

**The Influence of Audit Committee Characteristics on
Voluntary Corporate Social Responsibility Disclosure:
Australian Evidence**

By

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STATEMENT OF CANDIDATE

I certify that the work in this thesis entitled “The Influence of Audit Committee Characteristics on Voluntary Corporate Social Responsibility Disclosure: Australian Evidence” has not been submitted previously for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been acknowledged appropriately.

In addition, I certify that all information sources and literature used are indicated in the thesis.

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ABSTRACT

Recent regulatory changes due to high profile corporate collapses have attempted to rebuild confidence in corporate governance systems by enhancing voluntary disclosure. This study examines the influence of audit committee characteristics on voluntary corporate social responsibility (CSR) disclosure. Drawing on agency theory, the study develops hypotheses about relationships between voluntary CSR disclosure and audit committee characteristics such as the size of the committee, frequency of audit committee meetings, audit committee independence, financial expertise and gender representation. The study uses multiple regression analysis on data collected from the corporate annual reports of 181 listed companies in Australia. The findings indicate that audit committee characteristics such as the proportion of audit committee independent members, frequency of audit committee meetings, and size of the audit committee bear a significant positive influence on the level of CSR disclosure. However, there is no evidence that audit committee characteristics such as the presence of an independent chair, financial expertise and the presence of females on the audit committee have a significant effect on CSR disclosure. The findings of this study should be of particular interest to regulators, shareholders, investment analysts and managers in Australia.

Keywords: Audit committee, Corporate social responsibility, Audit committee characteristics, Disclosure and Australia.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Over the past few decades, various stakeholders have witnessed a number of significant corporate collapses. Some of the highest profile corporate collapses such as Enron and WorldCom in the U.S, and HIH¹ and Onetel in Australia have occurred due to poor corporate governance, fraud, dishonesty and a lack of proper disclosure by the managers of the companies. Such collapses have caused many problems including significant financial loss and job losses.

Due to these scandals various stakeholder groups, including shareholders, regulators and media have scrutinised companies more closely than ever. Shareholders, in particular, have demanded more effective audit committees (ACs) and hence more financial, social and environmental disclosures along with higher quality financial statements for the better supervision of managers (Arvidsson, 2010; Basu and Palazzo, 2008; Young and Marais, 2012).

Following stakeholders demand companies have started acting in a more accountable way. They have enhanced their corporate social responsibility (CSR) involvement by considering their overall impact on society and applying more transparency in their CSR disclosures (Dando and Swift, 2003; Lee, 2011; Young and Marais, 2012). CSR is defined by the World Business Council for Sustainable Development as “the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large” (WBCSD, 2014).

¹Health International Holdings Ltd (HIH) had net assets of \$A39.7 million in 1991. HIH became Australia's largest Insurance Company after acquiring CIC Insurance, Utilities Insurance and Colonial Mutual General Insurance by 1997. In 1999 HIH posted a 39% fall in net profit, blaming damage claims. In the first half of 2000 HIH returned to profitability. In the second half of 2000 HIH sold part of the business to Allianz, and its shares tumbled to the lowest and chief executive announced his retirement. In 2001, Adler (one of the CEOs) resigned following shareholders' request and HIH went into provisional liquidation with an \$800 million loss. The Federal Government announced a royal commission into Australia's biggest corporate collapse (Kehl, 2001).

In this regard, studies have also highlighted the important contribution that ACs can make to improve reporting processes in organisations through continuous supervision (Li *et al.*, 2012; Mangena and Pike, 2005) and enhanced disclosures. This has, in turn, led to minimised information asymmetry between managers and various stakeholders (Mangena and Pike, 2005; Rainsbury *et al.*, 2008).

Further, regulations such as the Sarbanes-Oxley Act (SOX) 2002, issued by the Securities and Exchange Commission (SEC) in the U.S, followed by the Audit Reform and Disclosures Act 2004 (CLERP 9), implemented by the Australian Securities and Investments Commission (ASIC) after the collapse of HIH, have also mandated companies for the purposes of sanctioning more disclosures. These regulations also include additional specific guidelines regarding ACs to improve the disclosure of listed companies (ASIC, 2014; Deloitte, 2014; He *et al.*, 2009; SEC, 2014). For example, new Corporate Governance Principles and Recommendations (CGPR)² issued by the Australian Securities Exchange Corporate Governance Council (ASXCGC)³ in 2010 have outlined additional specific characteristics of ACs to improve the effectiveness of the monitoring of managers' actions. For example, according to these new recommendations, ACs must be comprised of only non-executive directors and a majority of independent directors.

Despite the fact that ACs can play an important role in improving monitoring processes and voluntary disclosure, few studies have been undertaken to examine the relationship between AC characteristics and CSR disclosure. Some studies have examined the relationships between corporate governance mechanisms on voluntary disclosures (e.g., Cerbioni and Parbonetti, 2007; Lim *et al.*, 2007; Ho and Wong, 2001). However, the problem of the lack of proper disclosure by the managers of listed companies still remains. Therefore, considering previous studies and the

² Principles of Good Corporate Governance and Best Practice Recommendations' first edition, released in March 2003; Revised CGPRs, second edition was released in August 2007; CGPRs, with 2010 amendments, was released in June 2010; and the latest changes in the third edition, is released on 27 of March 2014, to take effect for listed entities' first full financial year commencing on or after 1 July 2014 (ASX, 2014) (Appendix 1).

³ ASXCGC Principle 4.1-4.4 in Australia states that the board should establish an audit committee. ACs must consist of only non-executive directors; have a majority of independent directors; be chaired by an independent chair who is not the chair of the board; and have at least three members. The ACs should have a formal charter; and the companies should provide the information indicated in the guide to report on this Principle. ASX Listing rule 12.7 states that all ASX 500 (Firms that are ranked in the Top-500) must have ACs, and ASX 300 (Firms that are ranked in the Top-300) must comply with the Principle 4 requirements and if they do not comply with the recommendations, they must explain the reason for "non-compliance".

Australian context, this study especially focuses on AC characteristics such as the size of the committee, frequency of meetings, independence of members and the chair, and the members' financial expertise and gender.

1.2 Motivations

This study is motivated by three factors. First, there is a gap in the literature, in that no empirical studies have examined the influence of the AC characteristics on voluntary CSR disclosure. Some previous studies that examined the relationship between corporate governance mechanisms and CSR disclosure focused on board independence and ownership structure (e.g., Ghazali, 2007; Khan *et al.*, 2013) and paid limited attention to the influence of AC characteristics on CSR disclosure. Other previous studies such as Karamanou and Vafeas (2005); Klein (2002); Bedard *et al.* (2004) investigated the monitoring role of the ACs on financial disclosures and earnings management. However, it is not clear whether the findings of these previous studies and, in particular, studies of financial disclosures are applicable to CSR disclosure practices.

Second, studies such as Beasley (1996); Beasley and Salterio (2001); Forker (1992); Karamanou and Vafeas (2005); Klein (2002); Bedard *et al.* (2004); Li *et al.* (2012), examine the influence of ACs on reporting. These studies are mostly based on data collected from the U.S, Canada and the U.K. The findings of these studies might not be applicable to Australian listed companies due to the different Australian corporate governance settings. For example, SOX (2002) requires that all listed companies in the U.S to have ACs. Also, the presence of ACs became a standard characteristic of corporate governance in U.K listed companies since the issuance of the Cadbury report (1992)⁴ (Li *et al.*, 2012). However, in Australia only the Top 500 ASX listed companies are required by the ASX Listing Rule 12.7 to have ACs. Amongst these companies, only those in the Top 300 ASX must also comply with the specific requirements issued by ASXCGC in appointing their ACs (Appendix 1).

⁴ Cadbury report is a report issued by "The Committee on the Financial Aspects of Corporate Governance" chaired by Adrian Cadbury, in 1992 to mitigate corporate governance risks (ICAEW, 2014).

Third, safeguarding stakeholders' interests, particularly those of the shareholders, by establishing effective monitoring tools such as ACs and proper disclosure guidelines, is a significant step towards preventing further corporate collapses. Effective ACs can ensure effective monitoring of corporate performance and managerial opportunism by preventing managers from sacrificing investors' interests to their own self-interest. This has the added benefit of improving control systems and enhancing disclosure quality (Fama and Jensen, 1983; Carcello and Neal, 2003; Spira, 2003; Li *et al.*, 2012; Bedard *et al.*, 2004; Li *et al.*, 2008; Ho and Wong, 2001; Mangena and Pike, 2005; Forker, 1992). One of the key motivations for this study is therefore to empirically test and find new and useful information regarding specific characteristics of ACs. These can serve to enhance corporate responsibility and minimise the possibility of further corporate collapses.

1.3 Aim and objectives

The aim of this study is to examine the influence of AC characteristics on voluntary CSR disclosure in Australian listed companies. In order to achieve this aim, this study has the following specific objectives:

- 1) To examine AC characteristics of the Australian listed companies.
- 2) To examine the extent of voluntary CSR disclosure by Australian listed companies.
- 3) To develop and test hypotheses and a regression model drawing on agency theory and related literature.

1.4 Contributions

Contributions to the literature

This study makes several contributions to the literature. First, it contributes to the literature on corporate governance and CSR disclosures by filling the gap in the literature, through examining the influence of AC characteristics (such as the size of the committee, frequency of meetings, committee independence, financial expertise

of members and gender representation) on CSR disclosure in listed companies within Australia.

Second, the findings of this study contribute to agency theory by illustrating the relationship between AC characteristics and voluntary CSR disclosure, which can minimise the information asymmetry between managers and shareholders and therefore minimise agency problem and agency costs.

Contributions to the practice

This study makes several contributions to the practice. First, the findings will contribute to practice by providing valuable information to regulators in developing new corporate governance rules and policies regarding ACs and CSR disclosures.

Second, the findings will contribute to practice by providing useful information to all shareholders. This study should assist the shareholders of listed companies with ACs by highlighting important considerations when appointing AC members. It also assists other shareholders of listed companies with no ACs by providing them with useful information regarding the benefits of establishing ACs with specific characteristics.

Finally, the findings should be of interest to the managers of all Australian listed companies, including those with and without established ACs, by providing important information regarding voluntary CSR disclosure. Jensen and Meckling (1976) note that one of the elements of agency cost is the “bonding cost”⁵ paid by managers, and that bonding costs can be minimised by enhancing voluntary disclosure. This study therefore, assists managers in making decisions about CSR disclosures to minimise the bonding cost.

⁵ Bonding cost is incurred by managers to guarantee that they do not engage in activities to harm shareholders (Jensen and Meckling, 1976).

1.5 Structure of the thesis

The remainder of this thesis is organised as follows:

Chapter 2 literature review: This chapter reviews related literature on ACs and CSR disclosure and develops hypotheses drawing on Agency theory.

Chapter 3 research method: This chapter outlines the research method including sampling and data collection.

Chapter 4 results: This chapter presents findings of multiple regression analysis.

Chapter 5 conclusion: This chapter discusses the findings, and presents a summary and concluding remarks, limitations and avenues for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews prior literature regarding the specific characteristics of ACs and CSR disclosure. Section 2.2 presents theoretical framework of this study. Section 2.3 provides some insight into CSR disclosure and AC characteristics in Australia. Section 2.4 develops hypotheses, drawing on agency theory, as the framework of this study and related literature. Section 2.5 presents a summary of the chapter.

2.2 Theoretical framework

Previous studies of voluntary disclosure have used agency theory increasingly to examine the impact of corporate governance on voluntary disclosure (e.g., Li *et al.*, 2012; Ho and Taylor, 2013; Cerbioni and Parbonetti, 2007; Lim *et al.*, 2007; Lambert, 2001; Ho and Wong, 2001). According to Cerbioni and Parbonetti (2007), agency theory developed by Jensen and Meckling (1976) provides a framework to examine the relationship between voluntary disclosure and corporate governance mechanisms. Lambert (2001, p. 4) also notes “the primary feature of agency theory that has made it attractive to accounting researchers is that it allows us to explicitly incorporate conflicts of interest, incentive problems, and mechanisms for controlling incentive problems”. Further, Lim *et al.* (2007) also examine the link between voluntary disclosure and corporate governance mechanisms within agency theory. In addition, most of the CGPRs issued by ASXCGC in Australia have been developed in line with agency theory (ASXCGC, 2010). Therefore, following previous studies and CGPRs, this study also uses agency theory to analyse the relationship between AC characteristics and CSR disclosure.

According to Jensen and Meckling (1976, p. 308), an agency relationship is “a contract under which one or more persons (the principal(s)) engages another person

(the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent”. Shareholders as principals appoint managers as agents to control and manage the company and maximise shareholders’ wealth on their behalf. Due to the separation of ownership and control, an agency problem arises when managers increase their own personal wealth at the cost of the shareholders’ wealth (Fama and Jensen, 1983). Fama and Jensen (1983, p. 304) note, “agency problems arise because contracts are not costlessly written and enforced”.

An agency problem leads to the agency costs. Fama and Jensen (1983, p. 304) define agency costs as “costs of structuring, monitoring and bonding a set of contracts among agents with conflicting interests. Agency costs also include the value of output lost because the costs of full enforcement of contracts exceed the benefits”. According to Jensen and Meckling (1976) agency cost is the combination of “monitoring cost”, “bonding cost” and “residual loss”. “Monitoring cost” is the cost incurred by shareholders to introduce appropriate incentives for managers to minimise the agency problem. “Bonding cost” is paid by the agents to guarantee that they do not take any harmful actions against shareholders. “Residual loss” is the dollar value of discomfort experienced by shareholders due to the differences in the decisions made by managers and the ideal decisions expected by shareholders to be made by managers. Jensen and Meckling (1976) note that the agency costs exist in all the agency relationships.

