.

2.4 Research Methodology

2.4.1 Sample Selection

The sample includes an unbalanced panel of ASX 500 companies over the 16-year period of 2004–2019. According to Jonson et al. (2020) and Rahman et al. (2021), total market capitalisation of the ASX 500 companies accounts for over three-quarters of the total market capitalisation of all firms listed on the ASX. Furthermore, the ASX 500 consists of a mix of firms with varying age, size, maturity, and industry, etc. The sample can reasonably represent the whole population of Australian public listed firms. The time span covered in this paper is from 2004 to 2019 because 2004 is the earliest year that

corporate governance data is available on Connect 4. As the recent COVID-19 crisis may confound some of the metrics, the 2020 financial year is excluded.

I collect data from two main sources, namely Connect 4 Boardroom Review database and DatAnalysis premium. Firm size and age, as well as its leverage and performance are extracted from DatAnalysis. Data relating to corporate governance structure of the firm is retrieved from Connect 4. Following Masulis and Mobbs (2014) and Sila et al. (2017), I exclude executive directorships from the corporate governance data, and develop a unique dataset, which comprises independent directors serving on the boards of the ASX 500 companies. Consistent with prior studies, I only consider directorships within the ASX 500 due to the fact that directorships outside this sample are at small firms, which have limited influence on independent directors' reputation incentives (Masulis and Mobbs, 2014, Sila et al., 2017). Then, I record the number of directorships and firms in which these directors are concurrently serving so that reputation incentive of each independent director for each firm in each year can be calculated. From here, director-level reputation incentives are aggregated into firm-level data.

Initially, the dataset consists of 8,000 firm-year observations, representing the top 500 publicly listed firms on the ASX during 2004 – 2019. Consistent with Ball et al. (2000) and Ferguson et al. (2004), I exclude firms in the financial services sector such as insurance, banking, closed-end funds, and trusts because they have unique characteristics, and are subject to different compliance and regulatory requirements, causing a lack of comparable data (Martínez and Rambaud, 2019). The number of observations are further reduced due to the effect of missing data, resulting in a final sample of 6,444 firm-year observations for Model 1 (dependent variable = *ROA*), 6,439 firm-year observations for Model 2 (dependent variable = *ROE*), 6,448 firm-year observations for Model 3 (dependent variable = *CFO/TA*), 6,448 firm-year observations for Model 4 (dependent variable = *TOBIN'S Q*), and 6,232 firm-year observations for Model 5 (dependent variable = *RETURN*).

2.4.2 Model Specification

Fixed effects regression analyses are conducted to test whether reputation incentives of independent directors are linked to firm performance. The following main regression is specified below:

$$PERFORMANCE_{it} = \alpha_0 + \alpha_1 HIGH_{it} + \alpha_2 LOW_{it} + \alpha_3 CONTROLS_{it}$$

$$+ \gamma \sum Industry\_Dummy_{it} + \gamma \sum Year\_Dummy_{it} + \varepsilon_{it}$$

where:

PERFORMANCE: firm performance indicators, including *ROA, ROE, CFO/TA, TOBIN'S Q,* and *RETURN.*

2.4.3 Measurement of Variables

2.4.3.1 Measurement of Independent Directors' Reputation Incentives

I follow the method articulated by Masulis and Mobbs (2014) to capture the reputation incentives of independent directors at a specific firm. First, at the director level I use market capitalisation to rank the relative importance of each independent directorship. Following Khoo (2019), large-size firms not only ensure greater prominence and visibility, but also are better connected with their counterparts through affiliations and partnerships. In this regard, prestigious firms are more important for the director, whereas less prestigious firms are not (Sila et al., 2017). At a particular firm, an independent director is considered to have low reputation incentive if the market capitalisation of the focal firm is at least 10% lower than the largest firm they are currently serving. In contrast, they are said to have high reputation incentive if the market capitalisation of the focal firm is at least 10% higher than the smallest firm in their portfolio (Masulis and Mobbs, 2014). Other independent board members either have sole directorship or multiple directorships with similar sizes (Masulis and Mobbs, 2016).

The director-level data are then aggregated into firm-level variables. I create two main independent variables, namely *HIGH* and *LOW*, which proxy for the ratio of independent board members with high and low reputation incentives on the board, respectively, for a given firm-year (Masulis and Mobbs, 2014). These variables, by capturing the relative importance of directorships under an independent director's oversight, allow greater variability in the reputation of those with two or more independent directorships (Moursli, 2019).

2.4.3.2 Measurement of Firm Performance

Following Vafaei et al. (2015) and Bhagat and Bolton (2019), I employ five frequently used measures of firm performance to enhance the robustness of the findings, namely *ROA*, *ROE*, *CFO/TA*, *TOBIN'S Q*, and *RETURN*. The two accounting-based measures, *ROA* and *ROE*, are also known as backward-looking performance indicators because they evaluate the firms' achievement based on given resources. Each measure has been used extensively in the empirical literature due to its simplicity and availability (Merhebi et al., 2006, Elsayed, 2007, Goldszmidt et al., 2011, Easterwood et al., 2012, Karahanna and Preston, 2013, Liu et al., 2015). Regarding *ROA*, it is measured as the ratio of earnings before interest to total assets, revealing how efficient a firm is in generating earnings by exploiting its assets. Like *ROA*, *ROE* reflects a firm's efficiency in utilising shareholders' funds to make profits. By dividing net profit after tax before abnormals to ordinary shareholders' equity, *ROE* indicates the amount of profits generated for each dollar invested in the firm by shareholders (Gay and Simnett, 2007).

Despite not being as popular as other performance measures, *CFO/TA* ratio, another accounting-based measure, has been used in few prior studies, including Healy et al. (1992), Givoly and Hayn (2000), and Vafaei et al. (2015). According to Healy et al. (1992), cash flows reveal the real economic benefits created by the firm's assets. Cash flows from operating activities are scaled by total assets so that it is possible to compare this ratio across firms (Healy et al., 1992).

Furthermore, as a market-based measure, *TOBIN'S Q* depicts market's expectation of the firm's growth prospects and future earnings, and has been used extensively elsewhere (Agrawal and Knoeber, 1996, Combs et al., 2005, Beiner et al., 2006, Ammann et al., 2011, Martínez and Rambaud, 2019). This forward-looking proxy is defined as the sum of book value of liabilities and the market value of equity, scaled by total assets. A greater-than-1 *TOBIN'S Q* reflects shareholders' expectation that resources are effectively utilised by the firm, whereas firms with a *TOBIN'S Q* lower than 1 under-utilise their available resources (Martínez and Rambaud, 2019). Apart from *TOBIN'S Q*, I also use stock returns (*RETURN*) to measure firm performance. *RETURN* is measured by taking the logarithm of current year's share price divided by last year's share price (Vieira et al., 2019). According to Jensen and Murphy (1990), this is a less manipulative proxy for shareholders' wealth.

2.4.3.3 Control Variables

Apart from the main variables of interest, the following set of control variables are used owing to their potential effect on firm performance. Particularly, at the firm level, I control for firm size (*FIRMSIZE*), firm age (*FIRMAGE*), and leverage (*LEVERAGE*). At the board level, board independence (*BOARDIND*), board gender diversity (*GENDIV*) as well as the majority of independent directors with sole directorship (*MAJOR_SOLE*) are controlled in the models.

FIRMSIZE is calculated as the natural logarithm of total assets. I include *SQFIRMSIZE*, which is the square value of *FIRMSIZE* to mitigate the potential non-linearity relationship with firm size (Masulis and Mobbs, 2016). Size of a firm is considered an essential factor that indicates a firm's past and future performance, as well as its level of risks (Ben-Zion and Shalit, 1975). *FIRMAGE* also serves as an explanatory variable of financial performance and is measured by taking the logarithm of the number of years the firm has been listed on the ASX. *LEVERAGE*, which is the ratio of total debt to total assets, is another factor that might also affect a firm's performance (Jensen and Meckling, 1976).

BOARDIND refers to the ratio of independent directors on the board. As discussed earlier, independent directors play a significant role in determining the board's effectiveness (Fama, 1980, Fama and Jensen, 1983). Pursuant to Wright et al. (2005), more independent directors on the boards lead to better monitoring of senior management on behalf of the shareholders. However, findings regarding the effects of independent directors on firm performance have been inconclusive.

GENDIV is proxied by the proportion of female directors on the board. Compared to male directors, female directors exhibit different characteristics in several aspects, including risk aversion (Croson and Gneezy, 2009), moral perception (Akaah, 1989), relationships with a variety of stakeholders (Miller and Triana, 2009), benevolence (Bear et al., 2010), and so forth. Apparently, these differences induce both favourable and unfavourable effects on firm performance.

To capture the effect of sole directorship, I create a dummy variable *MAJOR_SOLE* which equals 1 when the proportion of independent board member for whom this is their only directorship is 50% or more, and 0 otherwise. According to Sila et al. (2017), since this is their only directorship, independent directors will have the greatest reputation incentives to retain it. I also include *INDUSTRY* and *YEAR* dummies to account for unobserved industry and time effects (Bermig and Frick, 2010). Based on the GICS, ASX 500 firms are classified into 10 categories: Communication Services; Communication Discretionary; Consumer Staples; Energy; Health Care; Industrials; Information Technology; Materials; Real Estate; and Utilities.

2.5 Results

2.5.1 Descriptive Statistics

The descriptive statistics at the director level and firm level are presented in Panel A and Panel B of Table 2.1, respectively, followed by Pearson correlations matrix among the dependent and explanatory variables in Table 2.2. In order to alleviate the effects of outliers, the upper and lower 1% of *ROA, ROE, CFO/TA, TOBIN'S Q, RETURN*, and *LEVERAGE* are winsorised. At the director level, Panel A of Table 1 shows that more than half of the independent directors, namely 68.43%, hold only one independent directorship. Approximately one-third of independent directors hold two or three independent directorships, while those with four or five such directorships account for an insignificant proportion, namely 1.43% and 0.43%, respectively. The distribution of independent directorships in the case of female and male independent board members follows the same pattern.

As can be seen in Panel B of Table 2.1, *ROA*, *ROE, TOBIN'S Q*, *RETURN,* and *CFO/TA* have the mean (median) value of 0.017 (0.051), 0.026 (0.078), 0.034 (0.058), 1.756 (1.382), and -0.017 (0.018), respectively. *HIGH, LOW,* and *MAJ_SOLE* range between 0 and 1, with the mean of 0.083, 0.122, and 0.647, respectively. On average, over half of the independent directors hold only one directorship on the boards, namely 56.3%. The maximum number of years of the ASX 500 listed firms is 134 years and 11 months, while the minimum is 6 months, with an average of 23 years and 11 months. Correspondingly, the log of mean and median value of *FIRMAGE* is 3.018 and 2.987, respectively. The average value of total assets is $2,715,000,000, ranging between $9,650 and $162,213,541,666. Thus, the log of mean value of *FIRMSIZE* and *SQFIRMSIZE* (square of *FIRMSIZE*) is 19.726 and 393.681, respectively. *LEVERAGE* is 18.1% on average, ranging between 0 and 90%. The involvement of

independent directors on the boards varies between 0 and 1, with an average of 41.4% relative to the total number of directors. Finally, the proportion of female directors on the boards varies from 0% to 55.6%, with an average of 7.7%.

Table 2. 1: Summary Statistics

Panel A: Director level

Number of directorships	Female		Male		Total	
	Number of Independent Directors	Percentage	Number of Independent Directors	Percentage	Number of Independent Directors	Percentage
1 directorship	1,605	55.92%	11,961	70.63%	13,566	68.43%
2 directorships	814	28.36%	3,558	21.01%	4,372	22.05%
3 directorships	339	11.81%	1,179	6.96%	1,518	7.66%
4 directorships	92	3.21%	172	1.02%	284	1.43%
5 directorships	20	0.70%	65	0.38%	85	0.43%
	2,870	100.00%	16,935	100.00%	19,825	100.00%

Panel B: Firm level

	N	Min	Max	Mean	Median	Std. Dev.
ROA	6,389	-0.228	0.151	0.017	0.051	0.112
ROE	6,387	-0.795	0.438	0.026	0.078	0.264
CFO/TA	6,393	-0.976	0.429	0.034	0.058	0.188
TOBIN'S Q	6,449	0.741	3.900	1.756	1.382	1.007
RETURN (logged value)	6,315	-1.821	1.526	-0.017	0.018	0.548
HIGH	6,468	0.000	1.000	0.083	0.000	0.178
LOW	6,468	0.000	1.000	0.122	0.000	0.211
SOLE DIRECTORSHIP	6,467	0.000	1.000	0.563	0.667	0.390
MAJ_SOLE	6,468	0.000	1.000	0.647	1.000	0.478
FIRMAGE (in years)	6,456	0.499	134.899	23.917	19.822	15.135
FIRMAGE (logged value)	6,456	-0.696	4.905	3.018	2.987	0.566
FIRMSIZE (AU$)	6,449	9,650	162,213,541,666	2,715,000,000	380,200,000	9,859,000,000
FIRMSIZE (logged value)	6,449	9.175	25.812	19.726	19.756	2.137
SQFIRMSIZE	6,449	84.175	666.269	393.681	390.31	83.498
LEVERAGE	6,449	0.000	0.900	0.181	0.151	0.186
BOARDIND (count)	6,468	0.000	15.000	3.055	3.000	2.404
BOARDIND (percent)	6,468	0.000	1.000	0.414	0.429	0.286
GENDIV (count)	6,468	0.000	8.000	0.622	0.000	0.918
GENDIV (percent)	6,468	0.000	0.556	0.077	0.000	0.110

In Table 2.2, I calculate Pearson correlations to first examine the association between five firm performance indicators and independent directors' reputation incentives as well as other control variables. Table 2.2 shows that *HIGH* is positively related to all performance indicators at the 1% level of significance, except for *TOBIN'S Q*. *LOW* only has a negative relationship with market-based performance measures, i.e., *TOBIN'S Q* and *RETURN*, yet it has a positive association with accounting-based performance indicators. This initial evidence indicates that the performance of Australian firms listed on the ASX could be potentially driven by the reputation incentives of their independent board members.

Table 2. 2: Pearson Correlations Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) *ROA*	1.000													
(2) *ROE*	0.826***	1.000												
(3) *CFO/TA*	0.748***	0.646***	1.000											
(4) *TOBIN'S Q*	-0.083***	-0.026**	-0.117***	1.000										
(5) *RETURN*	0.176***	0.175***	0.131***	0.276***	1.000									
(6) *HIGH*	0.177***	0.142***	0.151***	-0.008	0.036***	1.000								
(7) *LOW*	0.063***	0.037***	0.054***	-0.073***	-0.034***	-0.054***	1.000							
(8) *MAJ_SOLE*	0.010	-0.007	0.029**	-0.026**	-0.010	-0.128***	-0.109***	1.000						
(9) *FIRMSIZE*	0.485***	0.390***	0.420***	-0.365***	-0.028**	0.351***	0.071***	-0.053***	1.000					
(10) *SQFIRMSIZE*	0.471***	0.378***	0.403***	-0.354***	-0.026**	0.358***	0.066***	-0.061***	0.999***	1.000				
(11) *LEVERAGE*	-0.027**	0.030**	-0.046***	0.053***	-0.002	-0.005	-0.009	-0.027**	-0.022*	-0.020	1.000			
(12) *FIRMAGE*	0.166***	0.136***	0.168***	-0.063***	0.035***	0.183***	0.058***	0.017	0.238***	0.239***	0.004	1.000		
(13) *BOARDIND*	0.166***	0.120***	0.169***	-0.090***	0.004	0.269***	0.262***	0.515***	0.259***	0.257***	-0.027**	0.172***	1.000	
(14) *GENDIV*	0.157***	0.126***	0.117***	-0.058***	-0.003	0.204***	0.156***	0.095***	0.331***	0.336***	-0.008	0.130***	0.402***	1.000

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Turning to control variables, *MAJ_SOLE* is negatively related to *TOBIN'S Q* and positively related to *CFO/TA*. *LEVERAGE* has a significant negative association with *ROA* and *CFO/TA*, while it has a significant positive relationship with *ROE* and *TOBIN'S Q*. *FIRMAGE* has a positive relationship with all performance indicators, except for *TOBIN'S Q*. Other remaining control variables exhibit a positive association with *ROA, ROE*, and *CFO/TA*, and a negative association with *TOBIN'S Q* and *RETURN*. Overall, most of the coefficients obtained from the Pearson correlations matrix are significant, yet I cannot draw conclusions based on these bi-dimensional association results as they do not consider the joint effects of all independent variables. Panel data regression analyses in the following section provides a more stringent approach to test the hypotheses.

2.5.2 Regression Results

Based on Cameron and Trivedi (2009), using panel data I am able to employ either fixed effects or random effects regression. In random effects regression, the error term does not correlate with the independent variables. Fixed effects regression, however, requires firm and time-related factors to be controlled in the model so that the coefficients obtained are not biased due to the correlation between the error term and independent variables. In order to determine the best regression method between these two estimators, I run Hausman specification test to check whether the null hypothesis that results from the random effects model should be used for the panel data analysis (Hausman, 1978). Results presented in Table 2.3 indicate that fixed effects regressions are preferred to random effects estimators in this paper. According to Peni (2014), using year and industry fixed effects generates different intercepts for each industry, and it controls for the potential variation in firm performance from one year to another. Guest (2009) and Ntim and Soobaroyen (2013) also use fixed effects to control for potential endogeneity that may arise from unobserved heterogeneity. Consistent with prior studies and results from Hausman tests, I employ year and industry fixed effects in all regression models.

Table 2. 3: Hausman's (1978) Specification Test

	Model 1 ***ROA***	**Model 2** ***ROE***	**Model 3** ***TOBIN'S Q***	**Model 4** ***RETURN***	**Model 5** ***CFO/TA***
Chi-square test value	287.843	129.97	70.538	271.046	86.349
P-value	0.000	0.000	0.000	0.000	0.000

Regression results on the relationship between independent directors' reputation incentives and five performance indicators based on the sample of ASX 500 firms during 2004-2019 are presented in Table 2.4. All critical values are reported based on standard errors robust to heteroscedasticity, as per Petersen (2009). Overall, the F-statistic ranges between 34.10 and 212.07, which is statistically significant at the 99.99% level of confidence, suggesting that all models are a good fit to the dataset. The adjusted R^2 ranges between 14.76% and 42.30%, indicating a reasonable explanatory power of *HIGH*, *LOW* and control variables in all the models.

Table 2. 4: Relationship between Firm Performance and Independent Directors' Reputation Incentives

Dependent Variable:	Model 1 *ROA*	Model 2 *ROE*	Model 3 *CFO/TA*	Model 4 *TOBIN'S Q*	Model 5 *RETURN*
HIGH	0.014***	0.030**	0.022***	0.784***	0.077**
	(2.97)	(2.05)	(2.77)	(7.79)	(2.18)
LOW	-0.009**	-0.041***	-0.016**	-0.198***	-0.104***
	(-2.05)	(-2.92)	(-2.07)	(-2.60)	(-3.14)
MAJ_SOLE	-0.005**	-0.020***	-0.007**	-0.006	-0.029*
	(-2.22)	(-2.77)	(-2.03)	(-0.15)	(-1.72)
FIRMSIZE	0.189***	0.502***	0.375***	-2.648***	-0.045
	(26.25)	(16.75)	(26.85)	(-14.98)	(-0.66)
SQFIRMSIZE	-0.004***	-0.012***	-0.009***	0.061***	0.001
	(-24.02)	(-15.76)	(-25.50)	(13.86)	(0.55)
LEVERAGE	-0.00001	0.003***	-0.001**	0.012***	0.00008
	(-0.65)	(4.25)	(-2.35)	(2.69)	(0.27)
FIRMAGE	0.012***	0.029***	0.018***	0.068***	0.019*
	(8.24)	(5.58)	(8.05)	(2.69)	(1.66)
BOARDIND	0.017***	0.041***	0.035***	-0.080	0.068**
	(4.10)	(3.18)	(5.03)	(-1.07)	(2.12)
GENDIV	-0.008	0.011	-0.023	0.794***	0.077
	(-0.88)	(0.40)	(-1.51)	(4.86)	(1.10)
Number of observations	6,444	6,439	6,448	6,448	6,232
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
R^2	42.59%	29.67%	34.38%	28.04%	15.21%
Adjusted R^2	42.30%	29.30%	34.04%	27.67%	14.76%
F-Statistic	212.07	62.65	88.57	65.26	34.10

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

As predicted, the results show that the proportion of independent directors with high reputation incentives on the board is significantly and positively associated with all firm performance indicators. Particularly, the coefficients on *HIGH* are 0.014 ($p < 0.01$) for *ROA*, 0.030 ($p < 0.05$) for *ROE*, 0.022 ($p < 0.01$) for *CFO/TA*, 0.784 ($p < 0.01$) for *TOBIN'S Q*, and 0.077 ($p < 0.05$) for *RETURN*. Similarly, the findings are consistent with my prediction that firms having more independent board members who have low reputation incentives demonstrate poorer performance. I found that the coefficients on *LOW* are statistically significant and negative for *ROA*, *ROE*, *CFO/TA, TOBIN'S Q*, and *RETURN*, namely: -0.009 ($p < 0.05$); -0.041 ($p < 0.01$); -0.016 ($p < 0.05$); -0.198 ($p < 0.01$); and -0.104 ($p < 0.01$), respectively. These strong relationships allow us to accept hypotheses 1a and 1b. The results indicate that the economic effects of *HIGH* and *LOW* on firm performance are more pronounced in *TOBIN'S Q*, with an average 1% increase in *HIGH* (*LOW*) causing *TOBIN'S Q* to increase (decrease) by approximately 0.784 (0.198). The main findings are consistent with Masulis and Mobbs (2014) that independent directors serving on multiple boards simultaneously are likely to prioritise their most prestigious directorships, leading to superior performance at highly ranked firms and poorer performance at lowly ranked firms.

Turning to control variables, at the firm level, except for market-based measures, significant and positive correlations between *FIRMSIZE* and accounting-based measures are found. This result agrees with prior studies arguing that larger firms function better due to their greater scale's benefits, greater ability to deal with potential changes in market/industry conditions, more effective utilisation of resources (Serrasqueiro and Nunes, 2008) and capacity to diversify risks (Ghosh, 2001).