Fama and Jensen (1983) argue that the main factor contributing to the agency problem is the information asymmetry between shareholders and managers. Because of the separation of ownership and control, managers seem to have more information than shareholders about the present and future operations of the firm. Cerbioni and Parbonetti (2007) note that managers will make choices to maximise their own benefits in the presence of information asymmetry. Lim *et al.* (2007) also highlight that managers tend to manipulate accounting numbers to maximise their own benefits.

To minimise the information asymmetry problem, shareholders and regulators put pressure on managers to increase disclosure in listed companies' annual reports including non-financial disclosure, such as CSR disclosure.

2.3 CSR disclosure

There are two dimensions of corporate disclosure such as mandatory and voluntary disclosure. Mandatory disclosures include disclosures made to satisfy regulatory requirements. Voluntary disclosure amounts to "disclosures in excess of requirements which represent free choices on the part of company managements to provide accounting and other information deemed relevant to the decision needs of users of their annual reports" (Meek *et al.*, 1995, p. 555). One of the elements of voluntary disclosure is the CSR disclosure of companies' CSR activities.

CSR activities refer to the actions taken by an organisation in relation to different CSR elements. CSR activities of a company usually mean the company's commitment to spend its economic resources to benefit its internal and external stakeholders, such as shareholders and employees (Saleh *et al.*, 2010; WBCSD, 2014). CSR activities might be positive, such as steps taken towards employees' wellbeing. They might be negative such as water pollutant activities done to the environment by mining companies. According to Young and Marais (2012), these CSR activities can be categorised as:

- (1) Labour, focusing on the major concerns of employees, working conditions, industrial relations and fight against discrimination;
- (2) Business ethics, focusing on reinforcement of an ethical atmosphere within the company and protecting human rights in business;
- (3) Community, focusing on how companies are involved in local communities through charitable actions;
- (4) Environment, focusing on protection of natural environment;
- (5) Business behaviour, arising from the major CSR concerns of companies' business partners;

- (6) Finance and governance, focusing on financial aspects of CSR and corporate governance principles; and
- (7) Aggregated and local CSR policy, focusing on how companies report on formalisation of the CSR management and how to engage with different stakeholders.

CSR activities and CSR disclosures are different but they are connected. CSR disclosure refers to the process of sharing and communicating CSR activities with different stakeholders. Managers use discretion in selecting what to disclose and to what extent to disclose matters to the stakeholders (Jackson and Apostolakou, 2010; Young and Marais, 2012). Tagesson *et al.* (2009) state that companies usually tend to disclose more about what they get criticised for. For example oil, mining and chemical companies mainly disclose information about the environment, health and safety. Companies in the finance and service industry usually disclose more about social issues. Studies on CSR disclosure and the theme and type of disclosure indicate that most companies disclose generally positive social performance rather than negative and harmful activities to the environment (Brown and Deegan, 1998; Ghazali, 2007; Hackston and Milne, 1996). For example, Ghazali (2007, p. 254) notes “companies tend to disclose only favourable aspects of social and environmental activities”. In this regard, Graham *et al.* (2005) also note that managers report bad news quicker than good news. They do so to build a reputation for transparent reporting, as well as to avoid potential lawsuits. However, bad news is sometimes postponed to allow for careful examination, understanding, and possible merger into larger news releases.

Deegan and Samkin (2006) identify two reasons for CSR disclosure: (1) to show managers’ responsibility regarding various stakeholders and to earn legitimacy; and (2) to minimise the pressure from various stakeholder groups. According to other studies, political cost is also a motivation for companies’ CSR reporting (Ghazali, 2007; Hagerman and Zmijewski, 1979; Watts and Zimmerman, 1978). According to Watts and Zimmerman (1978), political cost is a cost by external stakeholders imposed on a company due to some political actions. For example, high profit of a company might cause lobby groups to take action for increase in share of that profit.

2.3.1 Advantages of CSR disclosure

CSR disclosure can benefit firms financially and non-financially. For example, Dhaliwal *et al.* (2011) note that CSR disclosure benefits firms financially by reducing the firm's cost of capital. Dhaliwal *et al.* (2012) also state that CSR activities can improve financial performance of a firm by affecting sales, costs, financing and litigation risk. Bachoo *et al.* (2013) find that there is a significant positive relation between CSR disclosure quality and the expected future performance of firms. Dhaliwal *et al.* (2012) also claim that CSR disclosure leads to a reduction of the firms' cost of capital by increasing their share value and attracting more institutional investors. In addition, Goss and Roberts (2011) claim that firms with better CSR performance and disclosure usually have a better chance of being approved for finance by banks. Moreover, CSR activities can increase brand value and a firm's reputation when consumers become informed about the firm's CSR activities. Due to this, firms with inefficient disclosure processes tend to disclose more on CSR activities (Dhaliwal *et al.*, 2012).

Firms with good reputations for CSR activities seem to enhance their employees' welfare. Consequently, they are more likely to attract more talented employees (Edmans, 2011). Higher employee welfare also usually means higher employee satisfaction, leading to a greater financial performance (Banker and Mashruwala, 2007). Additionally, firms operating within industries with strict rules and regulations might attract greater media coverage, and be well treated by regulators when they have made a reputable name regarding CSR issues through CSR disclosures. Therefore, CSR disclosure can also benefit firms non-financially (Brown *et al.*, 2006; Dhaliwal *et al.*, 2012).

2.3.2 Regulatory framework of CSR disclosure in Australia

In Australia, CSR disclosure practices are influenced by national and international codes and guidelines. International guidelines and assessment devices⁶ are related to human rights, workers' rights, employee relations, corruption and environmental

⁶ Including UN Global Compact, Global Reporting Initiative 2002, Sustainability Reporting Guidelines (GRI), World Business Council for Sustainable Development (WBCSD), Implementation of basic workplace rights (SA8000), and Procedures for environmental management (ISO14000).

issues. These guidelines are mostly voluntary or only binding to signatory organisations⁷. However, it is mandatory for Australian listed companies to comply with Australian codes including Audit Reform and Corporation Disclosure (CLERP 9)⁸, The Parliamentary Joint Committee on Corporations and Financial Services and Corporations Act 2003⁹ (Appendix 2). For example, CLERP 9 enquires into corporate responsibility and triple bottom-line¹⁰ reporting for organisations operating in Australia. According to the Corporations Act 2003, Australian listed companies are required to provide details of breaches of environmental laws and licences in their annual reports; and to disclose the extent that labour standards or environmental, social or ethical considerations are taken into account in investment decision making.

2.3.3 Audit committee as a corporate governance mechanism

Corporate governance mechanisms have been introduced by regulators to minimise information asymmetry and the agency problem (Healy and Palepu, 2001). Corporate governance is a framework of legal, cultural and institutional elements. It is designed to guide managerial decision-making in regards to the stakeholders (Weimer and Pape, 1999). Corporate governance practices include board size (i.e. number of directors), board composition (i.e. proportion of independent directors), board leadership (i.e. CEO duality, that is whether the CEO is also the chair of the board), board structure (i.e. composition of the audit, nomination and remuneration committees) and ownership structure. According to Li *et al.* (2008), the boards can be very important due to their administrative role of disclosing information in the annual reports.

Fama and Jensen (1983) note that independent directors monitor managers on behalf of the shareholders and reduce information asymmetry between managers and

⁷ Companies that had agreed to comply with these guidelines and assessments.

⁸ Audit Reform and Corporate Disclosure (CLERP 9) was implemented by ASIC in 2004 after the collapse of HIH. One of the requirements of CLERP 9 is more transparent disclosure by companies in their reports.

⁹ Corporations Act 2003 is amended with some changes to Act 2001. New amendments require firms to improve disclosure of executive remuneration.

¹⁰ Triple bottom line is an approach to business which considers economical dimension, and social and environmental dimensions of sustainable development (Elkington, 1997).

shareholders by conducting voluntary disclosure, such as CSR disclosure (e.g., information about labour, community, environment, etc.). In this regard, Lambert (2001, p. 4) notes, “the reason we insist on having an “independent” auditor is that we do not believe we can trust managers to issue truthful reports on their own”. Lim *et al.* (2007) also note independent directors can control the agency problem and reduce information asymmetry between managers and shareholders by providing more voluntary disclosure. Fama and Jensen (1983) claim increasing monitoring of a company’s corporate governance and disclosure can reduce the agency problem. Ho *et al.*’s (2008) examination of 30 Malaysian companies indicates a significant relationship between enhanced corporate governance structure and level of voluntary disclosure.

The AC is considered by prior studies one of the most important corporate governance mechanisms to minimise information asymmetry through reviewing and monitoring managers’ actions, enhancing the reporting process and disclosure, and improving auditing and internal control (Fama and Jensen, 1983; Li *et al.*, 2012; Bedard *et al.*, 2004; Li *et al.*, 2008; Ho and Wong, 2001; Mangena and Pike, 2005).

The link between AC characteristics and CSR disclosure is derived from the principle that ACs represent a corporate governance mechanism formed to oversee managers’ behavior on behalf of shareholders and to supervise the reporting process of organisations to enhance disclosures. By enhancing disclosure, ACs assist to minimise information asymmetry leading to agency problems between managers and shareholders (Fama and Jensen, 1983). Moreover, voluntary CSR disclosure is an avenue to reduce information asymmetry and the agency problem (Healy and Palepu, 2001). Some recent studies highlight the importance of voluntary CSR disclosure in reducing information asymmetry and the agency problem (e.g., Cormier *et al.*, 2001; Dhaliwal *et al.*, 2011). Dhaliwal *et al.* (2011) note that using CSR disclosure reduces a firm’s cost of capital.

In Australia, CGPRs issued by ASXCGC specify the nature and characteristics of ACs. According to ASXCGC recommendation 4.1, a board of directors should

establish an AC. The principle also notes that ACs should have at least three members who are non-executive directors. The majority of the AC members should be independent directors. The AC must be chaired by an independent chair¹¹. Further, the principle specifies that the ACs should have a formal charter and the companies should provide the information indicated in the guide to reporting on this Principle.

ACs of listed firms in Australia are also influenced by the Listing rules issued by ASX. According to the ASX Listing rule 12.7 (2010), all ASX Top-500 companies must have ACs. ASX Top-300 companies must comply with the Principle 4 requirements. If they do not comply with the recommendations, they must disclose the reason for “non-compliance”.

CGPRs had been changed over the time. The latest changes in the third edition were made on 27 March 2014 and were to be effective from 1 July 2014 (Appendix 1). Prior to these changes, in June 2010 corporate governance principles and recommendations with 2010 amendments had been released as explained above (ASXCGC, 2014). Prior to that, Principle 7 (released in June 2009) was revised to ensure appropriate disclosure and communication to stakeholders regarding risk and risk management. In August 2007, corporate governance principles and recommendations were revised and before that, in 2003, principles of good corporate governance and best practice recommendations were released regarding AC formation and characteristics.

2.4 Hypotheses development

This section develops hypotheses by drawing on agency theory, the literature on AC characteristics and voluntary disclosure in general and CSR disclosure more specifically.

¹¹ Independent chair is explained in detail further in this chapter in the hypothesis section.

2.4.1 Audit committee characteristics

Prior studies identify different characteristics of an AC. These can affect auditing processes and performance of corporate governance responsibilities. For example, Li *et al.* (2012) examine whether AC characteristics such as size, frequency of meetings, independence, financial expertise and shareholding are effective on intellectual capital disclosure. Mangena and Pike (2005) also examine whether size, independence and financial expertise are effective in terms of the auditing process. Similarly, Carcello and Neal (2003) examine independence, expertise, stockholding of ACs, and the dismissal of the external auditor following the issuance of a going-concern report.

Further, in Australia, CGPRs issued by ASXCGC (2010) note that all top 500 listed companies must have ACs and specified AC characteristics such as size, frequency of meetings, composition and financial expertise. Therefore, consistent with prior studies, this study focuses on AC characteristics such as size, frequency of meetings, independence, members' financial expertise, and gender representation. It also develops hypotheses in regard to the influence of AC characteristics and CSR disclosure in Australian listed companies.