Concerning the association between *FIRMAGE* and a firm's performance, the results show that the longer the business has been listed on the ASX, the better it will perform. As argued by Coad et al. (2013), mature firms have greater ability to turn sales growth into future growth in productivity and revenue. Moreover, Capasso et al. (2015) emphasise that as firms become older, they will acquire more experience, develop and enhance their brand and reputation, which create better networks with their stakeholders. As such, older firms tend to do better than younger ones.

LEVERAGE demonstrates a positive association with *ROE* and *TOBIN'S Q*, and it has a minor negative association with *CFO/TA*. The positive effects of ASX 500 firms' debt structure on their performance is consistent with the argument of Margaritis and Psillaki (2010) that a high level of debt gives directors the incentive to avoid directorial cash flow waste, as well as to improve the firm earnings to pay off the debt.

At the board level, the coefficient of *BOARDIND* is positive for all performance indicators except for *TOBIN'S Q*, and these coefficients are also statistically significant, suggesting that board independence has a positive association with firm performance. This finding is in line with that of Bonn (2004), affirming the vital roles of independent directors in providing better expertise, representing shareholders to effectively monitor senior managers, enhancing board efficiency, and thus, corporate value.

GENDIV only indicates a significant and positive relationship with *TOBIN'S Q*, suggesting that firms with higher ratios of female directors on the boards tend to have better performance in terms of market-based performance measure. Gender-diversified boards are believed to enhance firm performance due to their quality deliberations, diverse opinions and viewpoints (Zelechowski and Bilimoria, 2004), increased creativity and innovation (Robinson and Dechant, 1997). However, except for *TOBIN'S Q*, I did not find a strong association between *GENDIV* and other performance proxies. A plausible reason is that favourable benefits of having female directors on the boards of ASX 500 firms do not outweigh the unfavourable benefits, that can result in improved performance.

Finally, contrary to my expectation that independent directors with sole directorships will add value to the only firm they are currently serving, coefficients on *MAJOR_SOLE* are negative for all performance proxies, and they are all statistically significant, except for *TOBIN'S Q*. A possible

explanation for this reverse relationship is that in accordance with Fama and Jensen (1983), holding multiple directorships indicates a director's prestige, quality, and skills, and only talented directors can be recognised and appointed by many companies on their boards of directors (Vafeas, 1999a, Lee and Lee, 2014). Therefore, directors who are serving on only one board might be considered as less experienced and talented. In this case, it shows that ASX 500 firms do not benefit in any way from independent directors who hold only one directorship.

To summarise, despite differences between the U.S. and Australia's institutional settings, it can be seen clearly that reputation incentives of independent board members are an important determinant of how well companies perform in both countries. Additionally, not only the presence of independent directors is associated with better firm performance, their reputation incentives also decide their ability to add value to ASX 500 firms.

2.6 Additional Analysis

2.6.1 Firm Performance and Variation in the Reputation Incentives of Female and Male Independent Directors

Given the fact that the proportion of female directors on company boards is not significantly related to all firm performance indicators, except for *TOBIN'S Q*, the coefficients for both high and low reputation incentives proxies are statistically significant in all models. Therefore, I separately investigate the association between reputation incentives of independent directors according to their gender and firm performance. Table 2.5 reports the fixed effects regressions' results on the correlations between reputation incentives of female and male independent board members and all firm performance indicators, with standard errors robust to auto correlations and heteroscedasticity.

Table 2. 5: Relationship between Firm Performance and Independent Directors' Reputation Incentives based on Directors' Gender

	Female Independent Directors					Male Independent Directors				
Dependent Variable:	**Model 1** ***ROA***	**Model 2** ***ROE***	**Model 3** ***CFO/TA***	**Model 4** ***TOBIN'S Q***	**Model 5** ***RETURN***	**Model 1** ***ROA***	**Model 2** ***ROE***	**Model 3** ***CFO/TA***	**Model 4** ***TOBIN'S Q***	**Model 5** ***RETURN***
HIGH	0.007**	0.022**	0.017***	0.278***	0.066**	0.007**	0.012**	0.013**	0.598***	0.052**
	(2.22)	(2.51)	(3.17)	(7.09)	(2.48)	(2.12)	(1.99)	(2.21)	(6.55)	(2.10)
LOW	-0.004	-0.014*	-0.005	-0.051	-0.028	-0.008**	-0.017***	-0.012**	-0.262***	-0.053**
	(-1.34)	(-1.79)	(-1.08)	(-1.55)	(-0.97)	(-2.34)	(-3.00)	(-2.15)	(-3.66)	(-2.33)
MAJ_SOLE	-0.003	-0.003	-0.001	0.040	0.0004	-0.004***	-0.009***	-0.007***	-0.043	-0.019
	(-1.34)	(-0.45)	(-0.27)	(1.51)	(-0.01)	(-2.58)	(-3.13)	(-2.59)	(-1.09)	(-1.56)
FIRMSIZE	0.235***	0.547***	0.259***	-1.475***	0.068	0.117***	0.258***	0.366***	-3.655***	-0.005
	(13.41)	(10.76)	(12.92)	(-6.89)	(0.35)	(22.54)	(13.86)	(24.34)	(-15.10)	(-0.08)
SQFIRMSIZE	-0.006***	-0.013***	-0.006***	0.034***	-0.001	-0.003***	-0.006***	-0.009***	0.085***	0.0003
	(-12.77)	(-10.31)	(-12.45)	(6.46)	(-0.33)	(-20.13)	(-12.94)	(-23.01)	(14.26)	(0.18)
LEVERAGE	-0.007	0.016	-0.020	0.061***	-0.089	0.00004	0.015	-0.069***	0.007	-0.194***
	(-1.16)	(1.60)	(-1.49)	(3.74)	(-1.21)	(1.62)	(1.57)	(-9.15)	(0.06)	(-5.62)
FIRMAGE	0.012***	0.030***	0.026***	0.104***	0.031*	0.010***	0.024***	0.015***	0.067***	0.005
	(4.85)	(6.12)	(8.33)	(4.79)	(1.73)	(9.18)	(9.32)	(8.40)	(2.66)	(0.58)
BOARDIND	0.018***	0.021*	0.023***	0.063	0.089*	0.015***	0.022***	0.029***	-0.039	0.040*
	(4.18)	(1.67)	(2.58)	(1.27)	(1.84)	(4.61)	(4.13)	(5.28)	(-0.55)	(1.72)
GENDIV	0.002	0.025	-0.020	0.269**	0.213	-0.004	-0.005	-0.016	0.827***	0.040
	(0.18)	(0.78)	(-0.91)	(2.03)	(1.57)	(-0.62)	(-0.39)	(-1.31)	(5.03)	(0.80)
Number of observations	2,581	2,581	2,585	2,585	2,565	6,444	6,440	6,449	6,449	6,233
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	35.30%	29.50%	28.92%	28.09%	10.95%	41.51%	33.11%	33.05%	26.76%	16.66%
Adjusted R^2	34.46%	28.59%	28.00%	27.16%	9.79%	41.20%	32.77%	32.70%	26.38%	16.21%
F-Statistic	46.34	27.62	25.79	44.50	11.28	203.74	118.57	108.03	64.51	41.77

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Year and industry fixed effects are included, but not reported for brevity.

With reference to female independent directors, the coefficient between *HIGH* and five firm performance measures are all statistically significant and positive, namely 0.007 ($p < 0.05$) for *ROA*, 0.022 ($p < 0.05$) for *ROE*, 0.017 ($p < 0.01$) for *CFO/TA*, 0.278 ($p < 0.01$) for *TOBIN'S Q*, and 0.066 ($p < 0.05$) for *RETURN*. Despite the coefficients between *LOW* and firm performance being negative across all models, they are all statistically insignificant.

In the case of male independent directors, the results hold for all models. The proportion of male directors with high reputation incentives has a significant and positive association with all firm performance proxies, with coefficient values (p values) being 0.007 ($p < 0.05$), 0.012 ($p < 0.05$), 0.013 ($p < 0.05$), 0.598 ($p < 0.01$), and 0.052 ($p < 0.05$) for *ROA*, *ROE*, *CFO/TA, TOBIN'S Q*, and *RETURN*, respectively. In comparison, the percentage of male directors who consider their directorships less prestigious is negatively associated with firm performance. This is indicated by negative and significant coefficients of *LOW*, namely -0.008 ($p < 0.05$) for *ROA*, -0.01 ($p < 0.01$) for *ROE*, -0.012 ($p < 0.05$) for *CFO/TA*, -0.262 ($p < 0.01$) for *TOBIN'S Q*, and -0.053 ($p < 0.05$) for *RETURN*.

The analysis shows that it is not the presence of female directors on the boards but changes in their reputation incentives that play a critical role in determining firm performance. Specifically, having a large number of female independent directors who rank their directorships as high on the boards helps ASX 500 firms to perform better. By contrast, given the statistically insignificant relationship between the ratio of female independent directors who consider their directorships as less prestigious and all firm performance measures, I cannot conclude that their presence on company boards contributes to diminished performance of the ASX 500 firms due to restricted time and effort spent on their directorships (Bonazzi and Islam, 2007, Laksmana, 2008, Ferris and Liao, 2019). For male directors, the findings are similar to the results in Table 5, in that ASX 500 firms are likely to benefit from the talent and contribution of male independent directors with high reputation incentives, whereas the opposite is true of those with low reputation incentives.

2.6.2 Alternative Measures of Independent Directors' Reputation Incentives

A question that could be further considered here is: will the same results be obtained by using alternative measures of reputation incentives? Consequently, additional robustness tests that incorporate alternative reputation incentive measures in order to check if the results corroborate the main findings can enhance the regression results' reliability.

Firstly, to further investigate the firm size effect on the main results, following Masulis and Mobbs (2014), I re-calculate reputation incentives of independent directors using an alternative proxy of firm size, which is market value of total assets. This is used to rank an independent director's

directorships rather than using market capitalisation, and is calculated by summing the book value of liabilities and market capitalisation (Masulis and Mobbs, 2014).

Secondly, following Sila et al. (2017), instead of using 10%, I use the alternative cut-off thresholds of 5% and 20% to classify independent directors as having high or low reputation incentives. Independent directors are considered to have high (low) reputation incentives if the focal firm is at least 5% bigger (smaller) than the smallest (biggest) firm where they are currently serving, in terms of market capitalisation. The same principle applies to the 20% cut-off threshold.

Thirdly, one-year lag of reputation incentives measures addresses the potential impacts of endogeneity on the association between firm performance and independent directors' reputation incentives. According to Moursli (2019), busy independent directors are likely to exert more time and effort in highly reputable directorships, leading to better firm performance. However, there is a potential reverse causal relationship between these variables of interest. For instance, it is possible that independent directors tend to contribute more time and effort to firms which already perform very well (Moursli, 2019). Consequently, using one-year lagged reputation measures can help to alleviate potential effects of endogeneity that may drive the main results.

Table 2. 6: Relationship between Firm Performance and Alternative Measures of Independent Directors' Reputation Incentives

Panel A: Reputation incentives measured based on market value of total assets

Dependent Variable:	Model 1 *ROA*	Model 2 *ROE*	Model 3 *CFO/TA*	Model 4 *TOBIN'S Q*	Model 5 *RETURN*
HIGH	0.024**	0.023**	0.018**	0.480***	0.047**
	(2.35)	(2.17)	(2.05)	(6.62)	(1.99)
LOW	-0.020**	-0.022**	-0.016**	-0.156***	-0.053**
	(-2.17)	(-2.24)	(-2.39)	(-2.67)	(-2.07)
MAJ_SOLE	-0.007**	-0.014***	-0.008***	-0.014	-0.012
	(-1.96)	(-2.73)	(-2.72)	(-0.45)	(-1.47)
FIRMSIZE	0.432***	0.468***	0.361***	-2.419***	0.020
	(28.67)	(16.98)	(23.74)	(-14.59)	(1.28)
SQFIRMSIZE	-0.01***	-0.011***	-0.009***	0.056***	0.0004
	(-27.23)	(-16.01)	(-22.60)	(13.58)	(-1.04)
LEVERAGE	-0.0004***	0.002***	-0.0003**	0.007***	-0.095***
	(-3.67)	(3.95)	(-2.29)	(2.65)	(-4.67)
FIRMAGE	0.015***	0.024***	0.017***	0.081***	0.003
	(6.33)	(7.66)	(9.27)	(4.15)	(0.53)
BOARDIND	0.028***	0.030***	0.031***	-0.029	0.026
	(3.82)	(3.21)	(5.36)	(-0.52)	(1.53)
GENDIV	-0.010	-0.002	-0.013	0.624***	0.019
	(-0.62)	(-0.12)	(-1.12)	(5.12)	(0.56)
Number of observations	6,444	6,439	6,448	6,448	6,233
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
R^2	41.91%	32.08%	32.14%	27.11%	15.98%
Adjusted R^2	41.61%	31.73%	31.79%	26.74%	15.53%
F-Statistic	107.31	89.04	104.11	82.91	44.02

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Year and industry fixed effects are included, but not reported for brevity.

Panel B: Reputation incentives measured based on 5% and 20% thresholds

	5% Threshold					20% Threshold				
Dependent Variable:	**Model 1** ***ROA***	**Model 2** ***ROE***	**Model 3** ***CFO/TA***	**Model 4** ***TOBIN'S Q***	**Model 5** ***RETURN***	**Model 1** ***ROA***	**Model 2** ***ROE***	**Model 3** ***CFO/TA***	**Model 4** ***TOBIN'S Q***	**Model 5** ***RETURN***
HIGH	0.020**	0.017**	0.016**	0.760***	0.078**	0.010**	0.017**	0.018**	0.785***	0.078**
	(2.36)	(2.49)	(2.16)	(7.61)	(2.52)	(2.49)	(2.48)	(2.39)	(7.76)	(2.49)
LOW	-0.017**	-0.016***	-0.016**	-0.202***	-0.083***	-0.007**	-0.016***	-0.018**	-0.244***	-0.085***
	(-2.02)	(-2.70)	(-2.24)	(-2.67)	(-2.86)	(-2.04)	(-2.76)	(-2.41)	(-3.20)	(-2.87)
MAJ_SOLE	-0.005	-0.009***	-0.007**	-0.020	-0.025	-0.004**	-0.009***	-0.007**	-0.026	-0.024
	(-1.22)	(-2.93)	(-2.09)	(-0.48)	(-1.62)	(-2.31)	(-2.95)	(-2.12)	(-0.64)	(-1.63)
FIRMSIZE	0.396***	0.259***	0.264***	-3.623***	-0.016	0.095***	0.223***	0.265***	-3.600***	-0.016
	(28.69)	(13.90)	(26.56)	(-14.96)	(-0.36)	(21.40)	(14.10)	(26.60)	(-14.85)	(-0.35)
SQFIRMSIZE	-0.009***	-0.006***	-0.006***	0.084***	0.0003	-0.002***	-0.005***	-0.006***	0.084***	0.0003
	(-27.07)	(-12.98)	(-24.66)	(14.11)	(0.27)	(-18.74)	(-13.06)	(-24.70)	(13.99)	(0.26)
LEVERAGE	-0.0003**	0.015	-0.0003*	0.006	0.0001	0.00009**	0.015	-0.0003*	0.009	0.0001
	(-2.39)	(1.55)	(-1.89)	(0.05)	(0.45)	(2.24)	(1.54)	(-1.89)	(0.08)	(0.45)
FIRMAGE	0.017***	0.024***	0.018***	0.063**	0.013	0.010***	0.024***	0.018***	0.062**	0.013
	(6.56)	(9.26)	(8.36)	(2.49)	(1.27)	(9.22)	(9.06)	(8.36)	(2.46)	(1.26)
BOARDIND	0.027***	0.022***	0.033***	-0.094	0.053*	0.014***	0.021***	0.033***	-0.082	0.053*
	(3.42)	(3.83)	(4.88)	(-1.25)	(1.88)	(4.23)	(3.83)	(4.93)	(-1.11)	(1.88)
GENDIV	-0.011	-0.004	-0.022	0.830***	0.065	-0.005	-0.004	-0.022	0.836***	0.065
	(-0.67)	(-0.35)	(-1.57)	(5.04)	(1.06)	(-0.71)	(-0.38)	(-1.56)	(5.08)	(1.07)
Number of observations	6,389	6,440	6,448	6,449	6,232	6,444	6,440	6,448	6,449	6,232
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	42.51%	33.13%	34.09%	26.92%	15.83%	41.09%	33.28%	34.11%	26.99%	15.82%
Adjusted R^2	42.21%	32.78%	33.75%	26.55%	15.38%	40.78%	32.93%	33.77%	26.62%	15.37%
F-Statistic	97.05	118.72	97.86	64.96	37.54	186.47	119.40	97.93	65.12	37.50

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Year and industry fixed effects are included, but not reported for brevity.

Panel C: 1-year Lagged Measures of Reputation Incentives

Dependent Variable:	Model 1 *ROA*	Model 2 *ROE*	Model 3 *CFO/TA*	Model 4 *TOBIN'S Q*	Model 5 *RETURN*
HIGH	0.020**	0.019***	0.020***	0.565***	-0.045
	(2.44)	(2.82)	(3.25)	(5.84)	(-1.40)
LOW	-0.018**	-0.012**	-0.012**	-0.164**	-0.033
	(-1.99)	(-2.04)	(-2.10)	(-2.14)	(-1.16)
MAJ_SOLE	-0.005	-0.008***	-0.007**	-0.057	-0.026*
	(-1.13)	(-2.78)	(-2.42)	(-1.42)	(-1.81)
FIRMSIZE	0.465***	0.244***	0.189***	-3.875***	-0.306*
	(27.01)	(12.54)	(22.92)	(-15.13)	(-1.71)
SQFIRMSIZE	-0.0011***	-0.006***	-0.004***	0.091***	0.008*
	(-25.68)	(-11.64)	(-20.92)	(14.33)	(1.68)
LEVERAGE	-0.0004***	0.010	-0.00007	0.008	0.0002
	(-2.81)	(0.89)	(-1.04)	(0.07)	(0.93)
FIRMAGE	0.022***	0.025***	0.016***	0.060**	0.018*
	(6.35)	(8.70)	(8.66)	(2.28)	(1.74)
BOARDIND	0.031***	0.020***	0.028***	-0.051	0.060**
	(3.75)	(3.79)	(5.09)	(-0.70)	(2.17)
GENDIV	-0.018	-0.012	-0.020*	0.871***	0.081
	(-0.97)	(-0.81)	(-1.66)	(5.18)	(1.30)
Number of observations	6,019	6,061	6,069	6,070	5,909
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
R^2	42.36%	32.71%	31.74%	27.50%	15.72%
Adjusted R^2	42.05%	32.35%	31.38%	27.12%	15.26%
F-Statistic	82.39	111.33	109.15	64.10	36.05

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

Summarised results of all re-estimated models are reported in Table 2.6 with: panel A using market value of total assets to rank the directorships; panel B using 5% and 20% as the alternative cut-off respectively; and panel C using one-year lagged measures of independent directors' reputation incentives. All regression models use year and industry fixed effects, with standard errors robust to auto correlation and heteroscedasticity. Analyses show that the overall significant impacts of *HIGH* and *LOW* on dependent variables are unchanged, except for *RETURN* which has an insignificant association with one-year lagged measures of reputation incentives. I find a consistent positive and significant association between independent directors who view their directorships as highly reputable, and the performance of ASX 500 firms, proxied by accounting and market-based measures. Significant adverse relationships are also found between those with low reputation incentives and firm performance. Taken together, results of the robustness tests remain consistent with what has been reported in the baseline models.

2.6.3 Propensity Score Matching Analysis

Masulis and Mobbs (2017) provide details on a possible scenario regarding the potential reverse causality between firm performance and independent directors' reputation incentives. According to

them, well performing firms can easily employ independent directors who are currently serving on the boards of smaller firms, because larger firms are more visible and function better. For those serving at smaller firms, directorships at larger businesses are considered more prestigious. This may induce a positive association between firm performance and the ratio of independent directors with high reputation incentives on the boards (Masulis and Mobbs, 2017). By contrast, the authors claim that poorly performing firms are likely to look for and appoint independent directors who are currently working at larger firms to their boards in order to benefit from their skills, experiences and talent, thus helping to enhance company performance. For directors serving on the boards of large firms, directorships at smaller ones are viewed as less prestigious. This selection process may subsequently result in a negative relationship between independent directors with low reputation incentives and firm performance (Masulis and Mobbs, 2017).

To address potential endogeneity concerns discussed above, and to further reduce the likelihood that the main findings can be led by variation in firm size, I carry out PSM analyses established by Rosenbaum and Rubin (1983). In the first step, I estimate a probit regression to calculate the possibility that a firm has an equal or above the industry average proportion of highly committed independent directors on its board. I construct an additional sample that includes treatment firms, whose boards have an equal or above the industry average proportion of independent directors with high reputation incentives. Control firms have an equal or above the industry average proportion of independent board members with low reputation incentives on the boards. From here, I create an indicator variable, namely *TREATMENTHL* which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. I use the same set of control variables used in the baseline models in the first-stage probit model, namely *MAJOR_SOLE, FIRMSIZE, SQFIRMSIZE, LEVERAGE, FIRMAGE, BOARDIND,* and *GENDIV* to calculate the propensity of having independent directors who rank their directorships as more prestigious on the boards. Year and industry fixed effects are also included in the models. Estimated results of first-stage probit regression are reported in panel A of Table 2.7. It can be seen clearly that *TREATMENTHL* has a statistically significant and negative association with *FIRMSIZE, LEVERAGE, BOARDIND* and *GENDIV,* while it has a significantly positive association with *MAJ_SOLE,* and no significant relationship with *FIRMAGE*.

Table 2. 7: Propensity Score Matching Analysis

Panel A: Probit regression

Dependent Variable:	***TREATMENTHL***
MAJ_SOLE	0.515***
	(8.53)
FIRMSIZE	-1.225***
	(-4.08)
SQFIRMSIZE	0.038***
	(5.08)
LEVERAGE	-0.395**
	(-2.39)
FIRMAGE	0.078
	(1.51)
BOARDIND	-0.503***
	(-3.37)
GENDIV	-1.109***
	(-3.67)
Number of observations	2,918
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
Pseudo R^2	0.106

This table reports the results of the following probit model:

$$TREATMENTHL_{it} = \mu_0 + \mu_1 MAJ\_SOLE_{it} + \mu_2 FIRMSIZE_{it} + \mu_3 SQFIRMSIZE_{it} + \mu_4 LEVERAGE_{it} + \mu_5 FIRMAGE_{it} + \mu_6 BOARDIND_{it} + \mu_7 GENDIV_{it} + \mu \sum INDUSTRY\ DUMMIES_{it} + \mu \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

The dependent variable, *TREATMENTHL*, is an indicator variable which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. Treatment firms are those with an equal or above the industry average proportion of independent board members with high reputation incentives on the boards. Control firms are firms that have an equal or above the industry average proportion of independent board members with low reputation incentives on the boards. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

Panel B: Relationship between firm performance and independent directors' reputation incentives based on PSM matched sample

Dependent Variable:	Model 1 *ROA*	Model 2 *ROE*	Model 3 *CFO/TA*	Model 4 *TOBIN'S Q*	Model 5 *RETURN*
TREATMENTHL	0.010***	0.039***	0.021***	0.563***	0.092***
	(3.71)	(4.60)	(4.50)	(10.64)	(4.48)
MAJ_SOLE	-0.005	-0.019**	-0.011**	-0.073	-0.007
	(-1.57)	(-2.10)	(-2.08)	(-1.16)	(-0.28)
FIRMSIZE	0.212***	0.616***	0.388***	-2.036***	0.196
	(12.41)	(9.07)	(10.76)	(-4.58)	(1.26)
SQFIRMSIZE	-0.005***	-0.014***	-0.009***	0.044***	-0.004
	(-11.82)	(-8.73)	(-10.58)	(4.12)	(-1.16)
LEVERAGE	-0.024**	-0.148***	-0.054**	0.078	-0.308***
	(-2.12)	(-3.47)	(-2.57)	(0.38)	(-3.91)
FIRMAGE	0.018***	0.055***	0.023***	0.080*	0.027
	(6.69)	(6.06)	(5.86)	(1.82)	(1.42)
BOARDIND	0.012	0.025	0.041***	0.039	0.023
	(1.42)	(0.95)	(3.01)	(0.26)	(0.37)
GENDIV	0.015	0.171***	0.014	1.160***	0.047
	(0.85)	(3.36)	(0.49)	(4.08)	(0.38)
Number of observations	1,438	1,444	1,438	1,438	1,432
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
R^2	34.66%	32.69%	26.85%	30.24%	19.61%
Adjusted R^2	33.17%	31.16%	25.19%	28.65%	17.77%
F-Statistic	23.30	13.55	13.53	15.01	12.26

This table reports the results of the following second stage regression using PSM matched sample:

$$PERFORMANCE_{it} = \rho_0 + \rho_1 TREATMENTHL_{it} + \rho_2 MAJ\_SOLE_{it} + \rho_3 FIRMSIZE_{it} + \rho_4 SQFIRMSIZE_{it} + \rho_5 LEVERAGE_{it} + \rho_6 FIRMAGE_{it} + \rho_7 BOARDIND_{it} + \rho_8 GENDIV_{it} + \rho \sum INDUSTRY\ DUMMIES_{it} + \rho \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

I use the nearest-neighbour matching without replacement to match treatment firms with control firms that are operating in the same industry, with the matching ratio of 1 to 1, and within the caliper range of 0.03. The dependent variable is firm performance, which is proxied by *ROA, ROE, CFO/TA, TOBIN'S Q*, and *RETURN*. The independent variable, *TREATMENTHL*, is an indicator variable which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. Treatment firms are firms with an equal or above the industry average proportion of independent board members with high reputation incentives on the boards. Control firms are firms that have an equal or above the industry average proportion of independent board members with low reputation incentives on the boards. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

In the second stage, I use the nearest-neighbour matching without replacement to match treatment firms with control firms within the same industry, with the matching ratio of 1 to 1, and within the caliper range of 0.03. This produces an overall sample of 1,438 observations (719 matched pairs) for *ROA*, *CFO/TA*, and *TOBIN'S Q* models, 1,444 observations (722 matched pairs) for *ROE* model, and 1,432 observations (716 matched pairs) for *RETURN* model. Then, I examine the covariates balance to ensure the validity of the matching procedure. The results, which are not reported for brevity, indicate that all the covariates are well-balanced, and there is no significant difference in the variables used to estimate propensity scores between treatment firms and control firms.

Panel B of Table 2.7 presents the regression results using the propensity-score matched samples. The results show that *TREATMENTHL* is significantly and positively related to all firm performance indicators. Coefficient (p-value) on *TREATMENTHL* is 0.010 ($p < 0.01$) for *ROA*, 0.039 ($p < 0.01$) for *ROE*, 0.021 ($p < 0.01$) for *CFO/TA*, 0.563 ($p < 0.01$) for *TOBIN'S Q*, and 0.092 ($p < 0.01$) for *RETURN*. This is consistent with the initial findings that firms having a large number of independent directors with high reputation incentives on their boards perform well compared to those with directors who view their directorships as less prestigious. These findings not only strengthen the main results, but also alleviate my concerns that firm size or other observable endogenous associations are driving the significant relationship between independent directors' reputation incentives and firm performance.

2.6.4 Heckman (1979) Two-stage Estimation

According to Tucker (2010), PSM analysis and Heckman (1979) two-step approach do not substitute for each other because these two methods attempt to address different issues. While PSM analysis is designed to mitigate selection bias resulted from observable factors, Heckman's two-step approach controls for selection bias due to unobservable factors (Tucker, 2010). Therefore, in another attempt to control for potential effects of biased estimates as a result of self-selection issues, I employ Heckman (1979) two-stage procedure.

In the first stage, I run a probit model, with the dependent variable being *TREATMENTHL* that I created previously. Consistent with Huang et al. (2018), I use *FIRMSIZE*, *SQFIRMSIZE*, *FIRMAGE*, *LEVERAGE*, and *BOARDIND* as determinants of *TREATMENTHL*, as they may potentially affect the ranking of independent directorships. Chang et al. (2016) claim that Heckman's two-step approach will produce unreliable results unless valid instrumental variables are employed. In order to effectively control for endogeneity, the instrumental variable must be an important determinant of the dependent variable in the first-stage probit model, while it has no direct influence on the dependent variable in the second-stage model (Lennox et al., 2012). So, I need an instrumental variable that is associated with *TREATMENTHL*, but has no direct relationship with firm performance. Adams and Ferreira (2009) argue that finding a valid instrument is difficult because determinants of the endogenous variable are

also corporate governance characteristics, and most of them have already been included when examining firm performance in prior studies.

Consequently, in line with Adams and Ferreira (2009) and Vafaei et al. (2015), I use *FRACTION* as an instrumental variable in the first stage probit model. *FRACTION* is defined as the proportion of non-independent directors who are currently serving on other boards, on which there are independent directors with either high or low reputation incentives. Pursuant to Conyon and Muldoon (2006), directors form a social network when they sit on the boards of directors of other firms. Based on these networks, non-independent directors are able to invite independent directors serving on other boards to join their firms. This can lead to changes in the proportion of independent directors with high/low reputation incentives on the boards. Therefore, *FRACTION* can be considered as an important determinant of *TREATMENTHL*. Not only that, it can be validly excluded in the second-stage model as it has not yet been considered as a determinant of firm performance in the existing literature.

Results of the probit model are reported in panel A of Table 2.8, which shows that *FRACTION*, *FIRMSIZE*, *LEVERAGE*, and *BOARDIND* are significantly and inversely related to *TREATMENTHL*, while others show no significant association with *TREATMENTHL*. I also check for the strength of the instrument variable (*FRACTION*) by carrying out the Wald test. Under this test, the null hypothesis is that the coefficient for this variable is 0. The obtained value of the $\chi 2$ statistic is 11.63 ($p<0.01$), allowing us to reject the null hypothesis. This mitigates the concern that *FRACTION* is a weak instrumental variable. Estimated parameters of the probit model are then used to compute the Inverse Mill's Ratio (*MILLS*).

In the second stage, I re-estimate the baseline models by adding *MILLS* as a control variable for potential endogeneity. Panel B of Table 2.8 reports the results. I document that the coefficients on *MILLS* are significant in both Model 2 ($p<0.1$), and Model 3 ($p<0.05$), justifying the endogeneity concerns. In other words, endogeneity bias exists in both models. I also find that controlling for endogeneity does not modify the findings that the presence of independent directors with high reputation incentives on the boards lead to superior performance, while independent directors with low reputation incentives are responsible for inferior performance. Generally, it can be concluded that the results are robust to correct any potential selection bias due to unobservable factors.

Table 2. 8: Heckman Two-stage Estimation

Panel A: First stage - Probit regression

Dependent Variable:	***TREATMENTHL***
FRACTION	-0.951***
	(-3.45)
FIRMSIZE	-1.536***
	(-3.26)
SQFIRMSIZE	0.045***
	(3.86)
FIRMAGE	0.082
	(1.59)
LEVERAGE	-0.314*
	(-1.80)
BOARDIND	-0.525***
	(-3.55)
Number of observations	2,918
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
Pseudo R^2	0.075

This table reports the results of the following probit model:

$$TREATMENTHL_{it} = \beta_0 + +\beta_1 FRACTION_{it} + \beta_2 FIRMSIZE_{it} + \beta_3 SQFIRMSIZE_{it} + \beta_4 FIRMAGE_{it} + \beta_5 LEVERAGE_{it} + \beta_6 BOARDIND_{it} + \gamma \sum INDUSTRY\ DUMMIES_{it} + \gamma \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

The dependent variable, *TREATMENTHL*, is an indicator variable which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. Treatment firms are firms that have an equal or above the industry average proportion of independent board members with high reputation incentives on the boards. Control firms are firms that have an equal or above the industry average proportion of independent board members with low reputation incentives on the boards. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

Panel B: Second stage - Relationship between firm performance and independent directors' reputation incentives, controlling for potential endogeneity

Dependent Variable:	Model 1 *ROA*	Model 2 *ROE*	Model 3 *CFO/TA*	Model 4 *TOBIN'S Q*	Model 5 *RETURN*
MILLS	-0.002	-0.082*	0.037**	-0.056	0.119
	(-0.04)	(-1.65)	(2.02)	(-0.26)	(0.94)
HIGH	0.091**	0.119**	0.019**	1.553***	0.101*
	(2.11)	(2.41)	(2.12)	(6.44)	(1.66)
LOW	-0.078***	-0.075**	-0.037**	-1.057***	-0.237**
	(-2.59)	(-2.07)	(-1.99)	(-5.64)	(-1.97)
MAJ_SOLE	-0.012	-0.015**	-0.001	-0.036	0.0004
	(-1.42)	(-2.01)	(-0.27)	(-1.03)	(0.02)
FIRMSIZE	1.171***	0.859***	0.281***	-2.190***	-0.092
	(7.64)	(7.43)	(11.13)	(-7.44)	(-0.30)
SQFIRMSIZE	-0.028***	-0.021***	-0.007***	0.049***	0.003
	(-7.22)	(-6.93)	(-9.68)	(6.27)	(0.34)
LEVERAGE	-0.108**	-0.054	-0.059***	0.148	-0.203***
	(-2.22)	(-1.51)	(-5.83)	(1.33)	(-2.74)
FIRMAGE	0.034***	0.04***	0.023***	0.060**	0.064**
	(5.39)	(6.33)	(9.12)	(2.12)	(2.52)
BOARDIND	0.035	0.063***	0.031***	-0.075	-0.007
	(1.53)	(2.94)	(3.45)	(-0.75)	(-0.13)
GENDIV	0.084***	0.033	0.003	0.827***	0.100
	(2.80)	(0.98)	(0.23)	(5.32)	(0.97)
Number of observations	2,918	2,918	2,918	2,918	2,897
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
R^2	25.56%	28.02%	26.86%	32.04%	14.31%
Adjusted R^2	24.68%	27.17%	25.99%	31.23%	13.29%
F-Statistic	10.93	23.48	33.57	37.50	14.35

This table reports the results of the following second stage regression:

$$PERFORMANCE_{it} = \delta_0 + \delta_1 MILLS + \delta_2 HIGH_{it} + \delta_3 LOW_{it} + \delta_4 MAJ\_SOLE_{it} + \delta_5 FIRMSIZE_{it} + \delta_6 SQFIRMSIZE_{it} + \delta_7 LEVERAGE_{it} + \delta_8 FIRMAGE_{it} + \delta_9 BOARDIND_{it} + \delta_{10} GENDIV_{it} + \gamma \sum INDUSTRY\ DUMMIES_{it} + \gamma \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

The dependent variable is firm performance, which is proxied by *ROA, ROE, TOBIN'S Q*, *RETURN*, and *CFO/TA*. The independent variable, *MILLS*, is created using parameters from the first stage regression. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

2.7 Conclusion

This empirical chapter offers new insights into the effects of independent directors' reputation incentives on the performance of Australian listed firms, utilising Masulis and Mobbs (2014) method in measuring reputation incentives. Under the resource dependence theory, it is argued that independent directors devote more time and effort at relatively large firms, where their more prestigious directorships are based, so these businesses perform better. In comparison, firms do not benefit from independent

directors who view their directorships less prestigious, and consequently their business suffers. Findings from this study have provided support for my arguments.

Using a sample of the top 500 Australian publicly listed firms on the ASX for the years 2004-2019, empirical evidence shows that firm performance is positively associated with the proportion of independent directors with high reputation incentives, and negatively related to the ratio of outsiders with low reputation incentives, consistent with Masulis and Mobbs (2014). When examining this relationship according to the gender of independent directors, the results hold except where no significant association is found between female directors ranking their directorships as low and firm performance. Results derived from other robustness tests including using alternative measures of reputation incentives, propensity score matching analysis, and Heckman (1979) two-stage approach, support the initial findings. These outcomes strengthen my conclusion regarding the influence of independent directors' reputation incentives on firm performance, ruling out the effects of firm size and biased estimates that arise due to self-selection.

Findings from this study could be useful for current shareholders and potential investors to assess independent directors' effectiveness in protecting shareholders' interests by efficiently monitoring the management decisions and alleviating agency conflicts. Besides, this study offers some useful insights for policymakers to establish rules and policies that enhance independent directors' effectiveness. By revealing that not only the proportion of independent directors on the board but also their reputation incentives that can effectively determine the quality of firm performance, this study has several implications. For scholars, it is important to consider independent directors' reputation incentives when evaluating the performance of Australian publicly listed firms in future research. For shareholders and the firms themselves, reputational concerns should be taken into account when evaluating the effectiveness of independent directors, or electing new board members. For policy-makers, this study offers some useful insights to establish rules and policies to enhance independent directors' effectiveness and to place more emphasis on independent directorships. A potential limitation of this study is that since numerous corporate governance variables are identified in the extent literature, these may potentially affect a firm's financial performance. This suggests it is impossible to control for all these in the main models. Future research can extend this study by examining the impacts of independent directors' reputation incentives on Australian firms' non-financial performance.

Table 2. 9: Variable Definitions and Sources

Variables	Description	Source
ROA	The ratio of earnings before interest to total assets	DatAnalysis
ROE	The ratio of net profit after tax before abnormals to ordinary shareholders' equity	DatAnalysis
TOBIN'S Q	The sum of book value of liabilities and the market value of equity, scaled by total assets	Calculated based on data from DatAnalysis
CFO/TA	The ratio of cash flows from operating activities to total assets	Calculated based on data from DatAnalysis
RETURN	The natural logarithm of current year's share price divided by last year's share price	Calculated based on data from Connect4
HIGH	The proportion of independent directors with high reputation incentives on the board	Calculated based on corporate governance data from Connect4
LOW	The proportion of independent directors with low reputation incentives on the board	Calculated based on corporate governance data from Connect4
MAJOR_SOLE	A dummy variable which equals 1 when the proportion of independent board member for whom this is their only directorship is 50% or more, and 0 otherwise	Calculated based on corporate governance data from Connect4
FIRMSIZE	The natural logarithm of total assets	Calculated based on data from DatAnalysis
SQFIRMSIZE	Square value of firm size	Calculated based on data from DatAnalysis
FIRMAGE	The natural logarithm of the number of years a firm has been listed on the ASX	Calculated based on data from DatAnalysis
LEVERAGE	The ratio of total debt to total assets	Calculated based on data from DatAnalysis
BOARDIND	The ratio of independent directors on the board	Calculated based on corporate governance data from Connect4
GENDIV	The proportion of female directors on the board	Calculated based on corporate governance data from Connect4

Chapter 3: Independent Directors' Reputation Incentives and Accounting Conservatism – An Australian Perspective

Abstract

This study fills in the current literature gap by identifying that distinguishing independent directors according to their reputation incentives is crucial in understanding how the boards of director influence earnings quality, as measured by accounting conservatism. Utilising a sample of the ASX 500 during the period 2004-2019, the results provide evidence that the demand for conservatism is more pronounced in firms where there are independent directors ranking their directorships as high. By contrast, the presence of independent directors with low reputation incentives on the boards reduces the extent of conservative accounting practices by the firms. The findings remain qualitatively unchanged when alternative measures of reputation incentives and both types of accounting conservatism, i.e., conditional and unconditional conservatism, are used, as well as when the PSM analyses and the Heckman two-stage approach are performed. This study provides important implications for various stakeholders who concern about the quality of financial reporting, especially during and after the Covid-19 outbreak. I find that accounting earnings quality does not necessarily improve by increasing the presence of independent board members to comply with the ASX recommendations. Therefore, independent directors' reputation incentives should be taken into consideration when appointing or retaining an independent director on the board, and when developing rules and recommendations that aim to enhance firms' financial reporting quality.

Keywords Reputation incentives; Independent directors; Accounting conservatism; Corporate governance; Australia

3.1 Introduction

Accounting conservatism has been widely considered as a desirable and enduring feature of accounting information for centuries (Ball and Brown, 1968, Basu, 1997, Ruch and Taylor, 2015). García Lara et al. (2007) notes that there has been a considerable increase in conservatism documented by research during the last few decades. Accounting conservatism is conventionally defined as the recognition of revenues only when they are guaranteed of being received while the recognition of expenses even when there is an uncertainty of outcome involved (Bliss, 1924). Pursuant to Basu (1997), it reflects the firms' tendencies to recognise bad news as losses in a timelier manner than good news as gains. According to Ball et al. (2000) and Basu (2005), accounting conservatism represents one of the important attributes of financial reporting quality as it enhances the reliability of financial statements, thus builds public trust and confidence in the financial reporting system. Specifically, in relation to the agency theory perspective, conservative accounting practices are considered as a tool that can be utilised to mitigate agency conflicts by constraining directors' opportunities to manipulate figures in financial reports to maximize their personal benefits (Ahmed and Duellman, 2007). As a result, accounting conservatism provides several benefits such as decreasing information asymmetry (LaFond and Watts, 2008, García Lara et al., 2014, Hu et al., 2014, Callen et al., 2016) and the cost of capital (García Lara et al., 2011), enhancing the efficiency of contractual agreements so as to decrease contracting costs (Ball, 2001, Ahmed et al., 2002, Chen et al., 2007, Zhang, 2008), and reducing litigation risk (Ball and Shivakumar, 2005, Khan and Watts, 2009).

Accordingly, knowledge of the nature and determinants of accounting conservatism is essential. Over the decades, numerous studies have been undertaken to examine firm and board characteristics that potentially affect the degree of conservatism. Especially, the boards of directors, a significant component of corporate governance, have received much attention by a large body of research due to the reason that the implementation of accounting policies as well as the preparation of financial reports requires a great deal of directors' judgement and decisions. For instance, previous research document that accounting conservatism is positively related to the proportion of independent directors (Beekes et al., 2004, Ahmed and Duellman, 2007, Lim, 2011, Mohammed et al., 2017), CFO tenure and CFO board membership (Muttakin et al., 2019), CEO duality (Chi et al., 2009), gender diversity (Boussaid et al., 2015), etc. In contrast, many prior studies report a negative association between accounting conservatism and managerial ownership (LaFond and Watts, 2008), board size, board expertise and institutional ownership (Chi et al., 2009), CEO duality (Lim, 2011), CEO overconfidence (Ahmed and Duellman, 2013), the ratio of independent directors who are politicians (Enache and García-Meca, 2019), to name a few.

Despite being extensively examined, empirical evidence to date regarding the association between accounting conservatism and corporate governance, in general, or the boards of directors, in

particular, is inconclusive. In addition, I find that no research has yet done on the relationship between accounting conservatism and independent directors' reputation incentives, which is also important as it influences the directors' discretion in implementing accounting principles. As pointed out by Fama (1980) and Fama and Jensen (1983), the primary motivation of a director is to protect and enhance his/her reputation in order to signal his/her expertise to the internal and external directors' labour market. Additionally, the reputation of independent directors signals the characteristics of the companies where their directorships are based to external stakeholders (Eminet and Guedri, 2010). Consequently, the possible effect of reputation incentives of independent directors on conservative accounting practices is an issue worthy of empirical study.

The policy motivation of this study arises from the recommendation made by the ASX Corporate Governance Council (2019) that a majority of the board members should be independent. Although the recommendation is based on a 'comply or explain' regime, it can be noticed that there is an increase in the presence of independent directors on Australian corporate boards during the sample period. However, there is an increasing concern about the effectiveness of this recommendation on the level of conservative accounting practices adopted by Australian firms. Masulis (2020) contends that board independence itself cannot guarantee independent directors' effectiveness. In fact, not all independent directors are equally effective monitors of management (Enache and García-Meca, 2019), and prestigious directors bring in more values than other board members (Jahan et al., 2020). Prior studies find that higher reputation incentives of independent directors result in better firm transparency (Sila et al., 2017), less earnings management and lower likelihood of earnings restatement (Masulis and Mobbs, 2016). In this regard, independent board members' reputation incentives are arguably more important than the proportion of independent directors on the boards. It is possible that independent directors with high reputation incentives are motivated to engage in conservative accounting practices to maintain their reputation. In contrast, those with low reputation incentives may have less incentive to demand for accounting conservatism due to excessive time and energy constraint. Therefore, the examination of the relationship between independent directors' reputation incentives and accounting conservatism could lead to useful findings.