Size of audit committee and CSR disclosure

Size of the AC refers to the number of members in the AC. Although larger ACs might facilitate more expertise and diversity, it might also increase agency cost due to the issues associated with communication, coordination and control based on agency theory (Jensen, 1993). Jensen (1993, p. 865) notes, "Keeping boards small can help improve their performance. When boards get beyond seven or eight people, they are less likely to function effectively and are easier for the CEO to control". It can be similar to ACs since the AC is a sub-committee of the board. In this regard, ASX (2010) recommendation 4.2 requires that ACs have a minimum of three members in order to have adequate expertise in discharging their monitoring and reporting responsibilities. ACs need to have sufficient resources and authority in terms of expertise and diversity, in order to perform their monitoring and reporting responsibilities (Mangena and Pike, 2005; DeFond and Francis, 2005). Bedard *et al.*

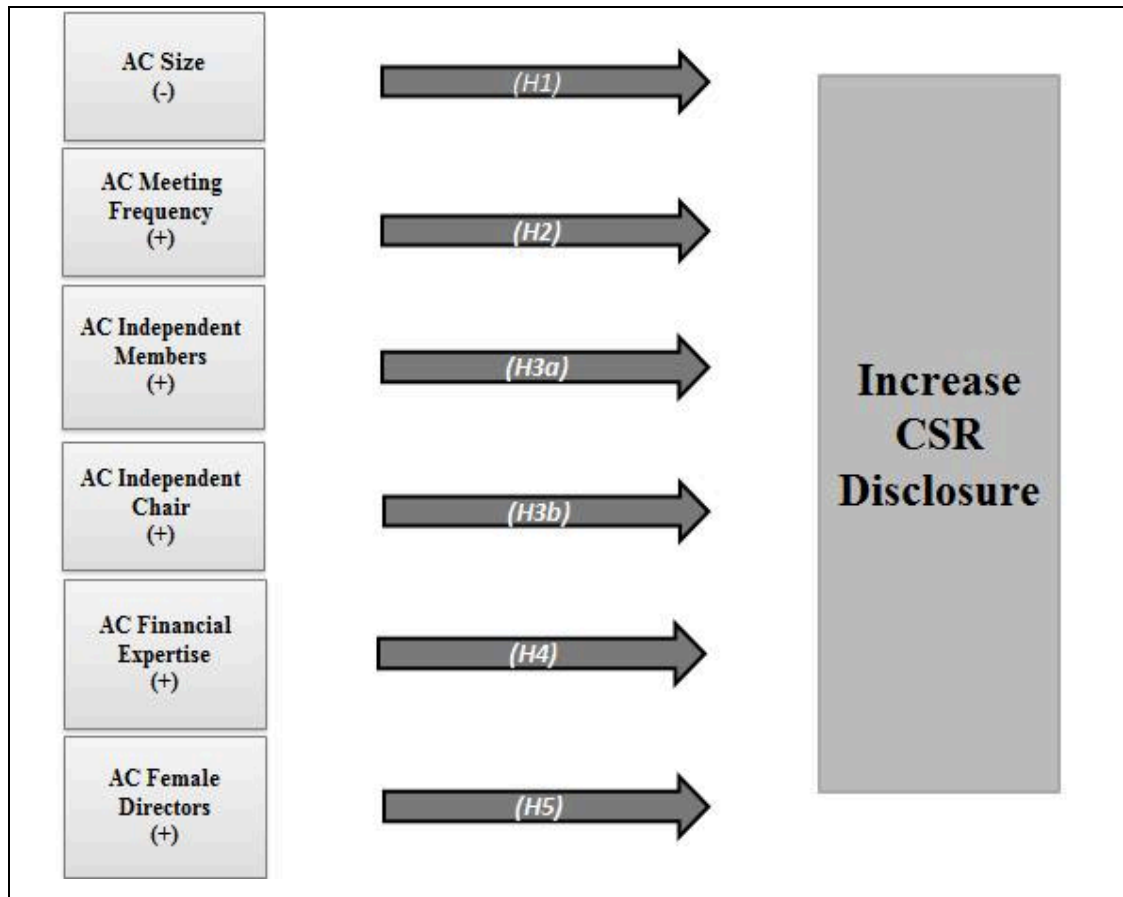
(2004) claim that the larger the AC is, the more likely it is to reveal potential problems in reporting processes due to the mixture of views and expertise. This indicates that the size of the AC is an important element in producing meaningful reporting (Klein, 2002). However, with increases in the number of members, free riders might appear (Li *et al.*, 2012; Klein, 2002). Indeed, each member might come to rely on the others' efforts and might not discharge their responsibilities adequately. This will, in turn, lead to potential problems.

While studies seem to support this view generally, empirical findings are inconsistent and the literature shows mixed results. Some research has found a positive association between AC size and financial reporting quality (Kim *et al.*, 2012). While, others have found no significant association between AC size and the extent of disclosure in interim reports (e.g., Mangena and Pike, 2005). Cerbioni and Parbonetti (2007), using a sample of 54 European companies found a negative association between board size and the IC disclosure level. In contrast, Li *et al.* (2012) and Li *et al.* (2008) using 100 U.K listed companies found a positive association between the AC size and intellectual capital (IC) disclosure. Therefore, in line with agency theory and considering the general view of prior studies this study hypothesises that:

H1: There is a negative association between the AC size and the level of CSR disclosure, ceteris paribus.

Figure 1 below provides more detail about the hypotheses.

Figure 1 - Hypotheses



Frequency of audit committee meetings and CSR disclosure

Frequency of AC meetings refers to the number of meetings held by ACs per financial year. Based on agency theory, the AC as an important corporate governance mechanism is responsible to monitor managers and enhance the reporting process of the company in order to reduce information asymmetry. In this regard, ACs need to spend adequate time to monitor managers. In line with agency theory, CGPRs by ASXCGC (2010) also, require ACs to meet frequently during each financial year in order to spend plenty of time to discover potential risks and enhance disclosure. Karamanou and Vafea (2005) claim that the frequency of AC meetings leads to a better monitoring performance due to the increased responsibility to monitor and supervise the managers and the reporting process. Agrawal and Chadha (2005) suggest that it might not be easy for an outsider(s) to

uncover accounting irregularities and fraud in large companies within a short period of time. Therefore, it is essential that ACs spend enough time and conduct regular meetings to uncover potential problems. Empirical findings of Li *et al.* (2008) and Li *et al.* (2012), using 100 U.K listed companies, indicate a positive association between the frequency of AC meetings and the level of IC disclosure. Similarly, Kelton and Yang (2008) using 248 U.S listed companies found positive associations between the frequency of AC meetings and internet financial reporting. Therefore, in line with agency theory, and consistent with prior studies, this study hypothesises that:

H2: There is a positive association between the frequency of AC meetings and the level of CSR disclosures, ceteris paribus.

Audit committee independence and CSR disclosure

AC independence refers to the proportion of independent outside directors on the AC. CGPRs of ASXCGC (2010) define an independent director to be a non-executive director who is not a manager of the company and is free of any interest, business or any other relationship. ASXCGC (2010) recommendation 4.2 requires that ACs consist of only non-executive directors where the majority are independent directors chaired by an independent chair who is not the chair of the board. This composition is more likely to add value to the organisation.

Based on agency theory, independent directors are more likely to monitor the managers' actions effectively to enhance disclosure and therefore, to minimise information asymmetry and agency problems (Fama and Jensen, 1983). According to Fama (1980), the inclusion of outside independent directors might reduce the possibility of collusion by managers and the expropriation of shareholders' wealth.

Carcello and Neal (2003) and Mangena and Pike (2005) state that independent ACs are more likely to be free from management influence. Therefore, they monitor the quality of the reporting process more effectively, and the result is less information asymmetry. Haniffa and Cooke (2002), claim that independent directors can enrich

the organisation by providing expertise, prestige and impartial decision-making. However, empirical studies report mixed results.

Mangena and Taurigana (2007) and Li *et al.* (2008) examined samples of 262 and 100 companies in the U.K. Their results indicate a positive association between the level of AC independence and non-mandatory statements of best practice. Khan *et al.* (2013) and Huafang and Jianguo (2007) have also found a positive relationship between the proportion of independent board members and extent of CSR disclosure. Similarly, Kelton and Yang (2008), in an examination of 248 U.S listed companies found a positive and significant relationship between independent directors and internet financial reporting. Similarly, findings of Oliveira *et al.* (2011) examining 81 Portuguese companies (42 listed and 39 unlisted), suggest that the presence of independent directors increases risk-related disclosure.

In contrast, Li *et al.* (2012) examined 100 U.K listed firms but found no significant relationship between AC independence and voluntary disclosure. Ho and Wong (2001) examined 92 companies in Hong Kong have found no relationship between independent directors and voluntary disclosure. Haniffa and Cooke (2005) examining 139 Malaysian companies found a negative association between the independent board and CSR disclosure level. Agrawal and Chandha (2005) examining 159 U.S companies found a lower financial restatement in firms with independent ACs and boards. Findings of Kang *et al.* (2011) examining 288 Australian companies indicate a positive effect in terms of the proportion of independent AC members in reducing earnings management, and a negative effect in terms of the presence of the AC independent chair in reducing earning management. Therefore, in line with agency theory and considering inconsistent findings, this study hypothesises that:

***H3a:** There is a positive association between the proportions of AC independent members and the level of CSR disclosure, ceteris paribus.*

H3b: There is a positive association between the presence of the AC independent chair and the level of CSR disclosure, ceteris paribus.

Audit committee's financial expertise and CSR disclosure

AC financial expertise refers to the level of accounting and financial knowledge possessed by members of the AC, and the proportion of members with accounting and financial expertise on the AC. Based on agency theory, in order to supervise managers and the reporting process effectively, the board of directors and in particular, ACs require essential knowledge and expertise. Jensen (1980, p. 864) notes, "The board requires to provide input into the financial aspects of planning—especially in forming the corporate objective and determining the factors which effect corporate value". ASXCGC (2010, p. 27) recommendation 4.2 requires that the ACs to have financial expertise in order to be able to discharge their mandatory role effectively. It clearly states "the AC should include members who are all financially literate (that is, to be able to read and understand financial statements). At least one member should have relevant qualifications and expertise (that is, to be a qualified accountant or other finance professional with experience of financial and accounting matters)". Possessing some level of financial and industry expertise enhances the ability of question asking of AC members and so the effectiveness of their role (Levitt, 2000).

An empirical study by Kang *et al.* (2011) examining 288 Australian listed companies found that companies with at least one financial expert on their AC disclose less earnings management. Similarly, findings of Bedard *et al.* (2004) using two groups of U.S firms, indicate that aggressive earnings management is negatively associated with the financial and governance expertise of AC members. Findings of Mangena and Pike (2005), using 262 U.K companies suggest that there is a positive relationship between AC financial expertise and the level of interim disclosure. However, Li *et al.* (2012) using 100 U.K listed companies, found no significant association between AC financial expertise and the level of intellectual capital disclosure. Further, Kelton and Yang (2008) found a positive association between AC financial expertise and increased internet disclosure using a sample of 284 U.S

companies. In this regards, current study argues that well educated and expert AC members are better prepared for their monitoring roles. Hence, in line with agency theory, and consistent with prior studies, this study hypothesises that:

H4: There is a positive association between the level of financial expertise of AC members and the level of CSR disclosures, ceteris paribus.

Audit committee members' gender and CSR disclosure

Gender refers to the proportion of female directors on the AC. ASXCGC (2010) recommendation 3.4 requires that women must be present on boards. ASXCGC (2010, p. 25) states "Companies should disclose in each annual report the proportion of women employees in the whole organisation, women in senior executive positions and women on the board". There is evidence that the presence of women on boards can increase a corporation's value. For example, two benefits of having women on boards mentioned by Kang *et al.* (2007) and Brennan and McCafferty (1997), include (1) women are not part of the "old boys" network and this might allow them to act in a more independent manner; and (2) they might have a better perspective in relation to consumer behaviour, customers' needs, and better answers for companies in meeting those needs. Bernardi *et al.* (2009) found a higher percentage of women on boards resulted in more companies being listed on most ethical companies' magazines using a sample of the Fortune 500 U.S companies. Nalikka (2009) examined 108 annual reports of companies listed on the Helsinki Stock Exchange and found firms with more Female Chief Financial Officers (FCFO) on the board had high level of voluntary disclosures in their annual reports. However, Francoeur *et al.* (2008), using a sample of 230 Canadian firms, reported that while firms in complex environments generate positive and significant abnormal returns when they consist of a high proportion of female officers, the participation of female directors does not make a big difference. Regarding the number of female directors, the empirical findings of Kang *et al.* (2007), using 100 Australian listed companies, indicate that gender diversity in Australian boards is unexpectedly low in comparison to the U.S. However, it is higher than the female representation in some European and Asian countries.

Therefore, considering CGPR and drawing on prior literature, this study hypothesises that:

***H5:** There is a positive association between the proportion of female directors on the AC and the level of CSR disclosure, ceteris paribus.*

2.5 Summary

This chapter provided background regarding agency theory and reviewed previous studies of various AC characteristics. The chapter developed hypotheses regarding the relationships between AC characteristics and CSR disclosure as a proxy for voluntary disclosure. These AC characteristics were drawn from ASX recommendation 4.2 (2010) and previous studies. It is expected that these characteristics will support ACs in discharging their monitoring role and increasing the level of CSR disclosure in Australian listed companies.

CHAPTER THREE

RESEARCH METHOD

3.1 Introduction

This chapter focuses on the research method used in this study. Section 3.2 explains sample selection method, data collection and data sources used. Justification for use of content analysis and CSR disclosure instruments and scoring methods are explained in this section. Section 3.3 explains the measurement of variables including dependent variables, independent variables and control variables. Section 3.4 explains the analytical method used to analyse data. Section 3.5 provides a summary of the chapter.

3.2 Research method

3.2.1 *Sample selection*

To select a sample for this study, the following steps were taken. First, as shown in Table 1, all ASX listed companies as at 6 July 2014¹² were identified (n = 2158). Second, all firms in the financial sector were excluded (n = 234). Third, firms in the utility sector were excluded from the list (n = 30). Fourth, trading trusts and companies with no GICS code¹³ (n = 201) and classified as pending companies (n = 16) were excluded. Fifth, since this study focuses on AC characteristics, all companies without ACs were also excluded from the list (n = 566). Sixth, firms with no annual reports, and suspended firms, were excluded (n = 377). Seventh, firms with a different financial year end (e.g., 31 December) were excluded (n = 118). Then the final target population of 616 was identified (Table 1).

¹² The reason for focusing on ASX listed companies in 2014 financial year, is that it is the most recent year of data available.

¹³ GICS (Global Industry Classification Standard) is a joint Standard and Poor's/Morgan Stanley Capital International product aimed at standardizing industry definitions. To bring Australia in line with the rest of the world Standard and Poor's have reclassified all ASX listed entities according to GICS. From 1 July 2002 the ASX industry classification became redundant (ASX, 2014) (Appendix 3).

Table 1 - Sample selection

Sampling steps	No. of ASX listed firms
As at 1 July 2014	2158
Less: Companies in the financial sector (including banks, insurance and diversified financials and real estate) (124+13+12+85) =234	
Banks	(13)
Insurance	(12)
Diversified financials	(124)
Real estates	(85)
Less: Companies in the utility sector	(30)
Less: Trusts and firms with no GICS classification	(201)
Less: Companies with classified pending	(16)
Target population including companies without AC	1677
Less: Companies with No AC	(566)
Target population excluding companies without AC	1111
Less: Companies with no annual report /suspended	(377)
Less: Companies with different financial year	(118)
Final target population	616
Sample selected for analysis	200

The reason for excluding firms within the financial sector is that they are bound by different regulatory requirements due to their unique asset structures and specialist audit requirements (Goodwin-Stewart and Kent, 2006). That is, these firms are subject to a tighter regulatory environment and have to comply with additional disclosure requirements¹⁴ (Ho and Taylor 2013; Ho *et al.*, 2008). Therefore, consistent with other studies such as Haniffa and Cooke (2005); Haji (2013); Ghazali (2007), this study also excludes these firms. The reason for excluding firms within the utility industry is that these firms are also subject to stricter regulatory requirements (Snider *et al.*, 2003; Haji, 2013). These firms are also required to comply with more specific disclosure requirements due to differences in the nature of their industry type and their higher social and environmental impacts. For example, these firms are subject to the National Greenhouse and Energy Reporting Act 2007¹⁵ to report their greenhouse gas emissions consumptions and productions.

¹⁴ Australian Prudential Regulation Authority (APRA) oversees banks, credit unions, building societies, general insurance and reinsurance companies, life insurance, friendly societies and most members of the superannuation industry. APRA is funded largely by the industries that it supervises. It was established on 1 July 1998 (APRA, 2014).

¹⁵ The National Greenhouse and Energy Reporting (NGER) Scheme was introduced in 2007 to provide data and accounting in relation to greenhouse gas emissions and energy consumption and production. The Scheme was administered by the Greenhouse and Energy Data Office on behalf of the Department of Climate Change and Energy until 1 April 2012, when the Clean Energy Regulator took on that role. The initial instrument, the *Determination* 2008, has been updated annually since 2009, reflecting updates to emission factors, improvements in estimation methods and responses to feedback from stakeholders through public consultations (DoE, 2014).

After excluding these firms, the population size of 616 was available for analysis. The study aimed to collect data from 200 firms. In order to design a sample size this study used Moser and Kalton's (1971, p. 147) formula as follows:

$$n = \pi (1-\pi) / [\text{S.E. } (p)]^2$$

Where:

n	=	required sample size
π	=	proportion of the particular attribute in the population (estimated at 50%, a value that is always assumed to be the maximum variance)
S.E. (p)	=	standard error allowed for in the study (set at 5%)

Based on this formula, the minimum required sample size is 100. In stratified random sampling the population is divided into the number of categories or strata, according to some attributes (Moser and Kalton, 1971), then a sample is randomly selected from each stratum and is proportionate to the size of the relative strata. In this study, the strata are the industry groups including 19 industries categorised into 8 sectors (Table 2).

Prior studies on voluntary disclosure have also used this formula in designing their sample size. For example, Li *et al.* (2012) used this formula to select 100 U.K firms to examine the relationship between AC characteristics and IC disclosure. The reason for choosing stratified random sampling is that this technique allows for representativeness of the whole target population and provides for better understanding of companies' activities within different sectors of the ASX. Since the industries' size in the population is different, this technique allows simple random sampling within each industry. Therefore, it ensures the representativeness of all industries (Haji, 2013; Amran and Devi, 2008; Li *et al.*, 2012).

Initially 200 companies were selected as the sample for this study. However, during the data collection process the sample size was reduced to 181 due to the exclusion of firms with missing data relating to the AC¹⁶.

The sample includes at least one company from industries with the proportion of less than 1% of the population size to ensure representativeness of the sample. This sample includes both large and small companies, as well as local and multinational companies. This allows for generalisability of the findings of this study. Table 2 presents the full sample, sample composition and population composition for each industry.

¹⁶ Since companies with no AC, missing data and abnormal information was deleted from the list during sampling procedure, deleting outlier was not a problem in this study.

Table 2 - Sample proportion

GICS industry sector	Industry segment	Full sample	Sample composition ^ %	Population composition ^ %	Proportion of sample to population ^ %
Energy	Energy	27	14.94	14.92	4.39
Materials	Materials	65	36.36	35.91	10.68
Industrials	Capital Goods	14	7.95	7.74	2.34
	Commercial & Professional Services	6	3.41	3.32	1.00
	Transportation	5	2.60	2.76	0.76
Consumer Discretionary	Automobile & Components	2	0.97	1.11	0.29
	Consumer Durables & Apparel	4	2.11	2.21	0.62
	Consumer Services	7	3.73	3.87	1.10
	Media	6	3.25	3.32	0.95
	Retailing	9	4.71	4.97	1.38
Consumer Staples	Food Beverage & Tobacco	3	1.62	1.66	0.48
	Food & Staples Retailing	1	0.65	0.55	0.19
	Household & Personal Products	1	0.32	0.55	0.10
Health Care	Health Care Equipment & Services	6	3.57	3.32	1.05
	Pharmaceuticals, Biotechnology & Life Sciences	9	5.19	4.97	1.53
Information Technology	Semiconductors & Semiconductor Equipment	1	0.49	0.55	0.14
	Software & Services	6	3.57	3.32	1.05
	Technology Hardware & Equipment	4	1.95	2.21	0.57
Telecommunication services	Telecommunication Services	5	2.60	2.76	0.76
Total		181	100.00	100.00*	29.38

^ Composition as at 6 July 2014

* Firms within no GICS Sectors as at 6 July 2014 were excluded from the population at the beginning of the sample selections for this study. Therefore, there is no difference between total percentage of sample and population compositions.

3.2.2 Data collection

Content analysis

Content analysis is a method to gather data and codify qualitative and quantitative information into pre-set categories in order to develop a model for presenting and delivering useful information (Krippendorff, 1980).

Many empirical studies in corporate social, ethical and environmental disclosure have used content analysis to collect data from annual reports. For example, Parker (2005) notes social and environmental accounting researchers have used content analysis as the major research method to collect empirical evidence.

Annual reports are considered an effective way of communicating CSR issues and activities to stakeholders (Li *et al.*, 2012; Mangena and Pike, 2005; Li *et al.*, 2008; Cerbioni and Parbonetti, 2007; Ho and Taylor, 2013; Ghazali, 2007; Saleh *et al.*, 2010; Hackston and Milne, 1996; Roberts, 1992; Neu *et al.*, 1998; Haji, 2013; Young and Marais, 2012). Tilt (2001) notes that content analysis of the annual report makes comparisons easier. Guthrie and Petty (2000) also consider the annual report as a significant useful source of information, since the managers usually use reporting mechanisms to share significant issues with stakeholders. Further, despite other sources of CSR data (such as stand-alone CSR reports, internet material, strategy plans, business plans and newspaper articles in contemporary CSR research), Guthrie and Abeysekera (2006) consider the use of annual reports to be the main source of data for content analysis.

Additionally, the annual report is an audited and reliable document that allows repeatability and valid inferences from data (Krippendorff, 1980). It also makes classification and comparison of information possible and easier for the users in their decision-making. Therefore, this study uses content analysis of annual reports to collect data to examine the influence of AC characteristics on the extent of voluntary CSR disclosure in Australian listed companies for the period 1 July 2012

to 30 June 2013¹⁷. Annual reports of all sample companies were downloaded from the *MorningStar DataAnalysis database* to collect AC characteristics and CSR information. Data for this study have been hand-collected from the annual reports.

To collect CSR disclosure data, a comprehensive checklist developed by Young and Marais (2012) was adopted as the data collection instrument (Appendix 4). The use of the checklist approach helps the study to codify qualitative and quantitative information into pre-set categories, as suggested by Krippendorff (1980). The checklist used is comprehensive and detailed. It was published in a high ranked scholarly journal and is widely cited by many studies. Further, the checklist includes 8 categories of CSR activities by extending the CSR categories of some previous studies (e.g., Tagesson *et al.*, 2009; Sagebien *et al.*, 2008). It seems to cover all of the known elements of the CSR disclosure of Australian listed firms.

Information about AC such as the size, frequency of meetings, AC independence, (independent members and independent chair), AC financial expertise and gender of the AC members were collected from directors' reports and the corporate governance section of annual reports.

3.3 Measurement of variables

To test the hypotheses developed in chapter 2, a model were developed to analyse collected data. The dependent variables, independent variables and control variables used in that model are as follows:

3.3.1 Dependent variables

The dependent variable is the level of CSR disclosure. Three methods are used to measure CSR disclosure level, including:

¹⁷ Even-though the new changes to ASX rules have been made on 27 March 2014 this study did not have access to annual reports affected by these new changes. Because these new changes are effective from 1st July 2014 and at the time of the data collection, many companies did not have 2014 annual reports published. Therefore, this study uses the latest annual reports affected by the previous changes made in June 2010.

First, the above-mentioned CSR checklist is used to collect qualitative CSR-related information from the annual reports to calculate a CSR disclosure index (CSRDI). This measures the “variety” of the CSR disclosure items disclosed by companies (Li *et al.*, 2008). If the company disclosed a particular pre-defined item in the checklist, that item is scored “1”, otherwise “0”. The checklist includes 98 items within 8 categories. At the end, the total score is divided by 98 (the maximum score possible, indicating full disclosure level). The final percentage value represents CSR disclosure level in a particular annual report by a particular firm, indicating the “variety” of CSR disclosure by that firm (e.g. Li *et al.*, 2008; Hackston and Milne, 1996; Cerbioni and Parbonetti, 2007; Young and Marais, 2012; Haji, 2013; Haniffa and Cook, 2005).

The CSR disclosure index (CSRDI) for each company is calculated based on the disclosure index score formula used by Li *et al.* (2008) and Haniffa and Cooke (2005) as follows:

$$CSRDI_j = \frac{\sum_{i=1}^{nj} X_{ij}}{n_j}$$

Where:

$$\begin{aligned} nj &= \text{number of items for } j^{\text{th}} \text{ firm} \\ nj &= 98 \\ X_{ij} &= 1 \text{ if } i^{\text{th}} \text{ item is disclosed, 0 if } i^{\text{th}} \text{ item not disclosed, so that } 0 \leq CSRDI_j \leq 1 \end{aligned}$$

Dichotomous scoring can be criticised for treating the disclosure of one item regardless of its content and emphasis given to that particular category. To overcome this limitation, the study also uses word count (CSRWC) to measure CSR disclosure level.

Second, CSR disclosure word count (CSRWC) measures “volume” consistent with Li *et al.* (2008). Based on this method each sentence containing CSR information

was identified. Then the total number of words in those sentences was counted and coded against each pre-defined category in the checklist. This process continued for all pre-defined items in the checklist, and throughout the whole annual report. At the end, the total number of CSR disclosure words were used as a natural logarithm of the total number of words (CSRWC_Ln), indicating the level of CSR disclosure by a particular company and therefore the volume of CSR disclosure by the firm.

In this process, the study uses words as the smallest unit of analysis (Gray *et al.*, 1995). Holsti (1969, p. 116) defined unit of analysis required in content analysis as a particular section of content that is illustrated by putting it into a specific classification. Unit of analysis can be word, sentence or paragraph (Gray *et al.*, 1995).

According to Krippendorff (1980) words are the preferred measure to assess the amount of total space given to a particular subject to emphasise the significance of that issue. Therefore, following Li *et al.* (2008) the study uses word count in order to keep the words' original meanings while providing a measure of the amount of disclosed information. This method also helps to avoid the drawbacks of decisions based on a dominant theme, such as sentence or paragraph.

Third, CSR disclosure sentence count (CSR_SEN) is used to measure "focus". Based on this method, sentences containing CSR-related information are counted and coded against each pre-defined item in the checklist. Similar to word count, this process continues for each pre-defined item in the checklist and throughout the whole annual report. Total number of sentences was used as a natural logarithm of the total number of sentences (CSR_SEN_Ln), indicating the level of CSR disclosure by a particular company and, therefore, its CSR disclosure focus.

The sentence count method is viewed by Gray *et al.* (1995) as a preferable method of content analysis with which to infer meaning. Milne and Adler (1999) claimed using sentences is complete, reliable and meaningful for coding and measurement. Following Milne and Adler (1999); Oliveira *et al.* (2006); Cerbioni and Parbonetti

(2008) and Hackston and Milne (1996), the study also uses the sentence as the unit of analysis. Sentences with CSR-related information in each annual report were counted and coded against each pre-defined category in the checklist.