In this study, by employing a sample of ASX 500 listed firms from 2004 to 2019, I aim to address the deficiency in the current literature by exploring the association between the demand for accounting conservatism and independent directors' reputation incentives, which are proxied by firm size, following the method established by Masulis and Mobbs (2014). I focus on firm size because it is argued that large firms offer their independent board members greater reputation building opportunities (Adams and Ferreira, 2008, Knyazeva et al., 2013), higher probability of obtaining additional future directorships (Yermack, 2004), more visibility (Fama and Jensen, 1983, Shivdasani, 1993), more compensation (Ryan and Wiggins, 2004), and a richer information environment (Chen et al., 2015).

According to Masulis and Mobbs (2014), an independent director is classified as having high (low) reputation incentive if their focal firm's market capitalisation is at least 10% larger (smaller) than the smallest (largest) firm in their directorship portfolio. I then construct reputation measures at the firm level, namely $HIGH_{it}$ (LOW_{it}) by calculating the ratio of independent directors with high (low) reputation incentives on the boards. To proxy for accounting conservatism, I employ both market-based measure of conservatism, namely asymmetric timeliness of earnings (EAR_{it}) (Basu, 1997), and accounting-based measure of conservatism, namely asymmetric timeliness of accruals (ACC_{it}) (Ball and Shivakumar, 2005). Following Masulis and Mobbs (2016, 2017), I control for both firm size ($FIRMSIZE_{it}$) and square value of firm size ($SQFIRMSIZE_{it}$) in my regression analyses to reduce the likelihood that the results are driven by size of the firms. The regression models are estimated using year and industry fixed effects, with robust standard errors to correct for heteroscedasticity and serial correlation (Petersen, 2009). I find that consistent with my prediction, the presence of independent directors who view their directorships as prestigious on the boards is likely to increase the implementation of conservative accounting methods by Australian firms. Meanwhile, the proportion of independent directors who consider their directorships as less prestigious is related to lower level of accounting conservatism. This provide a strong support for my argument that independent directors sitting on multiple boards are likely to prioritise the directorships that contribute greatly to their reputation, by functioning more vigilantly and monitoring more effectively to ensure the high quality of financial reporting via accounting conservatism at relatively large firms.

I conduct several sensitivity tests to evaluate the robustness of my findings. First, I measure reputation incentives of independent directors using market value of total assets (Masulis and Mobbs, 2014), alternative cut-off thresholds, including 5% and 20% (Sila et al., 2017), 1-year lagged values (Masulis and Mobbs, 2016, 2017, Moursli, 2019), and separate measures for each gender. In addition, I re-estimate Basu (1997) model using market-adjusted returns and employ an alternative proxy for accounting conservatism, namely C-Score ($CSCORE_{it}$), a firm-year measure of accounting conservatism (Khan and Watts, 2009), and two measures of unconditional conservatism, including the cumulative total accruals ($CON\text{-}ACC_{it}$) (Ahmed and Duellman, 2013), and the book-to-market ratio ($CON\text{-}MKT_{it}$) (Ahmed and Henry, 2012). I also take into account the possibility that firm size and biased estimates that arise because of self-selection may lead the main results. Therefore, I perform propensity score matching (hereafter "PSM") analyses established by Rosenbaum and Rubin (1983) and Heckman (1979) two-step approach to rule out these possible effects. Results of the robustness tests show that my main findings remain qualitatively unchanged, indicating that the associations between independent directors' reputation incentives and accounting conservatism are not conditional on conservatism measures, reputation incentives measures, firm size, or selection biases due to observable and unobservable factors. This provides additional confidence in the reliability of my empirical findings.

This study makes several key contributions. Firstly, it complements the line of research that study the reputation incentives of independent directors (e.g., Masulis and Mobbs, 2014, 2016, 2017, Sila et al., 2017, Bryan and Mason, 2020, etc.), by providing an additional evidence that not all independent directors are equally effective monitors or valuable advisors. In particular, those directors who view their directorships as more prestigious as against the others who consider their directorships as less prestigious, are likely to have different effects on corporate governance effectiveness, and thus, the level of conservative accounting practices adopted by the firms.

Secondly, this study adds to the growing stream of literature that studies the effects of director busyness on earnings quality. In essence, distinguishing busy directors according to their reputation incentives is especially important in understanding the way in which their effectiveness affects the quality of financial reporting, as measured by accounting conservatism. Directors serving on multiple boards simultaneously are found to be positively associated with better earnings quality, i.e., less earnings management and low likelihood of financial statement fraud, in prior studies (Beasley, 1996, Yang and Krishnan, 2005, Hashim and Rahman, 2011, Tham et al., 2019). In contrast, other studies document the opposite results (Baatour et al., 2017, Ferris and Liao, 2019, Ramaswamy, 2019). This study reconciles these conflicting evidence by providing the empirical evidence that instead of equally distributing their time and effort to all their directorships, busy directors are likely to prioritise the most prestigious ones, which contribute greatly to their reputation.

Thirdly, this study also adds to the emerging stream of literature that seeks to identify factors that determines the degree of conservative accounting practices. Despite of an increasing number of studies investigating the determinants of accounting conservatism (e.g., Ahmed and Duellman, 2007, LaFond and Watts, 2008, Lim, 2011, Ahmed and Henry, 2012, Muttakin et al., 2019), no study has been carried out to examine the reputation incentives of independent directors either in Australia or globally. By identifying a significantly positive (negative) relationship between independent directors with high (low) reputation incentives and accounting conservatism, this study extends the existing literature that focuses on the determinants of accounting conservatism. Consequently, future research should take into account the effects of independent directors' reputation incentives when studying the demand for conservative accounting practices, especially in the Australian context.

Fourthly, this study advocates for the argument that better governance mechanism have positive effects on earnings quality, as proxied by accounting conservatism. In fact, conservative accounting methods play a complementary role, which are used to facilitate effective corporate governance. My empirical evidence lend support for studies by Beekes et al. (2004), Ahmed and Duellman (2007), and García Lara et al. (2009), who argue that effective corporate governance will favour the adoption of conservative accounting practices. The reason is that conservatism helps to mitigate agency costs, which arise from the information asymmetry between managers and shareholders.

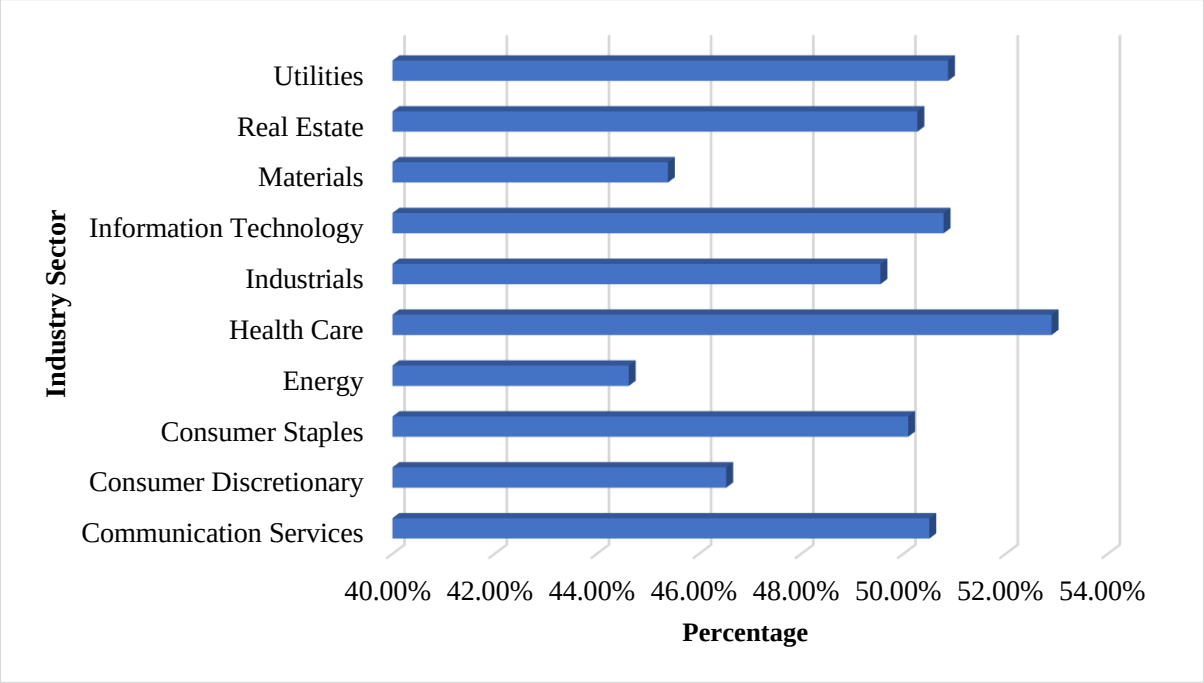
Lastly, my findings have useful implications for shareholders, potential investors, regulators, and other stakeholders in assessing the monitoring effectiveness of independent directors. By providing empirical evidence that appointing independent directors with low reputation incentives to the board can lower the degree of accounting conservatism, I demonstrate that merely increasing the presence of independent board members to comply with the recommendation made by the ASX Corporate Governance Council (2019) does not necessarily lead to better earnings quality. Therefore, independent directors' reputation incentives should be taken into consideration when appointing or retaining an independent director, as well as when developing rules and recommendations in order to enhance the financial reporting quality of the firms. This is especially important during and even after the Covid-19 outbreak. The reason is that during severe market downturns, investors are more risk-averse and are more concerned about financial reporting quality (Cui et al., 2021).

This chapter proceeds as follows. Section 3.2 describes the Australian institutional background. Section 3.3 reviews existing literature and develops hypotheses. Section 3.4 outlines the research methodology. Section 3.5 presents the descriptive statistics, Pearson correlations matrix, and empirical results, following by a series of robustness tests in section 3.6. Section 3.7 summarises the chapter by providing implications, limitations, and future works.

3.2 Australian Institutional Setting

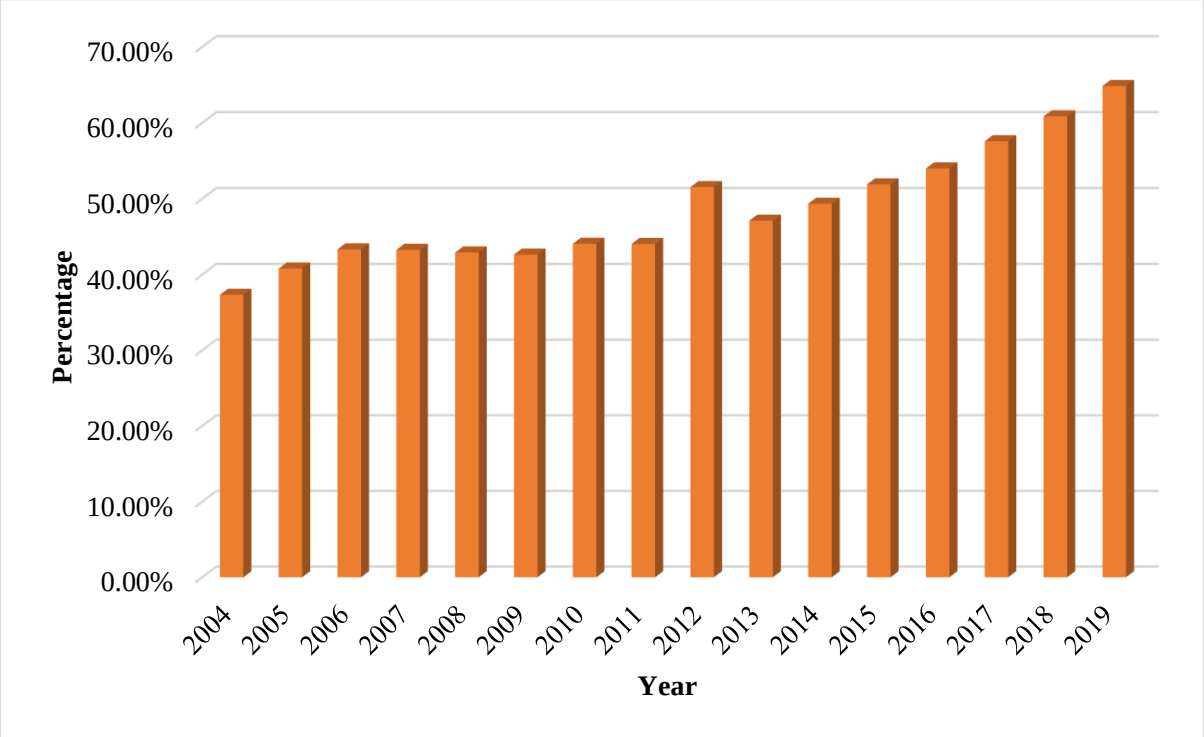
Cheng and Sun (2018) document that the independent director system has become popular since the 1970s. Particularly, they note that many firms appoint independent directors on their boards in order to enhance corporate governance. According to Mire (2016), the Corporation Act 2001, which is the main legislation in Australia does not distinguish between independent directors and other directors. The definition of independent directors has only been provided in the Principles of Good Corporate Governance and Best Practice Recommendations developed by the ASX Corporate Governance Council (2019). Particularly, an independent director is "a director who is free of of any interest, position or relationship that might influence, or reasonably be perceived to influence, in a material respect their capacity to bring an independent judgement to bear on issues before the board and to act in the best interests of the entity as a whole rather than those of an individual security holder or other party" (ASX Corporate Governance Council, 2019, p. 35). As recommended by the ASX Corporate Governance Council (2019), companies listed on the ASX should have a majority of independent directors on their boards. However, this recommendation takes on an "if not, why not" approach. If the firms cannot comply with this recommendation, they need to provide a statement to explain for their non-compliance in their annual reports.

Figure 3. 1: The Proportion of Independent Directors by Industry Sector during the Period 2004-2019



The proportion of independent directors across 10 industry sectors based on the Global Industry Classification Standard classification (hereafter GICS) is presented in Figure 1. As can be seen in Figure 3.1, the number of independent directors account for a majority of the boards in over 50% of the industry sectors. Health Care sector has the highest proportion of independent directors, namely 52.90%, whereas the opposite is true of the Energy sector, namely 44.63%. Based on Figure 3.2, the study period 2004-2019 witnesses a significant increase in the ratio of independent directors on the boards of the top 500 firms listed on the ASX. Although this ratio stabilizes at approximately more than 40% from 2006 to 2011, it considerably increases from 2013 to 2019, reaching 64.85% in 2019.

Figure 3. 2: The Proportion of Independent Directors on ASX 500's Boards during the Period 2004-2019



With regards to accounting conservatism, this term has been mentioned in the Statement of Accounting Concepts (SAC) 3 as "a deliberate bias toward understatement of revenues or assets and/or maximum recognition of expenses or liabilities" (Australian Accounting Research Foundation, 1990, p. 10). However, as conservatism is at odds with other qualitative characteristics of financial reports, and is equivalent to reliability when is used in an appropriate way, the term is not employed in the SAC 3 (Australian Accounting Research Foundation, 1990). Besides, prudence, which is defined as "the need to exercise care when dealing with uncertainties in the process of recognition and measurement", has been subsumed in the concept of reliability (Australian Accounting Research Foundation, 1990).

Prior studies that examine accounting conservatism in the Australian context provide evidence on the existence of conservative accounting practices adopted by Australian firms (e.g., Lim, 2011, Ahmed and Henry, 2012, Crockett and Ali, 2015, Sultana, 2015, Muttakin et al., 2019, among others). Lai et al. (2013) document that unlike other countries, the level of conservatism in Australian fluctuates without following any obvious pattern during the period 1993-2009. Although Ahmed and Henry (2012) find a significant association between board independence and accounting conservatism, I argue that variation in the reputation incentives of independent board members also matters. While the proportion of independent directors on the boards increases significantly over the 16-year period 2004-2019, whether their reputation incentives lead to changes in the adoption of conservative accounting practices by Australian firms is worth researching. The regulatory call for a majority of independent directors on the boards by the ASX Corporate Governance Council (2019) serves as the policy

motivation for this study. Therefore, I am interested in examining the possible relationships between independent directors' reputation incentives and accounting conservatism in the Australian context.

3.3 Literature Review and Hypotheses Development

3.3.1 The Concept of Accounting Conservatism

Conservatism, a vital element of financial accounting (Chi et al., 2009), came into existence in the 15th century (Littleton, 1941, Basu, 1997). Over the last few decades, it has caught the attention of a large number of academic researchers and standard setters. However, they have not reached a universal agreement in defining accounting conservatism. According to Financial Accounting Standards Board (1980, p. 6), conservatism is considered as "a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered". The accounting system of a firm is considered to be more conservative when there are more stringent requirements for a favorable report (Laux and Ray, 2020). Pursuant to Penman and Zhang (2020), conservative accounting practices are employed when there is a considerable level of uncertainty in future cashflows, leading to a lack of reliable information regarding business activities.

Feltham and Ohlson (1995), based on a balance sheet approach, refer accounting conservatism to the consistent underestimation of total operating assets' book value, compared to their market value. In the same vein, Wolk et al. (2013) and Ruch and Taylor (2015) define accounting conservatism as the inclination of selecting practices and policies that underestimate net assets' value in comparison to the economic value. Givoly and Hayn (2000), on the basis of income statement perspective, consider conservatism as the adoption of accounting principles that minimize the accumulative reported earnings by accelerating the recognition of expenses and delaying the recognition of revenues. Likewise, García Lara et al. (2007) view conservatism as a prudent reaction towards uncertainty that requires a higher level of validation and guarantee when recognising profits than when declaring losses. Ewert and Wagenhofer (2020, p.16) define accounting conservatism as "the increase in the probability of an earnings understatement and a decrease in the probability of an earnings overstatement by an equal amount". Although the definition of conservatism slightly varies, the understanding of its fundamental concept is not significantly different among scholars, i.e., "under uncertainty, assets and income should not be overstated and liabilities and losses should not be understated" (Gao and Wagenhofer, 2021, p.322). Consequently, it offsets the motivation of managers to delay (accelerate) the recognition of negative (positive) news in financial reports (Kim and Zhang, 2016).

The academic literature classifies accounting conservatism into unconditional conservatism and conditional conservatism (Ball and Shivakumar, 2005, Beaver and Ryan, 2005). This classification has frequently been used by many accounting researchers because of its clear framework for conservatism's evaluation and interpretation (Xie, 2015). Unconditional conservatism also comes under the name of

ex ante or news-independent conservatism (Pope and Wailker, 2003, Beaver and Ryan, 2005), or balance sheet conservatism (Mora and Walker, 2015). The term "unconditional" means that conservative accounting practices are adopted ahead of any information made available, thus, they are independent of news (Mora and Walker, 2015). Ball and Shivakumar (2005) describe unconditional conservatism as the understatement of assets' book value and revenues, as well as overstatement of liabilities and expenses, irrespective of expected economic outcomes. Some typical examples of unconditional conservative accounting practices are the accelerated methods of depreciation, the instant expense of intangible assets that are created internally, the historical cost accounting, the last-in-first-out inventory valuation method, to name but a few (Ball and Shivakumar, 2005, García Lara et al., 2009, Lin, 2016, Zhong and Li, 2017, Khalilov and Garcia Osma, 2019).

Conditional conservatism, on the other hand, can be referred to as ex post or news-dependent conservatism (Pope and Wailker, 2003, Beaver and Ryan, 2005), earnings conservatism, or information-driven conservatism (Mora and Walker, 2015). In contrast to unconditional conservatism, news is taken into account in the case of conditional conservatism (Basu, 1997). Particularly, the author contends that conditional conservatism implies the asymmetrical recognition of good news relative to bad news, with bad news being more promptly incorporated in accounting earnings than good news. That is to say, conditional conservatism captures the accountants' tendency in carrying out higher level of verification to record good news as accounting profit/revenue than bad news as accounting loss/expense (Basu, 1997, Watts, 2003b, Armstrong et al., 2010). Examples of accounting practices that give rise to conditional conservatism include the adoption of the lower of cost and market approach in evaluating the inventory, and the impairment rules for long-lived intangible and tangible assets (Ball and Shivakumar, 2005, Ryan, 2006, Ji, 2013, Mora and Walker, 2015, Lin, 2016).

Broadly speaking, although both kinds of accounting conservatism generate an understatement of net operating assets and reported earnings, conditional conservatism differs from unconditional conservatism in the way that it carries news information. This means the adoption of conditionally conservative accounting practices is subject to the nature of economic outcomes, whereas unconditionally conservative methods are applied regardless of economic news' occurrence (Beaver and Ryan, 2005, Ball et al., 2013, Lin, 2016).

3.3.2 Corporate Governance Attributes and Accounting Conservatism

A multitude of empirical studies have paid special attention to the governance factors that cause firms in the same country adopt varying degree of accounting conservatism (Mora and Walker, 2015). As mentioned by the authors, since accounting rules applicable to companies within the same country are identical, the extent to which conservative accounting practices are applied is attributable to the managers' discretion. It is highlighted that effective corporate governance mechanisms play a

significant role in mitigating agency conflicts, improving managers' monitoring efficiency and restricting managers' opportunistic behaviours, thereby causing managers to adopt conservative practices in financial reporting (García Lara et al., 2009, Vyas, 2011). Particularly, García Lara et al. (2009) and Vyas (2011) find that there is a positive relationship between corporate governance quality and conditional conservatism level. Kieschnick and Shi (2021), however, provide evidence that the relationships between corporate governance and conservative accounting is conditional on legal shock and economic shock. The section below will provide more empirical evidence regarding the effects of individual governance characteristic of the firms on their conservative reporting level.

Ahmed and Duellman (2007) and Lim (2011) find that accounting conservatism increases when there is an increase in the number of independent directors on the board, and vice versa. However, not all independent directors are evenly effective. There are certain kinds of independent board members who negatively impact the firms' accounting conservatism level, for example politicians (Enache and García-Meca, 2019), or directors with banking expertise (Nguyen et al., 2020). Lafond and Roychowdhury (2008) document a negative correlation between managerial ownership and the asymmetric timeliness of earnings, arguing that a decrease in managerial ownership worsens agency conflicts, thus raises the demand for conservative accounting principles. A study by Chi et al. (2009) provides evidence that board size, board expertise and institutional ownership are negatively related to the level of conservatism.