After scoring the disclosed items on the checklist and calculating scores, the study obtains a CSR disclosure value to use in the regression model. It is expected that the extent of the CSR disclosure will differ with the change of the AC characteristics.

3.3.2 Independent variables

The independent variables in this study are AC characteristics such as size of the committee, frequency of committee meetings, independence of AC members and AC chair, financial expertise of AC members, and gender of AC members.

The study measured the size of the AC (SAC) as the number of members in the AC at the end of the year. Meetings frequency of the AC (MAC) is measured as the number of AC meetings per year. The independence of AC (IND_MEMBERS) was measured as the proportion of non-executive directors as members of the AC, holding no shares in the company. The study measured proportion of independent directors¹⁸ on board by dividing the number of independent directors by the total number of members on the AC. Presence of independent chair on the AC (IND_CHAIR) was measured as “1” if AC has an independent chair, or “0” otherwise. ASX (2010) recommendation 4.2 commentary¹⁹ requires that ACs have financial expertise to meet their supervision responsibilities. Therefore, the financial expertise of AC members (FEXP) was measured as the proportion of financial experts on the AC. The gender diversity of the AC (GENGER) was measured as the proportion of female directors on the AC. Details of all the variables can be found in Table 3.

¹⁸ Independent directors are non-executive directors, holding no shares in the company and no other interests in the company (ASX, 2010).

¹⁹ The AC should include members who are all financially literate (that is, able to read and understand financial statements); at least one member should have relevant qualifications and experience (i.e. a qualified accountant or other finance professional with experience of financial and accounting matters) (ASX, 2010).

Table 3 - Independent variables

Hypotheses & AC Characteristics	Independent Variables	Measurement
H1 Size of AC	SAC	Number of AC members
H2 Frequency of AC meetings	MAC	Number of AC meetings
H3a AC Independent members	IND_MEMBERS	Proportion of non-executive directors holding no shares in the company
H3b AC Independent chair	IND_CHAIR	“1” if AC has independent chair, “0” otherwise
H4 AC Financial expertise	FEXP	Proportion of financial experts on the AC
H5 AC members' gender	GENDER	Proportion of females on the AC

3.3.3 Control variables

In addition to the existing six AC variables, five more variables such as industry, profitability, financial leverage, firm size and firm locality were used to control, as other factors that might influence the AC variables and the level of CSR disclosure. These control variables have been identified based on previous studies on voluntary disclosure and AC characteristics (Li *et al.*, 2012; Cerbioni and Parbonetti, 2007; Li *et al.*, 2008).

Industry type (INDUSTRY)

Prior studies have found that the industry type that firm is operating within impacts on the level of CSR disclosure (e.g., Cowen *et al.*, 1987; Roberts, 1992; Gray *et al.*, 2001). Haniffa and Cooke (2005, p. 403) note “the influence of industry type on CSD practice depends on how critical the effects of their economic activities impacts on society”. Some industries disclose more on some specific area of social responsibility due to more pressure from government. For example, consumer-oriented industries tend to disclose more on social issues to improve their image and increase sales. Chemical industries tend to disclose more about environmental issues (Cowen *et al.*, 1987). This study uses (INDUSTRY) to derive a valid conclusion in case disclosures of firms are affected by their industry type. Table 4 shows the detail of the industry names and codes.

Table 4 - Industry type and code

Industry	Code	Industry	Code
Technology Hardware & Equipment	1	Retailing	11
Consumers Services	2	Consumer Durables & Apparel	12
Pharmaceuticals, Biotechnology & Life Sciences	3	Food & Beverage & Tobacco	13
Software & Services	4	Food & Staples Retailing	14
Media	5	Semiconductors & Semiconductor Equipment	15
Health Care Equipment & Services	6	Household & Personal Products	16
Automobile & Components	7	Energy	17
Commercial & Professional Services	8	Material	18
Transportation	9	Capital Goods	19
Telecommunication Services	10		

Profitability (ROA)

Prior studies such as Li *et al.* (2012), Cerbioni and Parbonetti (2007), Meek *et al.* (1995) and Li *et al.* (2008) indicate a positive association between profitability and level of disclosure. Profitability of a firm can result from a firm's investment in CSR activities. By increasing CSR disclosure, the firms aim to prove the quality of its long-term investments and to increase the firm's value. Haniffa and Cooke (2005) claim that profitable firms disclose CSR information to show their contribution to society. This study controls for the profitability of the firms and its impact on CSR disclosure by measuring the return on assets (ROA) as a ratio of the net income to total assets consistent with Li *et al.* (2012) and Cerbioni and Parbonetti (2007), Meek *et al.* (1995) and Li *et al.* (2008).

Company size (FSIZE_Ln)

Prior studies have found that company size is positively associated with the level of disclosure by companies. Gray *et al.* (1995) argue that in social and environmental reporting, the company size is important for voluntary disclosure. Similarly, Hossain *et al.* (1995) argue that larger companies are more likely to disclose more information in order to collect more outside capital and to satisfy investors' demands for disclosure. Findings of Li *et al.* (2008), Mangena and Pike (2005) and Haniffa and Cooke (2005) also suggest that there is a significant association between a firm's size and its level of disclosure. This study also measures firm size as the natural logarithm of total operating revenue. The reason for using total operating revenue instead of total sales for each company is because most of the mining companies in the sample of this study disclosed no sales. However, these

companies disclosed other operating revenue. In order to maintain consistency, total operating revenue is used for all the companies to measure company size.

Financial leverage (FLEV)

Meek *et al.* (1995) state that according to Jensen and Meckling (1976), companies with higher level of debt in their capital structure face higher agency costs due to the transfer of wealth from debt holders to shareholders and managers with leverage. Therefore, it is expected that voluntary disclosure will increase with leverage. Goss and Roberts (2011) also claim that firms with better CSR performance usually have a better chance of being approved for finance by banks. Therefore, firms with higher leverage are more likely to disclose CSR in order to get better finance. In addition, more CSR disclosure might satisfy investors' needs and attract more investors to invest in firms with higher CSR disclosure. However, Cerbioni and Parbonetti (2007) found no evidence of association between leverage and the level of intellectual capital disclosure. In contrast, Meek *et al.* (1995) found a positive association between leverage and voluntary disclosure level. This study controls for leverage (FLEV) by using the ratio of total debts to total assets.

Firm locality (FLOC)

Prior studies indicate that firm locality is related to the level of disclosure. According to Uddin and Choudhury (2008), multinational companies are subject to further regulations in terms of disclosure. Therefore, they are required to comply with both, their home countries disclosure requirements and their host countries disclosure requirements, due to the different corporate governance settings of the parent and subsidiary countries. Choi and Levich (1990) also claim that multinational corporations (MNCs) tend to disclose more, due to the variety of national accounting and reporting requirements, they are bound by. However, Meek *et al.* (1995) found a weak multinationality effect. That is, the less multinational an MNC is (i.e. the more 'domestic' a firm is), the more it tends to disclose non-financial information. This study therefore dichotomously controls for locality (FLOC) of the sample firms i.e. "1" if the firm is multinational and "0" if it is Australian.

Table 5 - Dependent, independent and control variables

Variable	Proxy	Measurement
<i>Dependent Variable</i>		
1 CSRD1	Variety of CSR disclosure	Number of items in the research instrument disclosed in the annual report divided by 98
2 <i>CSRWC_Ln</i>	Volume of CSR disclosure	Log of total number of words disclosed in relation to CSR in the annual report
3 <i>CSR_SEN_Ln</i>	Focus of CSR disclosure	Log of total number of sentences disclosed in relation to CSR in the annual report
<i>Independent Variables</i>		
1 Size of AC	(SAC)	Number of AC members
2 Frequency of AC meetings	(MAC)	Number of AC meetings per year
3 AC Independence	(IND_MEMBERS)	Proportion of non-executive directors holding no shares in the company
4 AC financial expertise	(IND_CHAIR)	“1” if AC chair is independent, “0” otherwise
5 AC members' gender	(FEXP)	Proportion of financial experts in AC
	(GENDER)	Proportion of females on the AC
<i>Control Variables</i>		
1 Industry	(INDUSTRY)	Refer to the Table 4 above
2 Performance: profitability	(ROA)	Net income / total assets for the financial year
3 Firm size	(FSIZE_Ln)	Operating revenue of financial year
4 Financial leverage	(FLEV)	Total liabilities / total assets
5 Locality of firm	(FLOC)	“1” if firm is multinational, “0” if firm is Australian

3.4 Analytical method

3.4.1 Multiple regression model

Using the above dependent, independent and control variables, the study designed the following multiple/logistic regression models based on three methods used for CSR disclosure measurement. This was done to test the hypotheses developed in chapter 2 and to find the relationship between CSR disclosure and AC characteristics. The reason for using multiple/logistic regression is that some of the variables in this study are binary and others are continuous (Swafford, 1981). Therefore, the use of multiple/logistic regression is necessary.

Model 1: CSR disclosure Index (CSRDI)

$$CSRDI = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \epsilon_i$$

Model 2: Log of CSR disclosure Word Count (CSR_WC_Ln)

$$CSRWC_Ln = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \epsilon_i$$

Model 3: Log of CSR disclosure Sentence Count (CSR_SEN_Ln)

$$CSR_SEN_Ln = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \epsilon_i$$

Where:

CSRDI	=	CSR disclosure index
CSRWC_Ln	=	log of CSR disclosure word count
CSR_SEN_Ln	=	log of CSR disclosure sentence count
SAC	=	size of AC, measured as number of AC members
MAC	=	AC meetings frequency, measured as number of AC meetings per year
IND_MEMBERS	=	independence of AC members, measured as a proportion of non-executive directors on AC, holding no shares in the company
IND_CHAIR	=	presence of independent chair on AC “1”, “0” otherwise
FEXP	=	financial expertise of AC members including formal education and professional experiences. Measured as the proportion of financial experts on AC
GENDER	=	gender of AC members, to measure the proportion of female directors on the AC
FSIZE_Ln	=	firm size, measured as log of total operating revenue
FLEV	=	financial leverage of the firm, measured by total liabilities / total assets
INDUSTRY	=	industry type that a firm is operating within
ROA	=	return on assets, to measure profitability, net income / total assets
FLOC	=	firm locality “1” if multinational, “0” if Australian
β	=	parameters
ε_i	=	error term
i	=	the i^{th} observation

3.5 Summary

This chapter reviewed the sampling and data collection procedures. 181 companies were selected from ASX listed companies based on stratified random sampling method. Three multiple regression models were developed to test the hypotheses in relation to the AC characteristics influencing the level of CSR disclosures. Dependent, independent and control variables in this model were explained in detail, including the measurements for each variable. The chapter described the three measures of dependent variables used in the study to ensure robustness of the analysis.

CHAPTER FOUR

RESULTS

4.1 Introduction

The purpose of this study is to examine the influence of AC characteristics such as size of AC, frequency of meetings, independence, financial expertise and gender of the AC members on CSR disclosure. This chapter analyses the findings of the regression models used to test the hypotheses developed in chapter 2. Section 4.2 provides the results of the reliability tests. Section 4.3 provides results of normality test. Section 4.4 presents descriptive statistics and multicollinearity. Section 4.5 explains the results of the regression model. Section 4.6 examines the hypotheses developed in chapter 2 based on the regression results. Section 4.7 develops models for additional tests. Section 4.8 explains the results of the regression for additional tests. Section 4.9 provides a summary of the chapter.

4.2 Reliability tests

4.2.1 *Internal reliability test*

This section outlines the results of Cronbach's alpha reliability test for internal consistency of coding the CSR items into the CSR checklist. To ensure the precision of using CSR checklist in measuring CSR disclosure Cronbach's alpha reliability test was used. This test is used widely along with other tests such as Percent Agreement, Bennett *et al.*'s S, Scott's Pi, Cohen's Kappa, Fleiss's K, or Krippendorff's alpha (Krippendorff, 2012, 1970; Hayes and Krippendorff, 2007).

The CSR disclosure checklist includes seven dimensions of CSR disclosure. The reliability test checked for all seven dimensions in the checklist. The results are presented in Table 6, showing that Labour, Ethics, Environment, Business behaviour and Finance and governance dimensions indicate significant reliability. Community and Aggregated CSR policy dimensions show a low level of reliability. However, the low level of significance of Community and Aggregated CSR policy might not

be valid because all other dimensions have more than 560 observations and indicate significant reliability. While, only Community and Aggregated CSR policy dimensions have the lowest observations and the reason for showing low level of reliability could be the small number of observations. Over all, the test suggests significant and reliable results above 0.70²⁰. The results are shown on Table 6.

Table 6 - Cronbach's reliability test

Reliability statistics			
CSR category	Cronbach's alpha	Cronbach's alpha based on standardized items	No. of items
Labour	0.991	0.999	589
Ethics	0.994	1.000	584
Community	0.391	0.830	91
Environment	0.982	0.999	595
Business behaviour	0.994	1.000	589
Finance and governance	0.991	0.999	562
Aggregated CSR policy	0.289	0.891	54

4.2.2 Inter-coder reliability test

To check the reliability further, an inter-coder reliability test was conducted. Initially, two independent researchers collected CSR data for a sample of 50 companies using CSR checklist. Then Krippendorff's alpha test was applied to ensure the reliability between two coders. The results highlight an acceptable level of reliability as the alpha value = 0.7107. This suggests a 71% acceptance level between the two coders (Krippendorff, 1980; Milne and Adler, 1999). Subsequent to ensuring the reliability of the coding, the entire data collection for 181 sample companies was completed by only one researcher.