Vähämaa and Peni (2010) report that female CFOs are related to income-decreasing discretionary accruals, consistent with the view that female CFOs follow more conservative strategies in financial reporting. CFO tenure and CFO board membership are also found to increase the use of conservative accounting practices (Muttakin et al., 2019). Using a sample of 300 Australian largest firms, ranked by market capitalisation, from 1992 to 2002, Ahmed and Henry (2012) provide evidence that greater board independence, small-size boards, and voluntary formation of audit committee positively influence the degree of unconditional conservatism, and negatively impact the conditional conservatism level.

Ahmed and Duellman (2013), by examining a sample of S&P1500 firms over the period 1993-2009, report that CEO overconfidence negatively impacts both conditional and unconditional accounting conservatism. Further empirical evidence shows that external monitoring does not mitigate this negative relation. Recent papers also focus on investigating the impacts of various CEO characteristics on accounting conservatism, including CEO's duality (Chi et al., 2009, Lim, 2011), CEO's gender (Ho et al., 2015), CEOs' accounting backgrounds (Hu et al., 2017), CEO's inside debt (Wang et al., 2018), CEO's retirement (Chen et al., 2018), CEO's early-life experience (Hu et al., 2020), and CEO-board social ties (Yin et al., 2020).

Sultana (2015) reveals that a positive relationship between accounting conservatism and frequency of audit committee meetings, as well as the experience and financial expertise of the audit committee's members. The results are consistent with the agency theory that audit committees are effective monitoring mechanisms in restraining the opportunistic practices of the directors. In a recent study, Khan et al. (2019) finds that audit committee effectiveness and external auditor quality are positively associated with two-year-lagged accrual-based measure of conservatism. Besides, it is also documented that accounting conservatism is positively related to excessive managerial risk incentives (Hu and Jiang, 2019) and managerial ability (Haider et al., 2021).

Taken together, the influence of various corporate governance attributes on the likelihood of conservative accounting practices' implementation have been examined extensively. However, no existing research has yet to investigate the potential effects of independent reputation incentives on accounting conservatism. Consequently, this study fills in the current literature' s deficiency by examining the association between accounting conservatism and the reputation incentives of independent directors.

3.3.3 The Reputation Incentives of Independent Directors and Accounting Conservatism

In line with the Experience Hypothesis, Jensen and Meckling (1976) and Fama (1980) claim that independent directors, especially those holding multiple board appointments simultaneously, play a significant role in improving the efficiency of managerial supervision. Serving on several external boards enables independent directors to acquire necessary knowledge, experience, and skills, which provide them the tools needed to oversee the top management efficiently (Harris and Shimizu, 2004, Oehmichen et al., 2014, Clements et al., 2015, Brennan et al., 2016), thereby enhances the quality of earnings. In addition, independent directors with high accumulated reputational capital, which can be proxied by the number of directorships (Shivdasani, 1993, Vafeas, 1999a, Wu, 2004, Helland, 2006, Bugeja et al., 2009, Brochet and Srinivasan, 2014, Jiang et al., 2015, Lel and Miller, 2015) and/or relative size of the firms (Masulis and Mobbs, 2014, 2016, 2017, Sila et al., 2017, Bryan and Mason, 2020), are also strongly motivated to become monitoring specialists to ensure greater reporting quality. This can be explained by the fact that the quality of reporting, particularly in the event of financial reporting failure, significantly affects their reputational capital as well as their likelihood of obtaining additional directorships in the future. In fact, it is noted that there is an increase in director turnover when the firms are associated with earnings restatement (Srinivasan, 2005, Helland, 2006) or fraud (Chang and Sun, 2016). Likewise, Fich and Shivdasani (2007) find that external directors from firms that experience financial fraud lawsuit suffer a reduction in the number of their other directorships, and these directors tend to depart fraud firms than non-fraud firms (Gao et al., 2017). Street and Hermanson (2019) also contend that outside directors in firms that engage in restating practices are likely to lose their board appointments and shareholder support. To sum up, it can be inferred that independent

directors with high reputation incentives are inclined to function more vigilantly and monitor more effectively to ensure the high quality of financial reporting, since they have more to lose in terms of their own human capital, in comparison to independent directors with low reputation incentives.

From another perspective, consistent with the Busyness Hypothesis, independent directors with multiple directorships face excessive time and energy constraint that prevent them from monitoring management effectively (Harris and Shimizu, 2004, Fich and Shivdasani, 2006, Andres et al., 2013, Balsmeier et al., 2015). This leads to lower quality of reported earnings (Ferris and Liao, 2019), and greater likelihood of earnings management (Sarkar et al., 2008, Baatour et al., 2017, Ramaswamy, 2019). However, instead of distributing their efforts equally to all their directorships, independent directors will prioritise the directorships that they consider more prestigious than the others (Moursli, 2019). In other words, they will devote more time and effort at the most prominent firms, as ranked by market capitalisations, to carefully review strategies and significantly contribute to the decision-making process as well as policies' implementation. Therefore, it can be argued that independent directors have stronger reputation incentives to enhance the quality of financial reporting where their most prestigious directorships are based. Empirically, Masulis and Mobbs (2016) indicate that the percentage of external directors with high reputation incentives on the boards is negatively related to the abnormal accruals and earnings management. Rubin and Segal (2011) find that reputable directors provide better financial reporting quality. In the same vein, Sila et al. (2017) maintain that firms with high ratio of independent board members raking their directorships as the most prestigious are associated with superior-quality information environment.

Pursuant to Zhu and Xia (2011), the degree of reported earnings' quality is impacted by multiple factors, and accounting conservatism is among them. Several authors claim that the practice of accounting conservatism restrains directors' restatement of accounting numbers for their own benefits (Watts, 2003a, Zhong and Li, 2017, Khalilov and Garcia Osma, 2019). Therefore, it promotes the quality of reported earnings (Watts, 2003a, Francis et al., 2004, Ball and Shivakumar, 2005, Zhu and Xia, 2011).

According to agency theory established by Jensen and Meckling (1976), agency conflicts arise between directors and shareholders due to the separation of the two roles, encouraging directors to restate accounting figures to maximize their own benefits at the expense of related parties. For instance, they can adjust the firms' earnings upward as these figures are tied to their wealth, causing managerial overcompensation, excessive dividend distributions, and so on (Lim, 2011). Since these opportunistic behaviours are foreseen by various stakeholders, including creditors, shareholders, auditors, and regulators, etc., they demand conservative accounting practices to be adopted so as to minimise agency costs involved (Watts and Zimmerman, 1986, Watts, 2003a, 2003b, Zhong and Li, 2017).

Given the positive effects of independent directors who view their directorships as more prestigious on earnings quality, and the demands for accounting conservatism from different groups of stakeholders, it can be argued that independent directors with high reputation incentives, are more likely to adopt conservative accounting practices, whilst the opposite is true of outsiders ranking their directorships as low. The hypotheses, therefore, are proposed as follows.

Hypothesis 1a. Firms with more independent directors ranking their directorships as more prestigious have a positive relationship with accounting conservatism.

Hypothesis 1b. Firms with more independent directors ranking their directorships as less prestigious have a negative relationship with accounting conservatism.

3.4 Research Methodology

3.4.1 Sample Selection

This study utilises an unbalanced panel of the top 500 firms listed on the ASX from 2004 to 2019 to examine the relationship between accounting conservatism and independent directors' reputation incentives. The ASX 500 index is chosen to represent all Australian publicly listed firms due to the reason that its total market capitalisation is responsible for a substantially large proportion of the overall ASX market capitalisation, namely more than 75% (Jonson et al., 2020, Rahman et al., 2021). The study period begins in 2004 because of the unavailability of corporate governance data on Connect 4 database prior to this year. The year 2019 is chosen as the ending year of the study period because the COVID-19 crisis, which has been taking place since early 2020, may lead to major changes in the firms' operating activities, performance, and thus, accounting choices.

The required data used in this study are collected from three major sources, including Connect 4 Boardroom Review database, DataStream and DatAnalysis premium. Particularly, I gather corporate governance data, such as directors' gender, number of directorships, board size, and CEO tenure from Connect 4 database. I obtain market and accounting data, including firm size, profitability, research and development expenditures, market-to-book ratio and leverage from DatAnalysis premium. I use DataStream to acquire share prices of the firms. Consistent with prior studies on independent directors' reputation incentives (Masulis and Mobbs, 2014, Sila et al., 2017), I only consider independent directors and their directorships at the boards of ASX 500 listed firms in this study. Following Masulis and Mobbs (2014) and Sila et al. (2017), I exclude directorships at firms outside the ASX 500 since directorships as small firms have little impacts on the reputation incentives of independent directors.

The initial dataset comprises of 8,000 firm-year observations over the period of 2004-2019. In line with the existing literature (Ahmed and Henry, 2012, Muttakin et al., 2019), I eliminate financial firms because they have different capital, ownership and governance structures (Ahmed and Henry,

2012), operate under more heavily legal constraints (Chen et al., 2018), and have different financial reporting characteristics (Muttakin et al., 2019). These differences may lead to incomparable data between financial and non-financial firms. I also exclude firm-year observations for which the dependent and independent variables used in this study are incomplete or missing. The selection procedure yields a final sample of 4,578 firm-year observations for Basu (1997) model and 4,690 firm-year observations for Ball and Shivakumar (2005) model.

3.4.2 Variables Measurement

3.4.2.1 Measures of Accounting Conservatism

To date, there is neither a generally acceptable definition of accounting conservatism (Jaggi et al., 2016) nor a consensus on how it should be measured in the existing literature (Donovan et al., 2015). Moreover, it cannot be denied that each measure of conservatism has its own strengths and weaknesses. This study, therefore, employs two dominant measures in the extant literature to proxy for accounting conservatism, including asymmetric timeliness of earnings (Basu, 1997) and accrual-based loss recognition (Ball and Shivakumar, 2005), which are discussed in turn as follows.

3.4.2.1.1 Asymmetric Timeliness of Earnings

The first measure of conditional conservatism utilises Basu (1997)'s piecewise-linear regression model (hereafter Basu model). Basu (1997) describes conservatism as the accountant's tendency in implementing stricter verification standards when recognising economic gains (i.e., good news) compared to economic losses (i.e., bad news). Hence, bad news is recognised in a timelier fashion relative to good news (Basu, 1997).

Measuring accounting conservatism using Basu model, however, has two main limitations. According to Roychowdhury and Watts (2007), Basu model does not capture the cumulative effect of asymmetric timeliness across all previous periods. Additionally, this measure is potentially subject to downward bias when applied to individual firms. Although there has been an ongoing debate regarding Basu model's reliability in measuring conditional conservatism, I choose to employ Basu model in this study due to several reasons. Firstly, despite of its limitations, Ball et al. (2013) claim that Basu model does capture accounting conservatism whenever it exists. Secondly, many previous studies rely on this measure when examining conservative accounting practices, including in the Australian context (e.g., Lim, 2011, Ahmed and Henry, 2012, Crockett and Ali, 2015, Muttakin et al., 2019, among others). Using Basu model, consistent with prior studies, enhances the comparability of the results. Thirdly, relying on a single measure to evaluate the firms' conservatism level may result in inaccurate conclusions (Givoly et al., 2007). Therefore, I also employ the accrual-based conservatism measure and

alternative measures of accounting conservatism, including both conditional and unconditional conservatism in following sections to ensure the soundness of the results.

Under Basu model, negative (positive) annual share returns are used to proxy for bad (good) news. According to the author, share prices incorporate all the information arising in the market in a timely manner, and changes in share prices reflect the arrival of news from various sources other than accounting figures during the period. In order to investigate the responsiveness of earnings to bad news relative to good news, Basu (1997) establishes a "reverse regression" approach to regress earnings on share returns.

$$EAR_{it} = \alpha_0 + \alpha_1 R_{it} + \alpha_2 D_{it} + \alpha_3 R_{it} \times D_{it} + \mu_{it}$$

where:

EAR_{it}: earnings before extraordinary items deflated by the market value of equity at the beginning of the fiscal year;

R_{it}: share returns from 3 months after the previous fiscal year-end to 3 months after the current fiscal year-end;

D_{it}: a dummy variable that equals 1 if $\underline{R_{it}}$ is negative, and 0 otherwise.

The slope coefficient α_2 measures the responsiveness of earnings to positive share returns, while α_3 measures the asymmetric timeliness of earnings in incorporating bad news relative to good news. A higher coefficient on the interaction term $R_{it} \times D_{it}$ implies a greater level of conditional conservatism (Basu, 1997). To examine the association between accounting conservatism and independent directors' reputation incentives, following prior studies (e.g., Lim, 2011, Ahmed and Henry, 2012, Muttakin et al., 2019), I modify the original Basu model. Particularly, I incorporate two main independent variables of interest, namely $HIGH_{it}$ and LOW_{it}, together with other determinants of conservatism identified in empirical literature into Basu model. The modified model is estimated as follows.

$$\begin{aligned} EAR_{it} = {} & \alpha_0 + \alpha_1 R_{it} + \alpha_2 D_{it} + \alpha_3 R_{it} \times D_{it} + \alpha_4 HIGH_{it} + \alpha_5 HIGH_{it} \times R_{it} + \alpha_6 HIGH_{it} \times D_{it} \\ & + \alpha_7 HIGH_{it} \times R_{it} \times D_{it} + \alpha_8 LOW_{it} + \alpha_9 LOW_{it} \times R_{it} + \alpha_{10} LOW_{it} \times D_{it} \\ & + \alpha_{11} LOW_{it} \times R_{it} \times D_{it} + CONTROL_{it} + \gamma \sum Industry\_Dummy_{it} \\ & + \gamma \sum Year\_Dummy_{it} + \mu_{it} \end{aligned}$$

If the proportion of independent directors with high (low) reputation incentives on the boards is positively (negatively) associated with the level of conditional conservatism, the coefficient on the three-way interaction term $HIGH_{it} \times R_{it} \times D_{it}$ ($LOW_{it} \times R_{it} \times D_{it}$) are expected to be significant and positive (negative) respectively, and vice versa.

3.4.2.1.2 Accrual-Based Loss Recognition

The second measure of conditional conservatism employed in this study is based on the accrual-cashflow specification, developed by Ball and Shivakumar (2005) (hereafter accrual model). This measure has also been frequently used in the accounting literature (e.g., Lim, 2011, Ahmed and Henry, 2012, Muttakin et al., 2019). Since it does not rely on a market measure, it reduces the risk of inferring inaccurate conclusions resulting from market inefficiencies (García Lara et al., 2009).

According to Dechow et al. (1998), accruals play an important role in reducing the noise of operating cashflows, making earnings less noisy and more informative. Thus, the authors claim that accruals are inversely related to cashflows. Ball and Shivakumar (2005) extend this view by suggesting the second role of accruals, which is asymmetrical recognition of economic gains and losses. The authors establish a piecewise-linear regression model based on the notion that economic losses are likely to be timelier recognised in accruals relative to economic gains, leading to a more positive relationship between accruals and cashflows when cashflows are negative. The original Ball and Shivakumar (2005) model, in which the authors use negative (positive) operating cashflows to proxy for economic losses (gains) during the year, is estimated as below.

$$ACC_{it} = \beta_0 + \beta_1 CFLO_{it} + \beta_2 DCFLO_{it} + \beta_3 CFLO_{it} \times DCFLO_{it} + \mu_{it}$$

where:

ACC_{it}: annual total accruals, which is defined as operating profit minus cash flow from operations, divided by the book value of total assets at the beginning of the fiscal year;

$CFLO_{it}$: cash flow from operating activities divided by the book value of total assets at the beginning of the fiscal year;

$DCFLO_{it}$: a dummy variable which equals 1 if $CFLO_{it}$ is negative and 0 otherwise.

In line with Dechow (1994), the slope coefficient (β_2) is expected to be negative, implying a negative association between accruals and cashflows. As the positive association between accruals and cashflows is more pronounced in the case of losses (Ball and Shivakumar, 2005), the coefficient (β_3) on the interactive term $CFLO_{it} \times DCFLO_{it}$ is expected to be significant and positive, indicating the presence of conservatism. In order to empirically examine whether changes in the presence of independent directors with high/low reputation incentives on the boards is related to incremental changes in the level of conservatism, I employ the following modified accrual model (hereafter accrual model).

$$ACC_{it} = \beta_0 + \beta_1 CFLO_{it} + \beta_2 DCFLO_{it} + \beta_3 CFLO_{it} \times DCFLO_{it} + \beta_4 HIGH_{it} + \beta_5 HIGH_{it} \times CFLO_{it} + \beta_6 HIGH_{it} \times DCFLO_{it} + \beta_7 HIGH_{it} \times CFLO_{it} \times DCFLO_{it} + \beta_8 LOW_{it} + \beta_9 LOW_{it} \times CFLO_{it} + \beta_{10} LOW_{it} \times DCFLO_{it} + \beta_{11} LOW_{it} \times CFLO_{it} \times DCFLO_{it} + CONTROL_{it} + \gamma \sum Industry\_Dummy_{it} + \gamma \sum Year\_Dummy_{it} + \mu_{it}$$

In this model, $HIGH_{it}$, LOW_{it} and other firm and board characteristics that are potentially associated with accounting conservatism are interacted with all the variables in the original accrual model. I focus on the coefficients on the three-way interaction term $HIGH_{it} \times CFLO_{it} \times DCFLO_{it}$ ($LOW_{it} \times CFLO_{it} \times DCFLO_{it}$), which has a significantly positive (negative) value if the higher proportion of independent directors with high (low) reputation incentives on the boards enhances (reduces) the degree of news-dependant conservatism, and vice versa.

3.4.2.2 Measures of Independent Directors' Reputation Incentives

Following Masulis and Mobbs (2014, 2016, 2017), I utilise firm size to proxy for the prestige, or the relative importance of a directorship to an independent director within a firm. In particular, I rank the independent directorships under an independent director's oversight by comparing the market capitalisation of the firms where these directorships are based. Correspondingly, the highest-ranked firms are considered as the most prestigious, while the lowest-ranked firms are viewed as the least prestigious.

For each independent director at a particular firm, I classify them into two categories, either having high or low reputation incentives. First, I consider an independent director as having high reputation incentives if the market capitalisation of the appointing firm is at least 10% higher than the least prestigious firm under their oversight. Second, an independent director is deemed to have low reputation incentives if the market capitalisation of the appointing firm is at least 10% lower than the most prestigious firm in their directorship portfolio (Masulis and Mobbs, 2014, 2016, 2017). Taking into account the relative importance of each directorship in their directorship portfolio allows for variation in the reputation incentives of independent board members with two or more independent directorships (Moursli, 2019). I then create two reputation incentives measures at the firm-level, namely $HIGH_{it}$ and LOW_{it}. Particularly, for a given firm in a specific year, $HIGH_{it}$ (LOW_{it}) is calculated by dividing the number of independent directors with high (low) reputation incentives by the total number of independent directors on the boards.

3.4.2.3 Measures of Control Variables

I control for several firm and board characteristics that are known to be associated with the demand for accounting conservatism in prior literature (e.g., Watts and Zimmerman, 1978, Ahmed et

al., 2002, Ahmed and Duellman, 2007, Wang et al., 2018, etc.). In particular, I control for firm size ($FIRMSIZE_{it}$), square value of firm size ($SQFIRMSIZE_{it}$), return on assets (ROA_{it}), leverage ($LEVERAGE_{it}$), the ratio of research and development expenses to total assets ($RDASSETS_{it}$), board size ($BOARDSIZE_{it}$), CEO tenure ($CEOTENURE_{it}$), and busy board ($BUSY_{it}$)

At the firm level, $FIRMSIZE_{it}$ is measured by taking the natural logarithm of total assets at the end of the fiscal year. Watts and Zimmerman (1978) claim that due to great public scrutiny and substantial political costs that large firms may face, they are likely to employ conservative accounting practices to avoid litigation. Consistent with Masulis and Mobbs (2016), in order to alleviate the possible non-linearity relationship with firm size, I also control for the square value of firm size ($SQFIRMSIZE_{it}$) in the models. Firm profitability, ROA_{it}, is calculated as the ratio of earnings before interest to total assets. Pursuant to Ahmed et al. (2002), profitable firms can better afford accounting conservatism, thus, they are likely to implement more conservative accounting practices. $LEVERAGE_{it}$ is the ratio of total debt scaled by total assets at the end of the fiscal year. As argued by Ahmed et al. (2002), at firms with higher level of leverage, the conflicts between debtholders and shareholders are more severe, resulting in higher demand for accounting conservatism. Following Ahmed and Duellman (2007, 2013) and Wang et al. (2018), I control for the ratio of research and development expenditures scaled by total assets (*RDASSETSit*), because this measure captures economic rents generated by assets-in-place, growth opportunities (Ahmed and Duellman, 2007, 2013), and International Financial Reporting Standards (IFRSs) mandated conservatism.

At the board level, $BOARDSIZE_{it}$ is computed as the natural logarithm of the total number of directors on the boards. As indicated by Sultana (2015), existing literature provides mixed results on the association between board size and financial reporting quality. $CEOTENURE_{it}$ is the natural logarithm of the number of years the CEO has been in that position. The longer the tenure, the more influential the CEO becomes (Hu et al., 2015). Therefore, long-tenured CEOs can exert excessive control over the board's decisions (Khaledi, 2020), including the implementation of accounting practices. Consistent with Masulis and Mobbs (2016, 2017) and Bryan and Mason (2020), I control for busy board in the models. $BUSY_{it}$ is a binary variable, which is coded 1 if the majority of the directors on the board have three or more directorships, and 0 otherwise. Controlling for busy board is important as according to Bryan and Mason (2020), this factor may affect the amount of time and effort that the directors are willing to contribute.

Besides, I also include year and industry dummies to address potential time and industry effects (Bermig and Frick, 2010). According to the GICS, the sample firms are categorised into 10 industry sectors, namely Communication Services, Communication Discretionary, Consumer Staples, Energy, Health Care, Industrials, Information Technology, Materials, Real Estate, and Utilities.

3.5 Results

3.5.1 Descriptive Statistics and Pearson Correlations Matrix

Panel A and B of Table 3.1 presents the descriptive statistics at the director level and firm level respectively. To avoid the potential outlier problems, all continuous variables are winsorised at the top 1% and 99%. According to Panel A of Table 3.1, at the director level, the number of independent directors for whom this is their only directorships account for more than two-third of the total number of independent directors, namely 68.43%. The total proportion of independent directors who are concurrently serving on two or three boards makes up below one-third of the total. Board members who have four or five independent directorships are trivial, with 1.43% and 0.43%, respectively. The same pattern can also be witnessed in the distribution of female and male board members' independent directorships.

Table 3. 1: Summary Statistics

Panel A: Director Level

Number of directorships	Female		Male		Total	
	Number of Independent Directors	Percentage	Number of Independent Directors	Percentage	Number of Independent Directors	Percentage
1 directorship	1,605	55.92%	11,961	70.63%	13,566	68.43%
2 directorships	814	28.36%	3,558	21.01%	4,372	22.05%
3 directorships	339	11.81%	1,179	6.96%	1,518	7.66%
4 directorships	92	3.21%	172	1.02%	284	1.43%
5 directorships	20	0.70%	65	0.38%	85	0.43%
	2,870	100.00%	16,935	100.00%	19,825	100.00%

Panel B: Firm Level

	N	Min	Max	Mean	Median	Std. Dev.
EAR_{it}	6,401	-1.471	0.532	-0.010	0.049	0.249
ACC_{it}	6,503	-0.859	0.428	-0.058	-0.031	0.159
R_{it} (logged value)	6,315	-1.821	1.526	-0.017	0.018	0.548
D_{it}	6,151	0.000	1.000	0.470	0.000	0.499
$CFLO_{it}$	6,503	-1.069	0.575	0.038	0.060	0.219
$DCFLO_{it}$	6,279	0.000	1.000	0.295	0.000	0.456
$HIGH_{it}$	6,468	0.000	1.000	0.083	0.000	0.178
LOW_{it}	6,468	0.000	1.000	0.122	0.000	0.211
$FIRMSIZE_{it}$ (AU$)	6,449	9,650	162,213,541,666	2,715,000,000	380,200,000	9,859,000,000
$FIRMSIZE_{it}$ (logged value)	6,449	2.216	3.251	2.976	2.983	0.112
$SQFIRMSIZE_{it}$	6,449	4.913	10.568	8.868	8.901	0.658
ROA_{it}	6,389	-0.228	0.151	0.017	0.051	0.112
$LEVERAGE_{it}$	6,449	0.000	0.900	0.181	0.151	0.186
$RDASSETS_{it}$	6,449	0.000	0.250	0.007	0.000	0.034
$BOARDSIZE_{it}$ (count)	5,600	2.000	22.000	7.396	7.000	2.605
$BOARDSIZE_{it}$ (logged value)	5,600	0.693	3.091	1.941	1.946	0.348
CEOTENUREit (years)	4,747	0.077	36.460	8.561	7.063	5.952
CEOTENUREit (logged value)	4,747	-2.568	3.596	1.897	1.955	0.754
$BUSY_{it}$	8,000	0.000	1.000	0.058	0.000	0.234

At the firm level, Panel B of Table 3.1 shows that both EAR_{it} and ACC_{it} are negatively skewed, with the mean (median) value of -0.010 (0.049) and -0.058 (-0.031) respectively. The average return is -0.017, and its median value is 0.018. The mean and median value of $CFLO_{it}$ is 0.038 and 0.060 respectively. Consistent with Muttakin et al. (2019), the ACC_{it} results indicate the existence of accounting conservatism among the sample firms. $HIGH_{it}$ and LOW_{it} has the mean of 8.3% and 12.2%, indicating that 8.3% (12.2%) of the independent board members view their directorships as more (less) prestigious. Total assets of the sample firms range between $9,650 and $162,213,541,666, with the average value being $2,715,000,000. Correspondingly, $FIRMSIZE_{it}$ and $SQFIRMSIZE_{it}$ has the log of mean value of 2.976 and 8.868, respectively. ROA_{it} has the mean (median) value of 0.017 (0.051) respectively. $LEVERAGE_{it}$ varies between 0% and 90%, with the mean value being 18.1%. $RDASSETS_{it}$ has the mean value of 0.007, and the median value of 0.000, suggesting that more than half of the firms in the sample report no expenditures in research and development. The maximum number of directors of the sample firms is 22 directors, while the minimum is 2 directors. The average number of directors on the boards is approximately 7 directors, therefore, the log of the average value is 1.941. The average CEO tenure is 8.561 years, which indicates that on average, the CEO of a firm has held their position for 8 years and 6 months. The log of the mean (median) values of $CEOTENURE_{it}$ is 1.897 (1.955) respectively. Examining the binary variable $BUSY_{it}$, there is approximately 5.8% of the boards with a majority of their independent directors holding three or more directorships.

Table 3. 2: Pearson Correlations Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) EAR_{it}	1.000															
(2) ACC_{it}	0.453***	1.000														
(3) R_{it}	0.177***	0.033***	1.000													
(4) D_{it}	-0.143***	-0.021	-0.729***	1.000												
(5) $CFLO_{it}$	0.398***	-0.043***	0.087***	-0.096***	1.000											
(6) $DCFLO_{it}$	-0.441***	-0.007	-0.087***	0.102***	-0.659***	1.000										
(7) $HIGH_{it}$	0.111***	0.053***	0.035***	-0.047***	0.121***	-0.173***	1.000									
(8) LOW_{it}	0.022*	0.024*	-0.034***	0.014	0.049***	-0.089***	-0.054***	1.000								
(9) $FIRMSIZE_{it}$	0.324***	0.206***	-0.028**	-0.021*	0.424***	-0.544***	0.333***	0.073***	1.000							
(10) $SQFIRMSIZE_{it}$	0.321***	0.204***	-0.027**	-0.022*	0.416***	-0.543***	0.338***	0.071***	0.999***	1.000						
(11) ROA_{it}	0.679***	0.387***	0.176***	-0.160***	0.668***	-0.674***	0.172***	0.062***	0.511***	0.507***	1.000					
(12) $LEVERAGE_{it}$	0.009	0.024*	-0.061***	0.010	0.089***	-0.230***	0.104***	0.057***	0.382***	0.386***	0.180***	1.000				
(13) $RDASSETS_{it}$	-0.059***	-0.001	-0.006	0.002	-0.170***	0.156***	-0.047***	-0.020	-0.165***	-0.166***	-0.185***	-0.088***	1.000			
(14) $BOARDSIZE_{it}$	0.096***	0.070***	-0.083***	0.040***	0.139***	-0.264***	0.194***	0.071***	0.559***	0.563***	0.211***	0.290***	-0.071***	1.000		
(15) $CEOTENURE_{it}$	0.202***	0.074***	0.144***	-0.117***	0.153***	-0.167***	0.095***	0.037**	0.093***	0.092***	0.200***	0.082***	0.036**	-0.174***	1.000	
(16) $BUSY_{it}$	0.015	-0.011	-0.004	-0.003	0.015	-0.014	0.174***	0.377***	0.028**	0.028**	0.023*	0.017	-0.021*	0.043***	-0.038***	1.000

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Tables 3.2 provides the Pearson correlations matrix among the dependent and independent variables to preliminarily investigate the association between these variables over the study period. As can be seen in Table 2, $HIGH_{it}$ exhibits a significant and positive relationship with EAR_{it} and ACC_{it}, while LOW_{it} shows a weak and positive relationship with both accounting measures (EAR_{it} and ACC_{it}). This indicates that the presence of independent directors with both high and low reputation incentives are likely to induce the adoption of conservative accounting practices by the ASX 500 firms. With regards to control variables, $FIRMSIZE_{it}$, $SQFIRMSIZE_{it}$, ROA_{it}, $BOARDSIZE_{it}$, and $CEOTENURE_{it}$ have a positive relationship with both EAR_{it} and ACC_{it}, and they are all statistically significant at the 1% level. $RDASSETS_{it,}$ is negatively associated with asymmetric timeliness of earnings and has no significant relationship with the accrual-based loss recognition. $LEVERAGE_{it}$ only has a weak and positive association with ACC_{it}, while $BUSY_{it}$ has no significant association with both accounting conservatism measures. Overall, most of the coefficients obtained from the Pearson correlations matrix are significant. However, I cannot draw conclusions based on these bi-dimensional associations results as they do not consider the joint effects of all independent variables. Panel data regression analyses in the following section provides a more stringent approach to test the hypotheses in this paper.

3.5.2 Main Regressions Results

According to Cameron and Trivedi (2009), random effects and fixed effects models are the two alternative models that can be employed for a panel data. As indicated by Ahmed and Duellman (2007), using random effects can potentially create biased estimates because the observations may not be entirely independent. Fixed effects, on the other hand, address potential unobserved firm/industry's characteristics that are constant over years and related to independent variables (Ahmed and Duellman, 2007). To choose the regression method that best suits the panel data, I carry out Hausman (1978) specification test on the two regression models used in this study. The null hypothesis of this test is that random effects regressions are preferred over fixed effects regressions. Hausman test's results for the two main models are presented in Table 3.3.

Table 3. 3: Hausman (1978) Specification Test

Dependent Variable:	**Model 1** EAR_{it}	**Model 2** ACC_{it}
Chi-square test value	563.820	168.745
P-value	0.000	0.000

According to Table 3.3, the chi-square value is 563.820 (prob > chi-square = 0.000) for Basu model, and 168.745 (prob > chi-square = 0.000) for the accrual model. Since the overall chi-square values are statistically significant in all models that lead to a rejection of the null hypothesis, it is concluded that the fixed effects regressions are preferred to random effects estimators in this paper.

Consequently, I analyse the dataset using fixed-effect regressions to control for unobservable factors that might affect accounting conservatism and to alleviate any endogeneity concern.

Table 3. 4: The Association between Accounting Conservatism and Independent Directors' Reputation Incentives

Panel A: Basu Model

Dependent Variable:	**Model 1** EAR_{it}	**Model 2** EAR_{it}
R_{it}	-0.030***	-0.038
	(-5.72)	(-1.41)
D_{it}	-0.015***	-0.348
	(-4.85)	(-0.99)
$R_{it}\times D_{it}$	0.108***	0.436
	(14.63)	(1.39)
$HIGH_{it}$		0.004
		(0.45)
$HIGH_{it}\times R_{it}$		-0.034**
		(-2.47)
$HIGH_{it}\times D_{it}$		0.012
		(1.49)
$HIGH_{it}\times R_{it}\times D_{it}$		0.042**
		(2.27)
LOW_{it}		-0.008
		(-1.21)
$LOW_{it}\times R_{it}$		0.149**
		(2.37)
$LOW_{it}\times D_{it}$		0.001
		(0.04)
$LOW_{it}\times R_{it}\times D_{it}$		-0.230**
		(-2.17)
$FIRMSIZE_{it}$		6.474***
		(4.63)
$FIRMSIZE_{it}\times R_{it}$		0.011
		(1.20)
$FIRMSIZE_{it}\times D_{it}$		0.292
		(1.25)
$FIRMSIZE_{it}\times R_{it}\times D_{it}$		-0.050
		(-0.27)
$SQFIRMSIZE_{it}$		-1.037***
		(-4.43)
$SQFIRMSIZE_{it}\times R_{it}$		-0.005**
		(-2.00)
$SQFIRMSIZE_{it}\times D_{it}$		-0.060
		(-1.52)
$SQFIRMSIZE_{it}\times R_{it}\times D_{it}$		-0.016
		(-0.46)
ROA_{it}		0.087**
		(2.15)
$ROA_{it}\times R_{it}$		0.038
		(0.97)
$ROA_{it}\times D_{it}$		-0.009
		(-0.20)
$ROA_{it}\times R_{it}\times D_{it}$		-0.008
		(-0.21)
$LEVERAGE_{it}$		-0.031***
		(-3.58)
$LEVERAGE_{it}\times R_{it}$		0.057***

Panel B: Accrual Model

Dependent Variable:	**Model 3** ACC_{it}	**Model 4** ACC_{it}
$CFLO_{it}$	-0.014*	20.491**
	(-1.94)	(2.27)
$DCFLO_{it}$	0.024***	10.311***
	(4.06)	(5.25)
$CFLO_{it}\times DCFLO_{it}$	0.018**	-1.351
	(2.52)	(-1.42)
$HIGH_{it}$		-0.043*
		(-1.79)
$HIGH_{it}\times CFLO_{it}$		0.397
		(1.42)
$HIGH_{it}\times DCFLO_{it}$		0.057***
		(2.91)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$		0.004***
		(3.35)
LOW_{it}		-0.037***
		(-3.40)
$LOW_{it}\times CFLO_{it}$		0.580***
		(3.70)
$LOW_{it}\times DCFLO_{it}$		0.024
		(1.30)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$		-0.237**
		(-2.09)
$FIRMSIZE_{it}$		3.831
		(1.45)
$FIRMSIZE_{it}\times CFLO_{it}$		-14.098**
		(-2.37)
$FIRMSIZE_{it}\times DCFLO_{it}$		-6.902***
		(-5.12)
$FIRMSIZE_{it}\times CFLO_{it}\times DCFLO_{it}$		2.262**
		(2.13)
$SQFIRMSIZE_{it}$		-0.608
		(-1.38)
$SQFIRMSIZE_{it}\times CFLO_{it}$		2.242**
		(2.28)
$SQFIRMSIZE_{it}\times DCFLO_{it}$		1.146***
		(4.92)
$SQFIRMSIZE_{it}\times CFLO_{it}\times DCFLO_{it}$		-0.494*
		(-1.71)
ROA_{it}		0.066***
		(17.84)
$ROA_{it}\times CFLO_{it}$		4.772***
		(31.75)
$ROA_{it}\times DCFLO_{it}$		0.972***
		(23.09)
$ROA_{it}\times CFLO_{it}\times DCFLO_{it}$		-3.329***
		(-7.29)
$LEVERAGE_{it}$		-0.066***
		(-3.63)
$LEVERAGE_{it}\times CFLO_{it}$		0.494***

		(2.61)			(3.76)
$LEVERAGE_{it} \times D_{it}$		0.039***	$LEVERAGE_{it} \times DCFLO_{it}$		-0.010
		(2.62)			(-0.29)
$LEVERAGE_{it} \times R_{it} \times D_{it}$		-0.046	$LEVERAGE_{it} \times CFLO_{it} \times DCFLO_{it}$		-0.376
		(-0.91)			(-1.18)
$RDASSETS_{it}$		0.025	$RDASSETS_{it}$		0.022
		(0.50)			(0.88)
$RDASSETS_{it} \times R_{it}$		0.357*	$RDASSETS_{it} \times CFLO_{it}$		18.240***
		(1.77)			(2.82)
$RDASSETS_{it} \times D_{it}$		-0.139	$RDASSETS_{it} \times DCFLO_{it}$		-3.318
		(-0.51)			(-0.94)
$RDASSETS_{it} \times R_{it} \times D_{it}$		-7.042***	$RDASSETS_{it} \times CFLO_{it} \times DCFLO_{it}$		-98.103***
		(-2.66)			(-3.16)
$BOARDSIZE_{it}$		-0.013***	$BOARDSIZE_{it}$		-0.024**
		(-2.84)			(-2.38)
$BOARDSIZE_{it} \times R_{it}$		0.027***	$BOARDSIZE_{it} \times CFLO_{it}$		0.190**
		(3.14)			(2.54)
$BOARDSIZE_{it} \times D_{it}$		0.006	$BOARDSIZE_{it} \times DCFLO_{it}$		0.037*
		(0.66)			(1.94)
$BOARDSIZE_{it} \times R_{it} \times D_{it}$		-0.050	$BOARDSIZE_{it} \times CFLO_{it} \times DCFLO_{it}$		-0.089
		(-1.33)			(-0.51)
$CEOTENURE_{it}$		0.009***	$CEOTENURE_{it}$		0.013***
		(4.74)			(3.62)
$CEOTENURE_{it} \times R_{it}$		-0.003	$CEOTENURE_{it} \times CFLO_{it}$		-0.048*
		(-1.10)			(-1.88)
$CEOTENURE_{it} \times D_{it}$		-0.004	$CEOTENURE_{it} \times DCFLO_{it}$		-0.016**
		(-1.11)			(-2.50)
$CEOTENURE_{it} \times R_{it} \times D_{it}$		0.008	$CEOTENURE_{it} \times CFLO_{it} \times DCFLO_{it}$		0.025
		(0.76)			(0.41)
$BUSY_{it}$		0.003	$BUSY_{it}$		0.009
		(0.67)			(1.09)
$BUSY_{it} \times R_{it}$		-0.007	$BUSY_{it} \times CFLO_{it}$		-0.008
		(-0.95)			(-0.14)
$BUSY_{it} \times D_{it}$		0.005	$BUSY_{it} \times DCFLO_{it}$		-0.011
		(0.75)			(-0.68)
$BUSY_{it} \times R_{it} \times D_{it}$		-0.012	$BUSY_{it} \times CFLO_{it} \times DCFLO_{it}$		-0.049
		(-0.42)			(-0.30)
Number of observations	6,058	4,578	Number of observations	6,279	4,690
Year Fixed Effects	Yes	Yes	Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes	Industry Fixed Effects	Yes	Yes
R^2	25.92%	48.13%	R^2	7.03%	56.01%
Adjusted R^2	25.58%	47.42%	Adjusted R^2	6.63%	55.42%
F-Statistic	89.19***	64.67***	F-Statistic	21.44***	95.04***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Year and industry fixed effects are included, but not reported for brevity.

Table 3.4 reports the regression results on the association between accounting conservatism and the reputation incentives of independent directors serving on the boards of the top 500 firms listed on the ASX over the 16-year period 2004-2019. Panel A presents the results of Basu models, while Panel B presents the results of the accrual models. All t-values are estimated using robust standard errors, correcting for serial dependence and heteroscedasticity (Petersen, 2009). All the reported regression models are statistically significant since F-value for model 1 is 89.19, model 2 is 64.67, model 3 is

21.44, and model 4 is 95.04, which are significant at the 1% level. The adjusted R^2 varies between 6.63% and 55.42%.

The first model used in testing my hypotheses is the asymmetric timeliness of earnings model developed by Basu (1997). Model 1, which was examined without the inclusion of $HIGH_{it}$, LOW_{it}, control variables and their interactions, reports the results that are consistent with Ahmed and Henry (2012). Particularly, although the coefficient on the annual share returns is negative (-0.030), the coefficient on the two-way interaction term $R_{it} \times D_{it}$ is positive (0.108) and significant ($p<0.01$). This indicates the existence of conservative accounting practices via the timely recognition of bad news relative to good news among the Australian sample firms. When Basu model is modified to examine my hypotheses (H1a and H1b), the results of model 2 show that the coefficients (p-value) are 0.042 ($p<0.05$) for $HIGH_{it} \times R_{it} \times D_{it}$ and -0.230 ($p<0.05$) for $LOW_{it} \times R_{it} \times D_{it}$. The significant and positive (negative) coefficient on the three-way interaction terms including $HIGH_{it}$ (LOW_{it}) provides support for my hypotheses (H1a and H1b), suggesting that the presence of independent directors with high (low) reputation incentives on the boards increases (decreases) the speed of the recognition of bad versus good news in earnings.

The above analyses are repeated using the accrual-based loss recognition model established by Ball and Shivakumar (2005). I first examine the original accrual model (model 3) by excluding $HIGH_{it}$, LOW_{it}, control variables and their interactions. Consistent with Ahmed and Henry (2012) and Muttakin et al. (2019), the results show that the coefficient on $CFLO_{it}$ is significant and negative, namely -0.014 ($p<0.1$), but the two-way interaction term $CFLO_{it} \times DCFLO_{it}$ is positive and statistically significant, namely 0.018 ($p<0.05$). This indicates that accruals play a significant mitigating role in the case of bad news (i.e., when cashflows are negative). This empirical evidence, again, suggests the presence of accounting conservatism among Australian sample firms. H1a and H1b are then tested by incorporating $HIGH_{it}$, LOW_{it}, control variables and their interactions in model 4. I find that, consistent with my prediction, the coefficients on the three-way interaction terms $HIGH_{it} \times CFLO_{it} \times DCFLO_{it}$ and $LOW_{it} \times CFLO_{it} \times DCFLO_{it}$ are 0.004 ($p<0.01$) and -0.237 ($p<0.05$), respectively. This provides support for both hypotheses H1a and H1b. Particularly, independent directors who rank their directorship as more prestigious are likely to promote the level of conservative accounting practices. In contrast, the presence of those who view their directorships as less prestigious on the boards tends to lower the degree of accounting conservatism.

With regard to control variables, the results show that the coefficient on the three-way interaction terms including firm size ($FIRMSIZE_{it} \times CFLO_{it} \times DCFLO_{it}$) is positive and significant at the 5% level. This indicates that large firms tend to demand for greater conditional conservatism in terms of the earlier recognition of loss than gains. The result is consistent with the argument that large firms are subject to greater public scrutiny and litigation costs (Watts and Zimmerman, 1978, Lim, 2011),

and lower operational uncertainty (Callen et al., 2010) than small firms, thus adopting more conservative accounting practices. The three-way interaction term including profitability ($ROA_{it}\times CFLO_{it}\times DCFLO_{it}$) is inversely related to ACC_{it}, with the coefficient (p-value) being -3.329 ($p<0.01$). In Basu model, although the coefficient on $ROA_{it}\times R_{it}\times D_{it}$ is negative, it is not statistically significant. The negative association between firm profitability and accounting conservatism is in line with Enache and García-Meca (2019), indicating that profitable firms not always promote accounting conservatism due to better affordability. I also document that the three-way interaction terms including $RDASSETS_{it}$ are negatively related to both accounting conservatism measures (EAR_{it} and ACC_{it}), and they are all statistically significant at the 1% significant level. The negative impact of $RDASSETS_{it}\times R_{it}\times D_{it}$ and $RDASSETS_{it}\times CFLO_{it}\times DCFLO_{it}$ on accounting conservatism is consistent with the findings of Burke et al. (2020) that firms with lower research and development expenditures exhibit higher level of conditional conservatism. A potential reason is that investing in research and development is considered as a relatively risky corporate strategy for Australian firms (Vafaei et al., 2021). Other control variables, however, show no significant association with both EAR_{it} and ACC_{it}.