4.3 Normality tests

Prior to running multiple regression analysis, the data were examined to detect any violation of normality. Standard tests on skewness and kurtosis and Kolmogorov-Smirnov Lilliefors tests, were completed. The results indicate that there is some problem with normality of some absolute values such as CSR disclosure word count (CSRWC), CSR disclosure sentence count (CSR_SEN) and firm size as total

²⁰ According to Lombard *et al.* (2002) findings are sufficiently reliable if equal to or greater than 0.70.

operating revenue (FSIZE). To address the normality problem, the data were transformed by using the natural logarithm of total number of CSR disclosure word count (CSRWC_Ln) and natural logarithm of total number of CSR disclosure sentence count (CSR_SEN_Ln) and log of total revenue (FSIZE_Ln) (Appendix 5).

4.4 Descriptive statistics

Table 7 presents the results of the descriptive statistics of CSR disclosure for all 181 firms sampled. The mean index (CSRDI) is 0.1591 ranging from 0.06 to 0.36. This implies that, on average, Australian firms disclose 15.91% CSR-related information in their annual reports in terms of “variety”. On average, an annual report of an Australian listed firm contains 1604.33 CSR-related words in terms of “volume”, ranging from 208 to 5962 words. On average 59.40 CSR-related sentences in terms of “focus”, were disclosed in an annual report of an Australian listed firm, ranging from 9 to 203 sentences.

In relation to AC characteristics, an average size of an AC of an Australian firm is 3 consistent with ASX recommendations (2010). The smallest AC comprised 2 members and the largest comprised 6 members. The results show that the majority (94 out of 181) of companies have 3 members in their ACs. On average, the number of AC meetings conducted was 3 times per year, ranging from only 1 meeting per year up to 15 meetings per year. 84 out of 181 had 2 meetings during the 2013 financial year. On average 65.46% of AC members were independent. Some ACs include only non-independent members, whereas others include only independent members. 119 out of 181 comprised of majority independent directors consistent with the ASX recommendation 4.2. Only 53 out of 181 firms consist of independent directors only. Amongst the ACs with independent members, 83% are chaired by independent directors, as required by ASX recommendations (2010). On average 62.23% of AC members possess some kind of financial expertise including formal qualifications and professional experiences in areas such as accounting, banking and finance, business and commerce, management and marketing and economics. 9 out of 181 had no financial experts in their ACs. This is inconsistent with ASX recommendations (2010) which require that at least one member should have

financial expertise. 49 companies comprise of all financial experts. The rest had at least one financial expert on the AC. On average, only 5.76% of ACs include female directors. That is, 151 out of 181 had no female director on the AC. The remaining had comprised at least one female on their AC. This number is too small and not consistent with ASX recommendation 3.4.

Table 7 - Descriptive analysis

<i>Variables</i>		<i>Mean</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>	<i>SD</i>	<i>N</i>
<i>Dependent Variables</i>							
CSRDI		0.1591	0.1500	0.06	0.36	0.0484	181
CSRWC		1604.33	1393.00	208.00	5962.00	955.081	181
CSR_SEN		59.40	50.00	9.00	203.00	35.596	181
<i>Independent Variables</i>							
Size of AC (SAC)		3.12	3.00	2	6	0.941	181
AC frequency of meetings (MAC)		3.02	2.00	1	15	1.801	181
AC proportion of independent members		0.6546	0.6700	0.00	100.00	0.29767	181
AC independent chair		0.83	1.00	0	11	0.866	181
AC proportion of Acc/Fin experts		0.6223	0.6700	0.00	100.00	0.296	181
AC proportion of Females (GENDER)		0.0576	0.00	0.00	0.67	0.13824	181

The data were examined for any multicollinearity problems between independent variables. Table 8 presents Pearson correlation and partial correlation matrices (controlling for firm size), indicating that multicollinearity is not a problem between variables. The correlation coefficient of 0.467 between AC meeting frequency (MAC) and firm size (FSIZE_Ln) is the highest amongst all, which is still within the threshold. It can be seen from Panel A that the associations between independent variables are all below 0.80²¹ (Table 8, Panel A). Variation inflation factor (VIF) (Table 9) was examined to ensure they are all less than 2 and that, there is no multicollinearity problem²² (Belsley *et al.*, 1980).

²¹ The 'rule of thumb' for checking problems of multicollinearity using a correlation matrix is that multicollinearity becomes a problem when the correlation is > 0.80 (Belsley *et al.*, 1980). The correlation coefficient of 0.467 between MAC and FSIZE_Ln is the highest. This is still within the threshold.

²² Previous authors suggest multicollinearity becomes a serious problem where VIFs exceed 10 (Belsley *et al.*, 1980).

Table 8 - Correlation and partial correlation matrices between dependent and independent variables

Panel A Correlation between dependent and independent variables												
	CSRDI	CSRWC_Ln	CSR_SEN_Ln	SAC	MAC	IND MEMBERS	IND_CHA_IR	FEX	GENDER	ROA	FLEV	FLOC
SAC	0.159*	0.130	0.178*	1.000								
MAC	0.338**	0.242**	0.255**	0.159*	1.000							
IND_MEMBERS	0.193**	0.156*	0.151*	-0.129	0.140	1.000						
IND_CHAIR	0.008	0.000	0.017	0.032	0.091	0.282**	1.000					
FEX	0.058	0.024	0.034	-0.228**	0.058	0.106	0.005	1.000				
GENDER	0.056	0.067	0.117	0.141	0.175*	-0.094	-0.057	0.189*	1.000			
ROA	0.197**	0.019	0.031	0.086	0.223**	-0.029	0.010	0.119	0.073	1.000		
FLEV	0.021	0.097	0.102	-0.004	0.060	0.010	-0.024	0.054	-0.050	-0.267**	1.000	
FLOC	0.069	0.031	0.038	0.042	0.062	0.154*	-0.001	0.026	0.038	0.040	-0.028	1.000
INDUSTRY	0.053	0.088	0.080	-0.015	-0.101	-0.149*	0.000	-0.084	-0.052	-0.095	-0.090	-0.343**
FSIZE_Ln	0.408**	0.217**	0.245**	0.189*	0.467**	0.248**	0.026	0.120	0.088	0.336**	0.125	0.167*
												1.000
Panel B Partial correlation between dependent and independent variables (Controlling for firm size)												
	CSRDI	CSRWC_Ln	CSR_SEN_Ln	SAC	MAC	IND MEMBERS	IND_CHA_IR	FEX	GENDE_R	ROA	FLEV	FLOC
SAC	0.091	0.093	0.139	1.000								
MAC	0.182*	0.163*	0.164*	0.082	1.000							
IND_MEMBERS	0.104	0.108	0.096	-0.185*	0.029	1.000						
IND_CHAIR	-0.003	-0.006	0.011	0.027	0.090	0.285**	1.000					
FEX	0.009	-0.002	0.005	-0.257**	0.002	0.079	0.001	1.000				
GENDER	0.022	0.050	0.099	0.127	0.152*	-0.120	-0.059	0.181*	1.000			
ROA	0.070	-0.058	-0.056	0.024	0.079	-0.123	0.001	0.084	0.047	1.000		
FLEV	-0.033	0.072	0.074	-0.028	0.002	-0.022	-0.027	0.040	-0.061	-0.331**	1.000	
FLOC	0.000	-0.006	-0.004	0.011	-0.018	0.118	-0.005	0.006	0.023	-0.017	-0.050	1.000
INDUSTRY	0.232**	0.181*	0.184*	0.057	0.078	-0.067	0.010	-0.045	-0.023	0.028	-0.049	-0.308**
												1.000

**, Correlation is significant at the 0.01 level (2-tailed). *, Correlation is significant at the 0.05 level (2-tailed)

Where:

CSRDI	=	CSR disclosure index
CSRWC_Ln	=	log of CSR disclosure word count
CSR_SEN_Ln	=	log of CSR disclosure sentence count
SAC	=	size of AC
MAC	=	AC frequency of meetings
IND_MEMBERS	=	proportion of independent directors in AC
IND_CHAIR	=	presence of independent chair in AC
FEX	=	proportion of financial experts in AC
GENDER	=	proportion of female directors in AC
ROA	=	return on assets to measure profitability
FSIZE_Ln	=	log of total operating revenue
FLEV	=	financial leverage to measure debt ratio, total liability / total assets
FLOC	=	firm locality to measure if a firm is multinational or Australian
INDUSTRY	=	to measure industry type the firm is operating within

4.5 Results of regression model

Table 9 summarises the results of the multiple regression models for all three CSR disclosure measures.

Model 1

The first panel shows the results of multiple regression for model 1. The CSR disclosure index (CSRDI) model is significant at a 1% level ($p = 0.000$) with ($F = 5.447$) and adjusted R^2 of 21.4%. The model shows significant results of increasing CSR disclosure affected by AC characteristics. The explanatory power of adjusted R^2 of 0.214 shows that there is a 21.4% chance of increase in CSR disclosure affected by these characteristics. The results indicate that independent variables such as frequency of AC meetings (MAC) are positive and significant at a 5% level ($B = 0.004$, $p = 0.042$). The proportion of independent members (IND_MEMBERS) is positive and significant at a 10% level ($B = 0.023$, $p = 0.057$). Size of AC (SAC) ($B = 0.005$, $p = 0.199$), and AC financial expertise (FEXP) ($B = 0.004$, $p = 0.718$) are positive but not significant. The presence of an AC independent chair (IND_CHAIR) ($B = -0.003$, $p = 0.399$) and proportion of females on the AC (GENDER) ($B = -0.001$, $p = 0.968$) are negative and not significant. Control variables such as firm size (FSIZE_Ln) ($p = 0.000$) and industry type (INDUSTRY) ($p = 0.002$) are positive and significant at a 1% level. Other variables such as profitability (ROA), firm locality (FLOC) and financial leverage (FLEV) are positive but not significant.

Model 2

The second panel shows the results of multiple regression for model 2. The log of CSR word count (CSRWC_Ln) model is significant at a 1% level ($p = 0.008$) with ($F = 2.409$) and adjusted R^2 of 7.9%. The explanatory power of adjusted R^2 of 0.079 shows that there is an 8% chance of increase of CSR disclosure affecting by these AC characteristics. Independent variables such as AC frequency of meetings (MAC) ($B = 0.022$, $p = 0.068$) and the proportion of independent directors on the AC (IND_MEMBERS) ($B = 0.130$, $p = 0.063$) are positive and significant at a 10%

level. Other independent variables such as AC size (SAC) ($B = 0.028$, $p = 0.0197$), financial expertise (FEXP) ($B = 0.012$, $p = 0.861$) and the proportion of female directors (GENDER) on the AC ($B = 0.068$, $p = 0.630$), are positive but not significant. The presence of the AC independent chair (IND_CHAIR) ($B = -0.018$, $p = 0.427$) is negative and not significant, paralleling results in the first panel. Control variables such as (INDUSTRY) are positive and significant at a 5% level ($p = 0.014$). Financial leverage (FLEV), firm size (FSIZE_Ln) and firm locality (FLOC) are positive and not significant. Profitability (ROA) is negative ($B = -0.008$) and not significant.

Model 3

The third panel shows results of multiple regression for model 3. The log of CSR sentence count (CSR_SEN_Ln) model is significant at a 1% level ($p = 0.001$) with ($F = 2.936$) and adjusted $R^2 = 10.6\%$. The explanatory power of adjusted R^2 of 0.106 shows that there is almost an 11% chance of increase of CSR disclosure affecting by these AC characteristics. The results show that, in addition to AC frequency of meetings (MAC) ($B = 0.042$, $p = 0.091$) and AC independent members (IND_MEMBERS) ($B = 0.265$, $p = 0.071$), size of AC (SAC) ($B = 0.082$, $p = 0.068$) is also positive and significant at a 10% level. Other independent variables such as proportion of financial experts (FEXP) ($B = 0.042$, $p = 0.768$) and proportion of female directors on AC (GENDER) ($B = 0.317$, $p = 0.285$) are positive but not significant. The presence of an AC independent chair (IND_CHAIR) ($B = -0.024$, $p = 0.602$) is negative and not significant paralleling the first and second panels. Control variables such as firm's size (FSIZE_Ln) ($B = 0.028$, $p = 0.061$) and industry (INDUSTRY) ($B = 0.020$, $p = 0.011$) are positive and significant at a 10% and a 5% level, respectively. Financial leverage (FLEV) and firm locality (FLOC) are positive and not significant. Profitability (ROA) is negative ($B = -0.016$) and not significant, parallel to the second panel.