In general, consistent with my prediction, empirical results show that variation in the reputation incentives of independent directors plays a significant role in determining the level of conservative accounting practiced by Australian listed firms. In particular, the results exhibit a significantly positive association between the proportion of independent directors with high reputation incentives on the boards and all two accounting conservatism measures (EAR_{it} and ACC_{it}). By contrast, the proportion of independent directors with low reputation incentives on the board is found to be significantly and negatively associated with both EAR_{it} and ACC_{it}. These significant relationships provide strong support for my argument that independent directors sitting on multiple boards are likely to prioritise their most prominent directorships by functioning more vigilantly and monitoring more effectively to ensure the high quality of financial reporting via accounting conservatism at relatively large firms. Therefore, it enables me to conclude that the asymmetrical timeliness of both earnings and accruals is greater when the firms' boards of directors are comprised of independent directors who highly rank their directorships. Meanwhile, the presence of independent directors with low reputation incentives affects the quality of financial reporting through the delay in recognising bad news relative to good news.

3.6 Additional Analysis

3.6.1 Alternative Constructions of Reputation Incentives

I employ multiple alternative proxies for independent directors' reputation incentives to check if my main findings are sensitive to the method used in calculating reputation incentives. In the first place, following Masulis and Mobbs (2014), instead of using market capitalisation, I utilise market value of total assets to rank the relative importance of the directorships under an independent directors'

oversight. Using market value of total assets, which is the total of book value of liabilities and market capitalization, can help to further examine the potential effects of firm size on my main findings.

In the second place, following Sila et al. (2017), I change the cut-off threshold of 10% to 5% and 20% in determining if an independent director have high or low reputation incentives. To be specific, I consider an independent director as having high (low) reputation incentives if the focal firm is at least 5% greater (smaller) in market capitalisation than the smallest (greatest) firms in their directorship portfolio. The 20% cut-off threshold is also applied using the same manner.

In the third place, consistent with Masulis and Mobbs (2016, 2017) and Hu and Jiang (2019), I calculate one-year lagged measures of independent directors' reputation incentives. This is to partially alleviate the endogeneity concerns about the possible reverse causal relationship between accounting conservatism and the proportion of independent directors with high/low reputation incentives. According to Hu and Jiang (2019), using lagged independent variables addresses the concerns about the causality's direction to some extent.

Last, but not the least, as female directors are less tolerant in relation to opportunistic behaviours, less overconfident, and more risk-averse, they tend to demand for greater conservatism (Boussaid et al., 2015). Therefore, I also seperately measure reputation incentives measures for male and female independent directors in order to investigate if there is any differential effects on the level of accounting conservatism.

Table 3. 5: The Association between Accounting Conservatism and Alternative Measures of Independent Directors' Reputation Incentives

Panel A: Reputation Incentives Measured based on Market Value of Total Assets

Basu Model

Dependent Variable:	**Model 1** EAR_{it}
R_{it}	-0.038
	(-1.40)
D_{it}	-0.344
	(-0.98)
$R_{it}\times D_{it}$	0.417
	(1.33)
$HIGH_{it}$	0.004
	(0.47)
$HIGH_{it}\times R_{it}$	-0.025*
	(-1.83)
$HIGH_{it}\times D_{it}$	0.011
	(1.40)
$HIGH_{it}\times R_{it}\times D_{it}$	0.036**
	(1.99)
LOW_{it}	-0.006
	(-1.00)
$LOW_{it}\times R_{it}$	0.138**
	(2.29)
$LOW_{it}\times D_{it}$	-0.009
	(-0.58)
$LOW_{it}\times R_{it}\times D_{it}$	-0.277***
	(-2.63)
Number of observations	4,578
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	48.10%
Adjusted R^2	47.39%
F-Statistic	64.47***

Accrual Model

Dependent Variable:	**Model 2** ACC_{it}
$CFLO_{it}$	21.147**
	(2.34)
$DCFLO_{it}$	10.433***
	(5.31)
$CFLO_{it}\times DCFLO_{it}$	-1.345
	(-1.42)
$HIGH_{it}$	-0.052*
	(-1.94)
$HIGH_{it}\times CFLO_{it}$	0.434
	(1.46)
$HIGH_{it}\times DCFLO_{it}$	0.062***
	(3.24)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$	0.004***
	(3.37)
LOW_{it}	-0.037***
	(-3.40)
$LOW_{it}\times CFLO_{it}$	0.608***
	(3.93)
$LOW_{it}\times DCFLO_{it}$	0.023
	(1.26)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$	-0.258**
	(-2.25)
Number of observations	4,690
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	56.06%
Adjusted R^2	55.47%
F-Statistic	95.21***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel B: Reputation Incentives Measured Based on 5% and 20% Thresholds

Basu Model

Dependent Variable:	5% threshold EAR_{it}	20% threshold EAR_{it}
R_{it}	-0.098**	-0.037**
	(-2.15)	(-2.08)
D_{it}	-0.236	-0.228
	(-0.64)	(-0.68)
$R_{it}\times D_{it}$	0.544*	0.358
	(1.75)	(1.15)
$HIGH_{it}$	0.001	0.002
	(0.17)	(0.28)
$HIGH_{it}\times R_{it}$	-0.030*	-0.034**
	(-1.90)	(-2.02)
$HIGH_{it}\times D_{it}$	0.014	0.011
	(1.53)	(1.19)
$HIGH_{it}\times R_{it}\times D_{it}$	0.040**	0.042**
	(1.99)	(2.05)
LOW_{it}	-0.007	-0.006
	(-1.18)	(-0.93)
$LOW_{it}\times R_{it}$	0.147**	0.142**
	(2.36)	(2.10)
$LOW_{it}\times D_{it}$	-0.001	-0.001
	(-0.06)	(-0.07)
$LOW_{it}\times R_{it}\times D_{it}$	-0.218**	-0.223**
	(-2.09)	(-1.99)
Number of observations	4,578	4,578
Control Variables	Yes	Yes
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
R^2	48.36%	48.16%
Adjusted R^2	47.65%	47.45%
F-Statistic	66.78***	64.07***

Accrual Model

Dependent Variable:	5% threshold ACC_{it}	20% threshold ACC_{it}
$CFLO_{it}$	20.799**	16.743*
	(2.30)	(1.86)
$DCFLO_{it}$	10.225***	9.717***
	(5.20)	(4.95)
$CFLO_{it}\times DCFLO_{it}$	-1.328	-1.449
	(-1.40)	(-1.52)
$HIGH_{it}$	0.008	-0.001
	(0.63)	(-0.08)
$HIGH_{it}\times CFLO_{it}$	-0.186	-0.025
	(-0.87)	(-0.12)
$HIGH_{it}\times DCFLO_{it}$	0.028	0.028
	(1.49)	(1.41)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$	0.004***	0.004***
	(3.45)	(3.43)
LOW_{it}	-0.037***	-0.008
	(-3.43)	(-1.19)
$LOW_{it}\times CFLO_{it}$	0.614***	0.040**
	(3.92)	(2.39)
$LOW_{it}\times DCFLO_{it}$	0.024	-0.005
	(1.35)	(-0.33)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$	-0.242**	-0.329***
	(-2.18)	(-2.66)
Number of observations	4,690	4,690
Control Variables	Yes	Yes
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
R^2	56.00%	55.88%
Adjusted R^2	55.41%	55.29%
F-Statistic	94.99***	94.51***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel C: 1-year Lagged Measures of Reputation Incentives

Basu Model

Dependent Variable:	**Model 1** EAR_{it}
R_{it}	-0.074***
	(-2.59)
D_{it}	-0.197
	(-0.57)
$R_{it} \times D_{it}$	-0.822
	(-1.40)
$HIGH_{it}$	0.011
	(0.88)
$HIGH_{it} \times R_{it}$	-0.052**
	(-2.11)
$HIGH_{it} \times D_{it}$	0.005
	(0.57)
$HIGH_{it} \times R_{it} \times D_{it}$	0.024*
	(1.79)
LOW_{it}	-0.030
	(-1.58)
$LOW_{it} \times R_{it}$	0.245**
	(2.23)
$LOW_{it} \times D_{it}$	0.018
	(0.85)
$LOW_{it} \times R_{it} \times D_{it}$	-0.300**
	(-1.98)
Number of observations	4,365
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	44.07%
Adjusted R^2	43.28%
F-Statistic	53.50***

Accrual Model

Dependent Variable:	**Model 2** ACC_{it}
$CFLO_{it}$	19.761**
	(2.14)
$DCFLO_{it}$	10.942***
	(5.46)
$CFLO_{it} \times DCFLO_{it}$	-0.802
	(-0.83)
$HIGH_{it}$	0.024**
	(2.06)
$HIGH_{it} \times CFLO_{it}$	-0.274***
	(-8.32)
$HIGH_{it} \times DCFLO_{it}$	-0.003
	(-0.18)
$HIGH_{it} \times CFLO_{it} \times DCFLO_{it}$	0.241***
	(5.41)
LOW_{it}	-0.035***
	(-3.40)
$LOW_{it} \times CFLO_{it}$	0.531***
	(3.31)
$LOW_{it} \times DCFLO_{it}$	-0.002
	(-0.10)
$LOW_{it} \times CFLO_{it} \times DCFLO_{it}$	-0.419***
	(-3.66)
Number of observations	4,458
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	57.06%
Adjusted R^2	56.47%
F-Statistic	95.77***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel D: Reputation Incentives Measured Based on Each Gender

Basu Model

Dependent Variable:	Female Directors EAR_{it}	Male Directors EAR_{it}
R_{it}	-0.062	-0.036
	(-1.53)	(-1.35)
D_{it}	1.076**	-0.349
	(2.17)	(-0.99)
$R_{it}\times D_{it}$	-0.462	0.450
	(-1.00)	(1.45)
$HIGH_{it}$	0.004	0.002
	(0.45)	(0.43)
$HIGH_{it}\times R_{it}$	-0.055**	-0.031**
	(-2.56)	(-2.02)
$HIGH_{it}\times D_{it}$	-0.008	0.012
	(-0.59)	(1.54)
$HIGH_{it}\times R_{it}\times D_{it}$	0.037**	0.041**
	(2.46)	(2.21)
LOW_{it}	-0.005	-0.009
	(-0.84)	(-1.36)
$LOW_{it}\times R_{it}$	0.018	0.199***
	(0.73)	(2.59)
$LOW_{it}\times D_{it}$	-0.009	0.006
	(-0.73)	(0.44)
$LOW_{it}\times R_{it}\times D_{it}$	-1.322**	-0.244**
	(-2.07)	(-2.06)
Number of observations	2,270	4,578
Control Variables	Yes	Yes
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
R^2	61.19%	48.13%
Adjusted R^2	60.03%	47.42%
F-Statistic	45.80***	64.58***

Accrual Model

Dependent Variable:	Female Directors ACC_{it}	Male Directors ACC_{it}
$CFLO_{it}$	-0.721***	2.106
	(-20.01)	(0.18)
$DCFLO_{it}$	-17.357***	11.324***
	(-13.79)	(4.52)
$CFLO_{it}\times DCFLO_{it}$	-0.663***	-3.162***
	(-3.89)	(-2.61)
$HIGH_{it}$	0.002	0.004
	(0.15)	(0.28)
$HIGH_{it}\times CFLO_{it}$	-0.014	-0.179
	(-0.23)	(-0.63)
$HIGH_{it}\times DCFLO_{it}$	0.075**	0.044*
	(2.50)	(1.87)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$	1.468**	0.008***
	(1.99)	(4.99)
LOW_{it}	-0.013**	-0.045***
	(-2.32)	(-3.32)
$LOW_{it}\times CFLO_{it}$	0.127***	0.794***
	(3.25)	(3.75)
$LOW_{it}\times DCFLO_{it}$	0.012	0.024
	(0.82)	(1.08)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$	-0.264**	-0.432***
	(-2.07)	(-3.02)
Number of observations	2,309	4,690
Control Variables	Yes	Yes
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
R^2	68.43%	54.77%
Adjusted R^2	67.53%	54.16%
F-Statistic	76.01***	90.35***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

Using the alternative measures of reputation incentives constructed above, I re-examine Basu model and accrual model. Table 3.5 summarises the results of all the re-estimated regressions, which use year and industry fixed effects, with standard errors robust to correct for heteroscedasticity and serial dependence (Petersen, 2009). Particularly, Panel A and Panel B display the associations between both accounting conservatism measures and reputation incentives measures when using market value of total assets, and when using alternative cut-off thresholds of 5% and 20%, respectively. Panel C reports the results using one-year lag of reputation incentives measures, while Panel D reports the results based on each gender. Control variables and their interaction terms are not reported for brevity.

The empirical evidence shows that my main findings remain qualitatively unchanged across all models. I consistently find that the presence of independent directors with high reputation incentives on the boards results in higher degree of conservative accounting practices adopted by the firms.

Contrarily, the proportion of independent directors with low reputation incentives is adversely associated with the conservatism level. Although there being different characteristics between female compared to male directors, they seem not to modify my main findings. Regardless of the directors' gender, firms with high ratio of female/male independent directors who highly rank their directorships on the boards are considered as having effective corporate governance, and they are likely to promote the level of conservative accounting practices. Having high ratio of female/male independent directors who view their directorships as less prestigious on the boards is considered as less effective governance. Thus, they tend to have less demand for accounting conservatism.

3.6.2 Alternative Measures of Accounting Conservatism

In this section, I further examine the sensitivity of my main findings to the measurements of the dependent variables by employing four additional measures of accounting conservatism. Firstly, following prior literature (e.g., Balkrishna et al., 2007, Sultana, 2015, Khalilov and Garcia Osma, 2019, Muttakin et al., 2019), I employ market-adjusted returns to re-estimate Basu model. Market-adjusted returns can be referred to as the annual share returns of the firms from three months after the previous fiscal year to three months after the current fiscal year, adjusted for the movement of the All Ordinaries Index over the same period (Muttakin et al., 2019). Panel A of Table 3.6 reports the results. Control variables and their interaction terms are not displayed for brevity. I consistently find a significantly positive coefficient on the three-way interaction term $HIGH_{it} \times R_{it} \times D_{it}$, namely 0.044 ($p<0.05$). A significant and negative coefficient on the three-way interaction term $LOW_{it} \times R_{it} \times D_{it}$ has also been documented, namely -0.421 ($p<0.01$).

Table 3. 6: The Association between Independent Directors' Reputation Incentives and Alternative Measures of Accounting Conservatism

Panel A: Re-estimation of Basu Model Using Market-Adjusted Returns

Dependent Variable:	EAR_{it}
R_{it}	0.020
	(0.45)
D_{it}	0.719*
	(1.91)
$R_{it} \times D_{it}$	-1.380**
	(-2.34)
$HIGH_{it}$	0.011
	(1.25)
$HIGH_{it} \times R_{it}$	-0.046***
	(-2.84)
$HIGH_{it} \times D_{it}$	-0.013
	(-0.60)
$HIGH_{it} \times R_{it} \times D_{it}$	0.044**
	(2.11)
LOW_{it}	-0.010
	(-1.38)
$LOW_{it} \times R_{it}$	0.234**
	(2.45)
$LOW_{it} \times D_{it}$	0.008
	(0.79)
$LOW_{it} \times R_{it} \times D_{it}$	-0.421***
	(-2.71)
Number of observations	4,635
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	46.84%
Adjusted R^2	46.12%
F-Statistic	65.92***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel B: C-Score Approach

Dependent Variable:	***CSCORE$_{it}$***
HIGH$_{it}$	0.026**
	(1.99)
LOW$_{it}$	-0.018**
	(-2.02)
FIRMSIZE$_{it}$	0.042
	(0.46)
SQFIRMSIZE$_{it}$	-0.093***
	(-8.24)
ROA$_{it}$	0.023***
	(4.82)
LEVERAGE$_{it}$	0.065***
	(3.56)
RDASSETS$_{it}$	-0.030
	(-0.36)
BOARDSIZE$_{it}$	0.057***
	(8.07)
CEOTENURE$_{it}$	0.024***
	(8.96)
BUSY$_{it}$	0.014**
	(2.05)
Number of observations	4,718
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	36.57%
Adjusted R^2	36.21%
F-Statistic	187.22***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Year and industry fixed effects are included, but not reported for brevity.

The second conservatism proxy is used to further validate the key findings is C-Score approach, as developed by Khan and Watts (2009). This method has also been widely used in several recent studies (Beatty and Liao, 2011, Sun and Xu, 2012, Kim et al., 2013, Muttakin et al., 2019). C-Score is also known as the firm-year measure of accounting conservatism because it estimates the level of conservatism for individual firms in individual years. Therefore, Khan and Watts (2009)'s approach can be used to overcome the limitation of Basu model, which calculates average conservatism across firms over a period of time. In line with Khan and Watts (2009), I construct C-Scores (*CSCORE$_{it}$*) using two-stage procedure. In the first stage, I estimate the below regression for each year:

$$\begin{aligned} EAR_{it} &= \beta_1 + \beta_2 D_{it} + R_{it}(\mu_1 + \mu_2 Size_{it} + \mu_3 MTB_{it} + \mu_4 Leverage_{it}) \\ &+ D_{it} \times R_{it}(\lambda_1 + \lambda_2 Size_{it} + \lambda_3 MTB_{it} + \lambda_4 Leverage_{it}) \\ &+ (\delta_1 Size_{it} + \delta_2 MTB_{it} + \delta_3 Leverage_{it} + \delta_4 \times D_{it} \times Size_{it} + \delta_5 \times D_{it} \times MTB_{it} \\ &+ \delta_6 \times D_{it} \times Leverage_{it}) + \varepsilon_t \end{aligned}$$

Based on the parameters from the above regressions, I calculate *CSCORE$_{it}$* for each firm-year as below.

$$CSCORE_{it} = \beta_4 = \lambda_1 + \lambda_2 Size_{it} + \lambda_3 MTB_{it} + \lambda_4 Leverage_{it}$$

Firms with higher C-Scores exhibit greater conservatism level than firms with lower C-Scores (Khan and Watts, 2009). Using $CSCORE_{it}$ as the dependent variable, and the same set of control variables, I re-estimate the relationship between accounting conservatism and independent directors' reputation incentives. The results presented in Panel B of Table 3.6 using Khan and Watts (2009)'s approach continue to hold. Particularly, I find that $HIGH_{it}$ is positively related to $CSCORE_{it}$, with the coefficient of 0.026 ($p<0.05$). The coefficient on LOW_{it} is negative at -0.018, and significant at 5% level, indicating a negative association with $CSCORE_{it}$.

Besides, I also employ two commonly used measures of unconditional conservatism to strengthen the robustness of my main findings, including $CON\text{-}ACC_{it}$ and $CON\text{-}MKT_{it}$. The cumulative total accruals, $CON\text{-}ACC_{it}$, is developed by Givoly and Hayn (2000) and has been used in many prior studies (e.g., García Lara et al., 2009, Ahmed and Henry, 2012, Ahmed and Duellman, 2013, Enache and García-Meca, 2019). According to Givoly and Hayn (2000), accounting conservatism results in constantly negative accruals, as opposed to the expected accrual reversals' pattern. In line with Ahmed and Duellman (2013), I measure $CON\text{-}ACC_{it}$ as the income before extraordinary items less cash flows from operations plus depreciation expense deflated by average total assets, and averaged over the previous three years, multiplied by negative one. This measure captures the cumulative effect of conservatism on accruals over a three-year period, and firms with higher values of $CON\text{-}ACC_{it}$ adopt more unconditionally conservative accounting practices. The book-to-market ratio, $CON\text{-}MKT_{it}$, is established by Beaver and Ryan (2000), who take the balance sheet approach and define accounting conservatism as the understatement of net operating assets. Consistent with Ahmed and Henry (2012), $CON\text{-}MKT_{it}$ is calculated as the ratio of the book value of equity to the market value of equity at the end of year t. Negative values of $CON\text{-}MKT_{it}$ signal greater level of unconditional conservatism. The strength of this measure is that it reflects not only the cumulative effects of conservatism since the inception of the firm, but also economic rents generated by assets-in-place and growth opportunities (Ahmed and Henry, 2012).

The untabulated results show that my main findings remain consistent. In particular, in $CON\text{-}ACC_{it}$ model, the coefficients on $HIGH_{it}$ and LOW_{it} are 0.077 ($p<0.01$), and -0.017 ($p<0.05$), respectively. When $CON\text{-}MKT_{it}$ is employed as the dependent variable, I consistently document that $CON\text{-}MKT_{it}$ has a significantly positive association with $HIGH_{it}$, and a significantly negative relationship with LOW_{it}. This is demonstrated by a negative coefficient on $HIGH_{it}$, namely -0.684 ($p<0.01$), and a positive coefficient on LOW_{it}, namely 0.329 ($p<0.05$). Although Ahmed and Henry (2012) argue that there is a negative relationship between conditional conservatism and unconditional conservatism, meaning the application of one type of conservatism will suppress the other's, I find that it is not always the case. In fact, I find consistent associations between independent directors' reputation incentives and both types of conservatism. The presence of independent directors on the boards is to

monitor executive directors and the top managements (Fuzi et al., 2016). In addition, as having more to lose in terms of their human capital, independent directors serving on prestigious boards are more incentivised to ensure that financial reports are of high quality by promoting conservative accounting practices, and vice versa. Therefore, the empirical analyses yield similar results in both cases of conditional and unconditional conservatism.

Taken together, the results obtained from re-estimating the baseline models using four alternative conservatism proxies corroborate the results reported in Table 3.4. I consistently find that firms with independent directors with high reputation incentives on the boards practice accounting more conservatively. However, the presence of those with low reputation incentives on the boards is likely to reduce the adoption of conservative accounting practices by the firms.

3.6.3 Propensity Score Matching Analyses

So far, I have tested the sensitivity of my main findings to alternative measures of both accounting conservatism and independent directors' reputation incentives. In this section, in order to alleviate the possibility that firm size may drive my primary inferences as well as to address the selection bias arising from observable factors, I conduct PSM analyses as developed by Rosenbaum and Rubin (1983). In the first stage, I estimate a probit regression with the dependent variable being $TREATMENT_{it}$. $TREATMENT_{it}$ is a binary variable which is coded 1 for treatment firms, and 0 for control firms. I define treatment firms as firms that have an equal or above the industry average percentage of independent directors who view their directorships as more prestigious. Firms are considered as control firms if they have an equal or above the industry average percentage of independent directors who view their directorships as less prestigious. Control variables used in the first stage probit model are the same as in the two main models, namely $FIRMSIZE_{it}$, $SQFIRMSIZE_{it}$, ROA_{it}, $LEVERAGE_{it}$, $RDASSETS_{it}$, $BOARDSIZE_{it}$, $CEOTENURE_{it}$, and $BUSY_{it}$. I also control for year and industry fixed effects in this model. As shown in Panel A of Table 3.7, $TREATMENT_{it}$ is positively associated with ROA_{it}, while it is adversely related to $FIRMSIZE_{it}$, and $BUSY_{it}$. These associations are all statistically significant.

Table 3. 7: Propensity Score Matching Analysis

Panel A: Probit Regression

Dependent Variable:	***TREATMENT***
$FIRMSIZE_{it}$	-82.961***
	(-5.75)
$SQFIRMSIZE_{it}$	14.583***
	(6.09)
ROA_{it}	0.432**
	(2.27)
$LEVERAGE_{it}$	-0.184
	(-0.99)
$RDASSETS_{it}$	0.204
	(0.35)
$BOARDSIZE_{it}$	-0.141
	(-1.21)
$CEOTENURE_{it}$	0.053
	(1.25)
$BUSY_{it}$	-0.440***
	(-5.20)
Number of observations	2,679
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
Pseudo R^2	10.90%

This table reports the results of the following probit model:

$$TREATMENT_{it} = \mu_0 + \mu_1 FIRMSIZE_{it} + \mu_2 SQFIRMSIZE_{it} + \mu_3 ROA_{it} + \mu_4 LEVERAGE_{it} + \mu_5 RDASSETS_{it} + \mu_6 BOARDSIZE_{it} + \mu_7 CEOTENURE_{it} + \mu_7 BUSY_{it} + \mu \sum INDUSTRY\ DUMMIES_{it} + \mu \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

The dependent variable, *TREATMENT*, is an indicator variable which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. Treatment firms are firms that have an equal or above the industry average proportion of independent with high reputation incentives. Control firms are those that have an equal or above the industry average proportion of independent with low reputation incentives. *, **, and *** represent significance levels at the 10%, 5%, and 1% respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel B: The Association between Accounting Conservatism and Independent Directors' Reputation Incentives Based on PSM Matched Sample

Basu Model

Dependent Variable:	**Model 1** EAR_{it}
R_{it}	0.016
	(0.52)
D_{it}	4.518***
	(2.67)
$R_{it}\times D_{it}$	-0.335
	(-0.64)
$HIGH_{it}$	-0.006
	(-0.55)
$HIGH_{it}\times R_{it}$	-0.045***
	(-2.88)
$HIGH_{it}\times D_{it}$	0.006
	(0.66)
$HIGH_{it}\times R_{it}\times D_{it}$	0.040**
	(2.05)
LOW_{it}	-0.019**
	(-2.01)
$LOW_{it}\times R_{it}$	0.179**
	(2.00)
$LOW_{it}\times D_{it}$	0.007
	(0.39)
$LOW_{it}\times R_{it}\times D_{it}$	-0.292**
	(-2.13)
Number of observations	1,426
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	52.35%
Adjusted R^2	50.15%
F-Statistic	23.74***

Accrual Model

Dependent Variable:	**Model 2** ACC_{it}
$CFLO_{it}$	42.015
	(1.51)
$DCFLO_{it}$	-2.417
	(-0.46)
$CFLO_{it}\times DCFLO_{it}$	-13.180***
	(-5.08)
$HIGH_{it}$	-0.056*
	(-1.66)
$HIGH_{it}\times CFLO_{it}$	0.813**
	(1.98)
$HIGH_{it}\times DCFLO_{it}$	0.130***
	(4.72)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$	0.012***
	(9.73)
LOW_{it}	-0.040**
	(-1.98)
$LOW_{it}\times CFLO_{it}$	1.078***
	(3.85)
$LOW_{it}\times DCFLO_{it}$	0.071*
	(1.91)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$	-0.619**
	(-2.11)
Number of observations	1,304
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	65.13%
Adjusted R^2	63.39%
F-Statistic	37.39***

I use the nearest-neighbour matching without replacement to match treatment firms with control firms that are operating in the same industry, with the matching ratio of 1 to 1, and within the caliper range of 0.03.

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses.

Control variables, year and industry fixed effects are included, but not reported for brevity.

In the second stage, each treatment firm is matched with a control firm operating in the same industry using the nearest-neighbour matching and without replacement method, and within the maximum caliper difference of 0.03. The matching process yields a final sample of 1,426 observations (713 matched pairs) for Basu model, and 1,304 observations (652 matched pairs) for accrual model. Results of the covariate balance's examination, which is not reported for brevity, indicate that treatment firms and control firms do not considerably differ on control variables. I then re-estimate Basu model and accrual model using these propensity-score matched samples. The empirical results are presented in Panel B of Table 3.7. In Basu model, I consistently find that a significant and positive coefficient on the three-way interaction term $HIGH_{it}\times R_{it}\times D_{it}$, namely 0.040 ($p<0.05$), and a significant and negative

coefficient on the three-way interaction term $LOW_{it} \times R_{it} \times D_{it}$, namely -0.292 ($p<0.05$). Similarly, the results of the accrual model show a positive association between $HIGH_{it} \times CFLO_{it} \times DCFLO_{it}$ and ACC_{it} (coefficient = 0.012), and a negative association between $LOW_{it} \times CFLO_{it} \times DCFLO_{it}$ and ACC_{it} (coefficient = -0.619). These associations are statistically significant at the 1% and 5% level, respectively.

In general, the results of the re-estimated regressions using the propensity-matched samples obtained above are in line with my main findings reported in Table 3.4. Having independent directors with high reputation incentives on the boards is considered as effective corporate governance, thus firms are more conservative in their accounting practices. By contrast, the presence of independent directors with low reputation incentives on the boards is likely to delay the recognition of bad news relative to good news. Such consistent evidence provides strong support for my main findings as they mitigate the likelihood of selection bias due to observable factors, and potential effects of firm size on the association between accounting conservatism and independent directors' reputation incentives.

3.6.4 Heckman (1979) Two-stage Approach

Tucker (2010) indicates that PSM analysis differ from Heckman (1979) two-stage procedure in a way that the former addresses selection bias due to observable factors, while the latter controls for selection bias as a consequence of unobservable factors. Given the fact that my sample is not randomly chosen, this potentially causes a self-selection issue, leading to biased results. Following prior studies (e.g., Li, 2010, Cheng et al., 2017, Muttakin et al., 2019, among others), I also carry out Heckman (1979) two-step approach in order to further mitigate the concerns of selection bias due to unobservable factors.

In the first stage, I estimate a probit regression on the $TREATMENT_{it}$ variable that I construct above. In line with Huang et al. (2018), I employ several firm and board characteristics as explanatory variables because they are likely to influence the reputation incentives of independent directors, namely $FIRMSIZE_{it}$, $SQFIRMSIZE_{it}$, $FIRMAGE_{it}$, $LEVERAGE_{it}$, $BOARDSIZE_{it}$, and $BOARDIND_{it}$. Besides, following prior studies (Adams and Ferreira, 2009, Vafaei et al., 2015), I create an additional variable, namely $FRACTION_{it}$. This variable is measured as the ratio of non-independent directors who are also members of other boards, on which there are independent directors with either high or low reputation incentives.

$FRACTION_{it}$ can be used as an instrumental variable, which helps to effectively control for endogeneity in this study, because it satisfies the two main criteria as indicated by Lennox et al. (2012). Firstly, it plays a significant role in determining the ratio of independent directors with high/low reputation incentives on the boards. It can be explained by the reason that directors are able to establish

social networks when they concurrently serving on other boards of directors (Conyon and Muldoon, 2006). Thank to these networks, non-independent directors have the opportunities to invite other outsiders to join their boards, leading to the variation in the proportion of independent board members with high/low reputation incentives on these boards. Thus, it can be inferred that $FRACTION_{it}$ is directly associated with the dependent variable in the first stage probit model, which is $TREATMENT_{it}$. Secondly, I can validly exclude $FRACTION_{it}$ in the second-stage regression model because it has not been identified as one of the determinants of accounting conservatism in the extant literature. In other words, $FRACTION_{it}$ has no direct relationship with accounting conservatism measures, which are the dependent variables in the second-stage models.

I also conduct the Wald test to examine the strength of the instrumental variable as according to Chang et al. (2016), without a valid instrumental variable, Heckman (1979) two-stage procedure will generate unreliable outcomes. Accordingly, I test for the null hypothesis that the coefficient on $FRACTION_{it}$ is 0. The $\chi 2$ statistic of 11.66 ($p<0.01$) allows us to reject the null hypothesis, indicating that the coefficient on $FRACTION_{it}$ is different from 0. Consequently, it helps to alleviate the concern of a weak instrumental variable. I report the results of the first-stage probit model in Panel A of Table 3.8. Consistent with my prediction, $FRACTION_{it}$ is adversely associated with $TREATMENT_{it}$ at the 1% significant level. Other control variables, such as $FIRMSIZE_{it}$, $LEVERAGE_{it}$, $BOARDSIZE_{it}$, and $BOARDIND_{it}$ also exhibit a significant and negative relationship with $TREATMENT_{it}$. $FIRMAGE_{it}$, however, has no significant relationship with $TREATMENT_{it}$. Based on the coefficient estimates obtained from the first-stage probit model, I am able to calculate the Inverse Mill's Ratio ($MILLS_{it}$).

Table 3. 8: Heckman Two-stage Estimation

Panel A: First Stage - Probit Regression

Dependent Variable:	***TREATMENT***
$FRACTION_{it}$	-0.951***
	(-3.39)
$FIRMSIZE_{it}$	-77.736***
	(-6.43)
$SQFIRMSIZE_{it}$	14.042***
	(6.95)
$FIRMAGE_{it}$	0.013
	(0.25)
$LEVERAGE_{it}$	-0.393**
	(-2.34)
$BOARDSIZE_{it}$	-0.538***
	(-4.59)
$BOARDIND_{it}$	-0.970***
	(-5.93)
Number of observations	2,918
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
Pseudo R^2	10.00%

This table reports the results of the following probit model:

$$TREATMENT_{it} = \mu_0 + \mu_1 FRACTION_{it} + \mu_2 FIRMSIZE_{it} + \mu_3 SQFIRMSIZE_{it} + \mu_4 FIRMAGE_{it} + \mu_5 LEVERAGE_{it} + \mu_6 BOARDSIZE_{it} + \mu_7 BOARDIND_{it} + \mu \sum INDUSTRY\ DUMMIES_{it} + \mu \sum YEAR\ DUMMIES_{it} + \varepsilon_{it}$$

The dependent variable, *TREATMENT*, is an indicator variable which equals 1 if the firm is a treatment firm, and 0 if it is a control firm. Treatment firms are firms that have an equal or above the industry average proportion of independent with high reputation incentives. Control firms are those that have an equal or above the industry average proportion of independent with low reputation incentives. *, **, and *** represent significance levels at the 10%, 5%, and 1% respectively. Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Control variables, year and industry fixed effects are included, but not reported for brevity.

Panel B: Second Stage - The Association between Accounting Conservatism and Independent Directors' Reputation Incentives, Controlling for Potential Endogeneity

Basu Model

Dependent Variable:	**Model 1** EAR_{it}
$MILL_{it}$	-0.004
	(-1.02)
R_{it}	-0.048
	(-1.44)
D_{it}	-0.370
	(-1.02)
$R_{it}\times D_{it}$	-0.121
	(-0.29)
$HIGH_{it}$	0.013
	(0.86)
$HIGH_{it}\times R_{it}$	-0.053***
	(-3.35)
$HIGH_{it}\times D_{it}$	0.008
	(0.90)
$HIGH_{it}\times R_{it}\times D_{it}$	0.041**
	(1.99)
LOW_{it}	-0.007
	(-1.09)
$LOW_{it}\times R_{it}$	0.082
	(1.20)
$LOW_{it}\times D_{it}$	-0.005
	(-0.29)
$LOW_{it}\times R_{it}\times D_{it}$	-0.286**
	(-2.27)
Number of observations	2,622
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	46.78%
Adjusted R^2	45.47%
F-Statistic	28.13***

Accrual Model

Dependent Variable:	**Model 2** ACC_{it}
$MILL_{it}$	0.008
	(0.88)
$CFLO_{it}$	52.233***
	(3.28)
$DCFLO_{it}$	8.516**
	(2.37)
$CFLO_{it}\times DCFLO_{it}$	-9.991***
	(-5.66)
$HIGH_{it}$	-0.036
	(-1.37)
$HIGH_{it}\times CFLO_{it}$	0.640**
	(2.06)
$HIGH_{it}\times DCFLO_{it}$	0.081***
	(3.51)
$HIGH_{it}\times CFLO_{it}\times DCFLO_{it}$	0.013***
	(10.30)
LOW_{it}	-0.048***
	(-3.99)
$LOW_{it}\times CFLO_{it}$	1.214***
	(6.64)
$LOW_{it}\times DCFLO_{it}$	0.049**
	(2.03)
$LOW_{it}\times CFLO_{it}\times DCFLO_{it}$	-0.644***
	(-3.61)
Number of observations	2,667
Control Variables	Yes
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
R^2	63.51%
Adjusted R^2	62.63%
F-Statistic	71.92***

*, **, and *** represent significance levels at the 10%, 5%, and 1% respectively.

Coefficient values are reported outside the parentheses, and t-statistic values are reported inside the parentheses. Control variables, year and industry fixed effects are included, but not reported for brevity.

In the second stage, I include $MILLS_{it}$ in both Basu model and accrual model to control for potential selection bias due to unobservable factors, and re-estimate these models. The results are displayed in Panel B of Table 3.8. I find that the coefficient (p-value) on $MILLS_{it}$ is -0.004 for Basu model, 0.008 for accrual model, and they are all insignificant. The insignificant coefficients on $MILLS_{it}$, therefore, do not justify the endogeneity bias concerns. In addition, after controlling for endogeneity in these models, I find that my primary inferences remain qualitatively unchanged. I again document positive coefficients on the three-way interaction term including $HIGH_{it}$, and negative coefficients on the three-way interaction term including LOW_{it} in both Basu and accrual models. They are all statistically significant. This empirical evidence is consistent with my main inference drawn from Table 3.4, but also free of potential effects of selection bias resulting from unobservable factors, which might

otherwise induce my results. In general, the findings provide stronger evidence to validate my main findings, which suggest that the presence of independent directors with high (low) reputation incentives on the boards leads to higher (lower) conservatism level.

3.7 Conclusion

This empirical chapter fills in the current literature gap by investigating the association between independent directors' reputation incentives and the level of accounting conservatism at the top 500 firms listed on the ASX throughout the 16-year period 2004-2019. Following Masulis and Mobbs (2014), I measure the reputation incentives of the directors using firm size to rank their independent directorships. Accounting conservatism is proxied by the asymmetric timeliness of earnings (Basu, 1997), and the accrual-based loss recognition (Ball and Shivakumar, 2005). The empirical evidence shows that variation in the reputation incentives of independent board members are important determinants of accounting conservatism. Specifically, the appointment of independent directors who highly rank their directorships on the boards leads to greater level of conservative accounting practices by firms. In contrast, firms with high ratio of independent directors with low reputation incentives are likely to be less conservative in their financial reporting. This is consistent with the argument by Beekes et al. (2004), Ahmed and Duellman (2007), and García Lara et al. (2009) that accounting conservatism plays a complementary role for effective corporate governance mechanism in mitigating agency conflicts.

The initial findings are then subject to several robustness tests. Firstly, I re-estimate Basu model and accrual model using alternative measures of reputation incentives. For instance, I use market value of total assets to rank the independent directorships (Masulis and Mobbs, 2014), alternative cut-off thresholds (i.e., 5% and 20%) (Sila et al., 2017), one-year lagged measures of reputation incentives (Masulis and Mobbs, 2016, 2017, Moursli, 2019), and reputation incentives measures based on each gender. Secondly, I re-examine the association between accounting conservatism and independent directors' reputation incentives using four alternative measures of accounting conservatism, namely using market-adjusted returns in Basu model, C-Score approach (Khan and Watts, 2009), $CON\text{-}ACC_{it}$ (Ahmed and Duellman, 2013), and $CON\text{-}MKT_{it}$ (Ahmed and Henry, 2012). Results of the re-estimated models are consistent with my main inferences. Besides, I perform PSM analyses and Heckman (1979) two-step procedure to mitigate the potential effects of firm size, and the effects of biased estimated resulted from self-selection issues. This evidence again provides strong support for my main findings.

By identifying that the reputation incentives of independent directors play an important role in determining the level of conservatism, future research should consider these factors when examining the demand for conservative accounting practices in Australian firms. In addition, findings in this study provide useful insights for current shareholders, potential investor, and various stakeholders to

accurately assess the monitoring effectiveness of independent directors, so that appropriate decisions can be made, such as to appoint or to retain an independent director to the board. Since the demand for accounting conservatism is associated with independent directors' reputation incentives, regulators can refer to my findings to develop rules and recommendations that aim to enhance the financial reporting quality of the firms.

This study is still subject to a potential limitation. As the association between independent directors' reputation incentives is examined in the Australian context only, the findings may not be generalized to countries other than Australia. Therefore, future research may consider extending the data collection and re-examining these associations in other countries' context. This will enhance the validity of my findings, as well as enable the comparison among countries to provide additional insights into the role of independent directors' reputation incentives in conservative accounting practices.

Table 3. 9: Variable Definitions

Variables	Description	Source
EAR	Earnings before extraordinary items deflated by the market value of equity at the beginning of the fiscal year	Calculated based on data from DatAnalysis
R	Share returns from 3 months after the previous fiscal year-end to 3 months after the current fiscal year-end	Calculated based on data from DataStream
D	A dummy variable that equals 1 if *R* is negative, and 0 otherwise	Calculated based on data from DataStream
ACC	Annual total accruals, which is defined as operating profit minus cash flow from operations, divided by the book value of total assets at the beginning of the fiscal year	Calculated based on data from DatAnalysis
CFLO	Cash flow from operating activities divided by the book value of total assets at the beginning of the fiscal year	Calculated based on data from DatAnalysis
DCFLO	A dummy variable which equals 1 if *CFLO* is negative and 0 otherwise	Calculated based on data from DatAnalysis
HIGH	The proportion of independent directors with high reputation incentives on the board	Calculated based on corporate governance data from Connect4
LOW	The proportion of independent directors with low reputation incentives on the board	Calculated based on corporate governance data from Connect4
FIRMSIZE	The natural logarithm of total assets	Calculated based on data from DatAnalysis
SQFIRMSIZE	Square value of firm size	Calculated based on data from DatAnalysis
ROA	The ratio of earnings before interest to total assets	Collected from DatAnalysis
LEVERAGE	The ratio of total debt to total assets	Calculated based on data from DatAnalysis
RDASSETS	The ratio of research and development expenditures scaled by total assets	Calculated based on data from DatAnalysis
BOARDSIZE	The natural logarithm of the number of directors on the board	Calculated based on corporate governance data from Connect4
CEOTENURE	The natural logarithm of the number of years the CEO has been in that position	Calculated based on corporate governance data from Connect4
BUSY	A binary variable, which is coded 1 if the majority of the directors on the board have three or more directorships, and 0 otherwise	Calculated based on corporate governance data from Connect4

Chapter 4:
Conclusion

Both empirical studies in this thesis utilise a sample of the top 500 listed firms on the ASX throughout the period 2004-2019. The first study examines the association between independent directors' reputation incentives and firm performance. Consistent with the prediction, the findings reveal that the higher the proportion of independent directors with high reputation incentives on the boards, the more likely the firms will benefit from their talent and contribution. This leads to superior performance at these firms. By contrast, independent directors with who view their directorships as less prestigious are not willing to devote their finite time and effort to the firms where these directorships are based, resulting in lower performance at these firms. This study also reveals that the main findings hold in the case of male independent directors. For female directors, the associations between those who view their directorships as less prestigious and all firm performance measures are insignificant.

The second study investigates the relationship between independent directors' reputation incentives and accounting conservatism. The results show that reputation incentives of independent directors play a significant role in determining the degree of conservative accounting practices adopted by the ASX 500. Particularly, the proportion of independent directors with high reputation incentives on the boards are likely to promote the level of accounting conservatism. By contrast, the presence of those with low reputation incentives reduces the demand for conservative accounting practices. This provides support for the argument that accounting conservatism and effective corporate governance are complementary for each other in mitigating agency conflicts (Beekes et al., 2004, Ahmed and Duellman, 2007, García Lara et al., 2009). These findings are valid when examining separately for male and female independent directors.

By providing empirical evidence that independent directors do not equally contribute their time and effort to all the directorships under their oversight, this thesis complements to the growing line of research that focus on independent directors' reputation incentives (e.g., Masulis and Mobbs, 2014, 2016, 2017, Sila et al., 2017, Bryan and Mason, 2020, etc.). This thesis also contributes to the two emerging streams of literature, namely firm performance and accounting conservatism. Particularly, it identifies that varying in the reputation incentives of independent directors have significant impacts on the financial performance and accounting conservatism level. Therefore, scholars should consider these important determinants when examining the financial performance and the adoption of conservative accounting practices at Australian listed firms. Additionally, this thesis provides some insights that are useful for current shareholders and potential investors to accurately evaluate the effectiveness of independent directors in performing their monitoring and advising roles. Policymakers can refer to the

findings of this thesis to develop and put in place policies that aim to enhance the effectiveness of outside directors, leading to superior performance and better earnings quality of the firms.

This thesis has two main limitations that need to be acknowledged. The first limitation is that according to the extant literature, there are numerous determinants of firm performance and accounting conservatism. Consequently, controlling for all of them in the regression models are impossible. In addition, the scope of this thesis is limited to Australia only. Therefore, generalising findings from this thesis to other countries needs to be done cautiously. Future research may consider investigating the effects of independent directors' reputation incentives on another dimension of firm performance, namely non-financial performance. Alternatively, the same topics can be re-examined in different contexts other than Australia to enable the comparison among countries.

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