Table 9 - Results of regression models

Variables	Model 1: (CSRDI)						Model 2: (CSRWC_Ln)						Model 3: (CSR_SEN_Ln)					
	Unstandardised coefficients			Standardised coefficients			Unstandardised coefficients			Standardised coefficients			Unstandardised coefficients			Standardised coefficients		
	B	Std. error	Beta	t	Sig.		B	Std. error	Beta	t	Sig.		B	Std. error	Beta	t	Sig.	
(Constant)	0.014	0.025		0.564	0.573		2.578	0.143		17.990	0.000		2.601	0.301		8.634	0.000	
SAC	0.005	0.004	0.093	1.289	0.199		0.028	0.021	0.101	1.297	0.197		0.082	0.045	0.141	1.835	0.068*	
MAC	0.004	0.002	0.158	2.058	0.042**		0.022	0.012	0.153	1.836	0.068*		0.042	0.025	0.139	1.701	0.091*	
IND_MEMBERS	0.023	0.012	0.143	1.918	0.057*		0.130	0.069	0.151	1.872	0.063*		0.265	0.146	0.145	1.820	0.071*	
IND_CHAIR	-0.003	0.004	-0.059	0.846	0.399		-0.018	0.022	-0.060	-0.796	0.427		-0.024	0.047	-0.039	-0.523	0.602	
FEXP	0.004	0.012	0.026	0.361	0.718		0.012	0.067	0.014	0.175	0.861		0.042	0.140	0.023	0.296	0.768	
GENDER	-0.001	0.025	-0.003	-0.400	0.968		0.068	0.141	0.037	0.483	0.630		0.317	0.295	0.080	1.072	0.285	
ROA	0.003	0.003	0.066	0.872	0.384		-0.008	0.017	-0.037	-0.446	0.656		-0.016	0.035	-0.035	-0.438	0.662	
FLEV	0.001	0.006	0.007	0.094	0.925		0.032	0.032	0.076	0.985	0.326		0.073	0.067	0.082	1.079	0.282	
FSIZE_Ln	0.005	0.001	0.332	3.792	0.000***		0.012	0.007	0.154	1.624	0.106		0.028	0.015	0.176	1.885	0.061*	
FLOC	0.006	0.008	0.056	0.782	0.435		0.022	0.044	0.039	0.504	0.615		0.051	0.094	0.041	0.546	0.586	
INDUSTRY	0.002	0.001	0.237	3.165	0.002***		0.009	0.004	0.202	2.487	0.014**		0.020	0.008	0.205	2.561	0.011**	
R ²			0.262						0.136						0.160			
Adj. R ²			0.214						0.079						0.106			
Std. error			0.04292						0.24549						0.51615			
F value			5.447						2.409						2.936			
Sig. F			0.000***						0.008***						0.001***			

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level

Where:

CSRDI	=	CSR disclosure index
CSRWC_Ln	=	log of CSR disclosure word count
CSR_SEN_Ln	=	log of CSR disclosure sentence count
SAC	=	size of AC
MAC	=	AC frequency of meetings
IND_MEMBERS	=	proportion of independent directors in AC
IND_CHAIR	=	presence of independent chair in AC
FEX	=	proportion of financial experts in AC
GENDER	=	proportion of female directors in AC
ROA	=	return on assets to measure profitability
FSIZE_Ln	=	log of total operating revenue
FLEV	=	financial leverage to measure debt ratio, total liability / total assets
FLOC	=	firm locality to measure if a firm is multinational or Australian
INDUSTRY	=	to measure industry type the firm is operating within

4.6 Examination of hypotheses

In this section, the hypotheses are explained in detail, based on the findings in the previous section.

***H1:** There is a negative association between the AC size and the level of CSR disclosure, ceteris paribus.*

All three models show a positive relationship between AC size and level of CSR disclosure. However, only model 3 (CSR_SEN_Ln) ($p = 0.068$) shows a significant positive relationship at a 10% level. This suggests that AC size positively influences CSR disclosures in ASX listed firms. This result is consistent with ASX recommendation 4.2 and consistent with findings of Li *et al.* (2012), Li *et al.* (2008), and Cormier *et al.* (2011) (using absolute value of board size). However, it is inconsistent with agency theory, since the agency theory states that there is a negative association between the size and disclosure level. Because this study finds a positive association, (H1) is rejected. However, according to the agency theory when the size is larger than seven or eight people, then it is less likely to function effectively. In this study, the largest AC size was six and the majority (52%) of sample companies had ACs consisting of 3 members (Table 7). This number is large enough to bring diversity to an AC and lead to positive impact on CSR disclosure. Yet, at the same time it is small enough to allow the committee to function properly. This result is consistent with other studies finding quadratic relationship between the size and the extent of disclosure (e.g., Cormier *et al.*, 2011). Cormier *et al.* (2011) found a positive association between board size and the level of social disclosure, and environmental disclosure, when using board size as an absolute value. However, using board size squared, Cormier *et al.* (2011), found a negative association between board size and the level of social disclosure, and environmental disclosure. Quadratic function is that, disclosure increases with additional members to a maximum point, and then starts to decline afterwards. Because ACs become dysfunctional or ineffective due to the competing interests, opinions and viewpoints. In this regard, when size of AC is smaller than six it has a positive influence on CSR

disclosure and when it increases to larger than six or seven then it might have a negative effect on the level of CSR disclosure.

Table 10 summarises the relationship between the independent variables in the hypotheses and the results of CSR disclosure measures such as the variety (CSRDI), volume (CSRWC_Ln) and focus (CSR_SEN_Ln).

Table 10 - Hypotheses results

<i>Hypotheses</i>	<i>Predicted sign</i>	<i>Actual sign</i>	<i>Hypotheses support</i>		
			<i>CSRDI</i>	<i>CSRWC_Ln</i>	<i>CSR_SEN_Ln</i>
AC Size (H1)	-	+	None	None	Significant
AC Frequency of meetings (H2)	+	+	Significant	Significant	Significant
AC Independence (members) (H3a)	+	+	Significant	Significant	Significant
AC Independence (chair) (H3b)	+	-	None	None	None
AC Financial expertise (H4)	+	+	None	None	None
AC Gender (females on the AC) (H5)	+	+	None	None	None

***H2:** There is a positive association between the frequency of AC meetings and the level of CSR disclosures, ceteris paribus.*

The results of all three models indicate a positive and significant relationship between the frequency of AC meetings ($p = 0.042, 0.068, 0.091$) and the level of CSR disclosure, according to the expectations in (H2). This relationship is significant at a 5% and a 10% level. This result is consistent with agency theory, ASX recommendations (2010) and prior literature such as Li *et al.* (2008); Li *et al.* (2012) and Kelton and Yang (2008). Therefore, (H2) is supported. This suggests that there is a significant and positive association between the AC frequency of meetings and CSR disclosure. That is, companies are more likely to disclose more CSR-related information when their ACs are more active and meet more frequently to monitor managers. This result indicates the frequency of AC meetings has a positive and significant influence on the level of CSR disclosure in Australian firms (Table 10).

***H3a:** There is a positive association between the proportions of AC independent members and the level of CSR disclosure, ceteris paribus.*

All three models indicate a positive and significant relationship between the proportion of independent members ($p = 0.057, 0.063, 0.071$) and the level of CSR disclosure, consistent with the expectations in (H3a). This result is significant at a 10% level. It suggests that the proportion of independent members in the AC is positively and significantly related to the increase of CSR disclosure. This is consistent with agency theory, ASX recommendations (2010) and prior literature such as Oliveira *et al.* (2011); Mangena and Taurigana (2007); Li *et al.* (2008); Khan *et al.* (2013) and Kelton and Yang (2008). This confirms that the presence of independent directors on the AC increases the level of disclosure including CSR disclosure. Therefore, (H3a) is supported.

***H3b:** There is a positive association between the presence of an AC independent chair and the level of CSR disclosure, ceteris paribus.*

All three models indicate a negative and not significant relationship between the presence of an AC independent chair ($B = -0.003, -0.018, -0.024$ and $p = 0.399, 0.427, 0.602$) and the level of CSR disclosure, surprisingly. These results are inconsistent with the expectations in (H3b) and with agency theory and with ASX recommendation 4.2 requiring an independent chair to be present on the AC. Therefore, (H3b) is rejected. However, these results are consistent with the findings of Haniffa and Cooke (2002) and Kang *et al.* (2011). Haniffa and Cooke (2002) found non-executive chairs are more likely to keep private information secret, leading to less disclosure. Kang *et al.* (2011) examining the effectiveness of AC in low and mid cap firms (non-top 300 ASX listed firms) in Australia found a negative relationship between an AC independent chair and lower earnings management. The results indicate that the presence of independent chair does not necessarily result in a higher CSR disclosure by Australian firms.

H4: *There is a positive association between the level of financial expertise of AC members and the level of CSR disclosures, ceteris paribus.*

All three models indicate a positive but not significant relationship between (FEXP) ($p = 0.718, 0.861, 0.768$) and the level of CSR disclosure. Positive ($B = 0.004, 0.012, 0.042$) is according to the expectations in (H4), agency theory and ASX recommendations (2010). However, the absence of significance ($p = 0.718, 0.861, 0.768$) is not according to the expectations in (H4). Therefore, (H4) is only partially supported due to the lack of strong evidence. However, this result is consistent with findings of Li *et al.* (2012). This suggests there is no significant association between the level of CSR disclosure and the financial expertise of AC member. The reason for this could be that financial experts were present in majority of the ACs in the sample. These financial experts include experts by formal qualification and professional experience.

H5: *There is a positive association between the proportion of female directors on the AC and the level of CSR disclosure, ceteris paribus.*

Two out of the three models (namely model 2, CSRWC_Ln and model 3, CSR_SEN_Ln) indicate a positive but not significant relationship between (GENDER) ($p = 0.630, 0.285$) and level of CSR disclosure. Positive results ($B = 0.068, 0.317$) in models 2 and 3 are consistent to the expectations in (H5). However, negative ($B = - 0.001$) in model 1 is not as expected in (H5). These results suggest that there is no significant relationship between the proportions of females in AC and the level of CSR disclosure in Australian firms. However, this could be because of a small number of females in ACs in Australian firms according to Kang *et al.* (2007) (Table 7). Also, it could be because of the same level of education and expertise possessed by both male and female directors. Therefore, the model does not show any significant impact. Therefore, (H5) is not supported due to the lack of enough evidence. In this case, the ASX recommendation 3.4 (2010) needs to be regarded more. It seems likely to be beneficial and necessary to comply with in order to obtain better results for Australian firms.

4.7 Additional tests

Prior studies show that amongst all CSR disclosure dimensions, environmental disclosure is more popular within firms. Deegan and Gordon (1996) note that firms in Australia disclose environmental-related information to impress environmental activists. Specifically, firms with high environmental impacts (such as mining and utilities) attempt to disclose positive aspects of their environmental performance. In addition, firms' environmental disclosure is self-laudatory, since firms usually report only good and positive environmental news, rather than the bad and harmful information. Further, Deegan and Rankin (1996) note that many firms in Australia disclose significant favorable environmental information prior to their prosecutions. Therefore, this study conducts an additional test to examine the influence of AC characteristics specifically on environmental disclosure. The following three regression models are used to find the relationships between the level of environmental disclosure and AC characteristics such as size, meetings frequency, independence, financial expertise and gender representativeness using the 181 Australian firms.

Model 1: Environmental disclosure Index (ENDI)

$$ENDI = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \varepsilon_i$$

Model 2: Log of Environmental disclosure Word Count (ENWC_Ln)

$$ENWC_Ln = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \varepsilon_i$$

Model 3: Log of Environmental disclosure Sentence Count (EN_SEN_Ln)

$$EN_SEN_Ln = \beta_0 + \beta_1 SAC + \beta_2 MAC + \beta_3 IND_MEMBERS + \beta_4 IND_CHAIR + \beta_5 FEXP + \beta_6 GENDER + \beta_7 FSIZE_Ln + \beta_8 FLEV + \beta_9 INDUSTRY + \beta_{10} ROA + \beta_{11} FLOC + \varepsilon_i$$

Where:

ENDI	=	environmental disclosure index
ENWC_Ln	=	log of total number of environmental disclosure word count
EN_SEN_Ln	=	log of total number of environmental disclosure sentence count
SAC	=	size of AC, measured as number of AC members
MAC	=	frequency of meetings of AC, measured as number of AC meetings per year
IND_MEMBERS	=	independence of AC members, measured as a proportion of non-executive directors in AC, holding no shares in the company.
IND_CHAIR	=	presence of independent chair on AC “1”, or “0” otherwise
FEXP	=	financial expertise of AC members including formal education and professional experience. Measured as the proportion of financial experts on AC
GENDER	=	the proportion of female directors on the AC
FSIZE_Ln	=	size of the firm, measured as log of total operating revenue
FLEV	=	financial leverage of the firm, measured by total liabilities / total assets
INDUSTRY	=	industry type that a firm is operating within
ROA	=	return on assets to measure profitability
FLOC	=	firms’ locality, “1” if multinational, “0” if Australian
B	=	parameters
ε_i	=	error term; and the
i	=	i th observation

4.8 Results of additional tests

Table 11 presents the results of multiple regression tests for three models.

Model 1

The results on the first panel based on the environmental disclosure index (ENDI) shows that the level of environmental disclosure and the AC characteristics are significantly and positively associated ($p = 0.001$ and $F = 2.974$) at a 1% level. The explanatory power of adjusted R^2 of 0.108 indicates that there is an 11% chance that the AC characteristics influence environmental disclosure. This is relatively weak. None of the independent variables in this model are significant ($p > 0.1$). However, all but AC meetings frequency ($B = -0.001$) are positive. Both size and industry are positively and significantly related to the level of environmental disclosure ($p = 0.046$ and 0.000 respectively) at a 5% and a 1% level respectively.

Model 2

The results of second panel based on the log of environmental disclosure word count (ENWC_Ln) indicate a significant relationship between environmental disclosure and the AC characteristics ($p = 0.000$ and $F = 4.620$) at a 1% level. The explanatory power of adjusted R^2 indicates a 19% of chance to this relationship. In particular, AC size ($p = 0.015$) and members' independence ($p = 0.023$) indicate a significant relationship with environmental disclosure at a 5% level. Other independent variables are positive but not significant ($p > 0.1$). Industry type ($p = 0.000$) is significant at a 1% level. A significant influence of independent members is consistent with results for the (H3a) in this study. Industry result is consistent with the findings of Deegan and Rankin (1996) and Deegan and Gordon (1996) that firms in specific industries tend to disclose environmental news to impress environmental activists.

Model 3

The third model based on the log of environmental disclosure sentence count (EN_SEN_Ln) also indicates a significant relationship between the level of

environmental disclosure and AC characteristics ($p = 0.006$ and $F = 2.511$). The results are significant at a 1% level. The explanatory power of adjusted R^2 of 0.091 indicates that there is a 9% chance that the AC characteristics influence the level of environmental disclosure. This is relatively weak. While, all the independent variables are positive, only AC members' independence ($p = 0.048$) indicates a significant association with environmental disclosure at a 5% level. Industry type is also significant at a 1% level. Overall, the results of the additional tests are similar but weaker than the original tests, indicating that AC members' independence is significant through all of the models especially in relation to the overall CSR disclosure. These results are consistent with the findings of prior studies (e.g., Kang *et al.*, 2011; Oliveira *et al.*, 2011; Mangena and Taurigana, 2007; Li *et al.*, 2008; Khan *et al.*, 2013; Kelton and Yang, 2008) emphasising the importance of the AC members' independence.

Table 11 - Additional tests results of regression models

<i>Variables</i>	<i>Model 1: (ENDI)</i>					<i>Model 2: (ENWC_Ln)</i>					<i>Model 3: (EN_SEN_Ln)</i>				
	<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>			<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>			<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>		
	<i>B</i>	<i>Std. error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>	<i>B</i>	<i>Std. error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>	<i>B</i>	<i>Std. error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
(Constant)	-0.057	0.051		-1.105	0.271	1.853	0.578		3.205	0.002	-0.551	0.574		-0.960	0.339
SAC	0.002	0.008	0.024	0.311	0.756	0.200	0.081	0.185	2.468	0.015**	0.124	0.080	0.125	1.555	0.122
MAC	-0.001	0.004	-0.013	-0.154	0.878	0.030	0.046	0.053	0.655	0.513	0.018	0.045	0.035	0.406	0.685
IND_MEMBERS	0.018	0.025	0.059	0.742	0.459	0.601	0.262	0.178	2.292	0.023**	0.510	0.256	0.165	1.990	0.048**
IND_CHAIR	0.008	0.008	0.075	1.015	0.312	0.038	0.083	0.033	0.458	0.648	0.045	0.081	0.043	0.552	0.582
FEXP	0.020	0.024	0.064	0.841	0.401	0.399	0.255	0.116	1.564	0.120	0.263	0.254	0.083	1.036	0.302
GENDER	0.046	0.050	0.068	0.914	0.362	0.288	0.530	0.040	0.543	0.588	0.439	0.519	0.066	0.845	0.399
ROA	0.002	0.006	0.027	0.331	0.741	-0.020	0.063	-0.026	-0.323	0.747	-0.004	0.620	-0.006	-0.065	0.948
FLEV	-0.015	0.011	-0.099	-1.302	0.195	0.123	0.123	0.075	1.000	0.319	0.111	0.120	0.073	0.921	0.358
FSIZE_Ln	0.005	0.003	0.187	2.007	0.046**	0.021	0.027	0.073	0.778	0.438	0.021	0.027	0.078	0.780	0.436
FLOC	-0.004	0.016	-0.020	-0.262	0.793	-0.118	0.176	-0.050	-0.673	0.502	-0.197	0.174	-0.910	-1.134	0.259
INDUSTRY	0.006	0.001	0.370	4.640	0.000***	0.084	0.015	0.446	5.537	0.000***	0.055	0.015	0.314	3.628	0.000***
R ²			0.162					0.243					0.150		
Adj. R ²			0.108					0.191					0.091		
Std. error			0.08792					0.91364					0.89286		
F value			2.974					4.620					2.511		
Sig. F			0.001***					0.000***					0.006***		

*** = significant at 0.01 level, ** = significant at 0.05 level, * = significant at 0.10 level.

Where:

ENDI	=	environmental disclosure index
ENWC_Ln	=	log of environmental disclosure word count
EN_SEN_Ln	=	log of environmental disclosure sentence count
SAC	=	size of AC
MAC	=	AC frequency of meetings
IND_members	=	proportion of independent directors in AC
IND_Chair	=	presence of AC chair in AC
FEX	=	proportion of financial experts in AC
GENDER	=	proportion of female directors in AC
ROA	=	return on Assets to measure profitability
FSIZE_Ln	=	log of total operating revenue, measuring firm size
FLEV	=	debt ratio, total liability / total assets
FLOC	=	firm locality to measure if a firm is multinational or Australian
INDUSTRY	=	to measure industry type the firm is operating within

4.9 Summary

The regression models presented in this chapter suggest that the size of the AC in Australian listed companies is not significantly related to CSR disclosure in models 1 and 2. However, the size of AC is significantly related to the level of CSR disclosure when measured using model 3 (CSR_SEN_Ln). Interestingly, the AC up to a certain size is positively and significantly related to the level of disclosure. However, AC larger than that particular size seems likely to be negatively related according to the agency theory. This relationship is known as quadratic relationship consistent with some prior studies (e.g., Cormier *et al.*, 2011). That is, the level of disclosure increases for each additional member to reach to a maximum point and then it starts to decline after that point and the AC becomes ineffective. This is because of the different ideas and viewpoints in the committee. The proportion of independent AC members is positively and significantly associated with the level of CSR disclosure in all models, and with environmental disclosure in the additional tests. Frequency of AC meetings is also positively and significantly associated with the level of CSR disclosure. Other AC characteristics such as financial expertise and the presence of female directors on the AC are not significantly related to the level of CSR disclosure. The presence of an independent chair has no significant relationship with the level of CSR disclosure in Australia.

CHAPTER FIVE

CONCLUSION

5.1 Introduction

Section 5.2 summarises the results. Section 5.3 presents implications. The limitations of the study and suggestions for future research are discussed in section 5.4 of this chapter.

5.2 Summary

The regression model for the sample of 181 Australian companies indicates that several AC characteristics such as size, meeting frequency and independence are positively and significantly related to the level of voluntary CSR disclosure.

A positive and significant relationship between the independence of AC members and CSR disclosure, and between frequency of AC meetings and CSR disclosure, is found across all three measures. The significant relationship between AC size and CSR disclosure is supported by one of the three models. These findings suggest that focusing on the proportion of independent members in the AC could be more important than focusing on whether there is an independent chair in the AC. That is, companies with more independent members in their ACs, disclose more voluntary CSR-related information, regardless of presence of independent chair on their ACs. In addition, the reason for not significant results of financial expertise on the AC could be due to the fact that people involved in business matters (such as managers and directors) usually are expected to have some level of financial expertise either by formal qualifications or by professional experiences. In this sample, a majority of companies had at least one financial expert on their ACs, either by formal qualification or by professional experience. Finally, the reason for a not significant relationship between the proportion of female directors on the AC and the level of CSR disclosure might be due to the low level of gender diversity in ACs in Australia consistent with Kang *et al.* (2007). Alternatively, it might be because of the fact that

the expertise possessed by AC members could result the similar outcome regardless of the gender.

5.3 Implications

This is the first study to provide evidence on the relationship between AC characteristics and CSR disclosure of Australian listed companies. The results provide several implications.

Theoretical implications of this study should be of interest to researchers in expanding literature in corporate governance, CSR disclosure and agency theory. The findings provide evidence of the significance of AC members' independence and the frequency of AC meetings on the extent of CSR disclosure. This implies that characteristics such as quantity of meetings and AC members' independence are important facilitators of CSR disclosures of Australian listed companies. In contrast, other characteristics such as the financial expertise, gender, and size of the AC, seem less important.

The practical implications of this study should be of interest to regulators, managers and shareholders with an interest in improving disclosure and transparency between stakeholders and the companies. First, the study highlights that AC characteristics such as members' independency should be considered in appointment of AC members by shareholders and the board of directors. The findings also suggest that focusing on AC members' independence is more important than focusing on the existence of independent chair, when appointing AC members. Further, the findings shed light on the importance of meeting frequency of ACs, which can improve the extent of CSR disclosure and reduce bonding costs associated with managers and directors' positions.

Second, the study provides ASXCGC with some useful insights regarding the validity of ASX recommendations in regard to ACs. Several characteristics such as AC size, meeting frequency and independence of AC members are significantly associated with higher CSR disclosure. Therefore, it is suggested that mandatory

compliance with the ASX recommendations 4.1 and 4.2 about AC characteristics could be extended to all listed companies.

Finally, the study helps ASXCGC and other regulators in designing policies to promote CSR activities and disclosure undertaken by Australian listed companies, and introducing new legislation to mandate more disclosure by companies. For example, currently ‘climate change’ and developing a carbon emission-trading scheme is taking too much attention of Australian politicians, which can benefit from the findings of this study.

5.4 Limitations and future research

Despite the number of contributions and implications, there are several limitations related to this study. First, subjectivity of coding of disclosure instrument could be a limitation. However, this limitation was minimised by adopting a detailed and comprehensive CSR checklist from a highly ranked scholarly journal, which had been cited by frequent studies in other high ranked journals. To further address this problem, an internal reliability test and an inter-coder reliability test were conducted on a sample of 50 companies by two independent researchers. However, some level of subjectivity could still exist in this kind of studies.

Second, some judgement was made in the data collection for this study. In that, when during the financial year, some AC members are replaced by new members due to their resignation or death, the assumption was made that the new members have the same level of independence as the old members, unless it is stated otherwise, in the annual report. In addition, when the expertise of AC members is not clearly stated in the annual report, it is assumed that there are no financial experts on the AC.

This study only used quantitative data. A qualitative research (such as a detailed case study analysis) or a mixed method (by adding a qualitative method such as interview to the existing method, as an accurate way of triangulation), could be an avenue for a future research opportunity.

This study focused on only the annual reports related to one specific period and did not consider the most recent changes made to ASXCGPRs on 27 March 2014. A longevity study could be beneficial especially with AC characteristics since these characteristics could change over the time especially after the global financial crisis in 2007. Therefore, focusing on the most recent changes represents an-other future research avenue.

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APPENDICES

Appendix 1 - ASX recommendations

Table 1 - ASX Corporate Governance Principles and Recommendations in 2010 and 2014

Corporate governance principles and recommendations with 2010 amendments, 2nd edition, ASX corporate governance council 2010, p. 11.
Corporate governance principles and recommendations, 3rd edition, ASX corporate governance council 2014, pp. 26-28.

ASXCGPR	30 June 2010	27 March 2014 effective from 1 July 2014
	Principle 4 - Safeguard integrity of financial reporting: companies should have a structure to independently verify and safeguard the integrity of their financial reporting.	Principle 4 - Safeguard integrity of financial reporting: companies should have a structure to independently verify and safeguard the integrity of their financial reporting.
Recommendation	4.1: The board should establish an audit committee	4.1(a): The board of a listed entity should have an audit committee which: (1) has at least three members, all of whom are non-executive directors and a majority of whom are independent directors; and (2) is chaired by an independent director, who is not the chair of the board, and disclose; (3) the charter of the committee; (4) the relevant qualifications and experience of the members of the committee; and (5) in relation to each reporting period, the number of times the committee met through the period and the individual attendances of the members at those meetings. 4.1 (b) if it does not have an audit committee, disclose the fact and the processes it employs that independently verify and safeguard the integrity of its corporate reporting, including the processes for the appointment and removal of the external auditor and the rotation of the audit engagement partner.
Recommendation	4.2: The audit committee should be structured so that it: consists only of non-executive directors consists of a majority of independent directors Is chaired by an independent chair, who is not chair of the board has at least three members	CEO and CFO certification of financial statements
Recommendation	4.3: The audit committee should have a formal charter	External auditor available at AGM
Recommendation	4.4: Companies should provide the information indicated in the guide to reporting on Principle 4	No direct equivalent

Table 2 - Changes in 2010- ASX listing rules (2010) guidance 9

Disclosure of corporate governance practices - Disclosure of corporate governance practices ASX Listing Rule 12.7 pp. 8.

ASX Listing Rules 12.7				
ASXCGC Recommendations	2010	ASXTop300	ASX 301-500	Non ASX 500
Recommendation	4.1	Mandatory	Mandatory	Voluntary
Recommendation	4.2	Mandatory	Voluntary	Voluntary
Recommendation	4.3	Mandatory	Voluntary	Voluntary
Recommendation	4.4	Mandatory	Voluntary	Voluntary

Table 3 - Changes in 27 March 2014 - ASX listing rules (2014) guidance 9

ASX Listing Rules 12.7			
ASXCGC Recommendation	2014	ASXTop300	Non ASX Top 300
Recommendation	4.1(a) 1-5	Mandatory	Voluntary
Recommendation	4.1(b)	N/A	Mandatory

Appendix 2 - CSR instruments in Australia

Coverage of mandatory and voluntary CSR instrument in Australia (including national and international guidelines and standards)
Golob and Barlett (2007).

Name of CSR instruments	Area of CSR	Type of instrument
Corporations Act 2001, S299(1)(f)	Required to provide details of breaches of environmental laws and licences in annual report.	Legislation
Corporations Act 2001, ss1013(A) to (F)	Providers of financial products with an investment component to disclose the extent that labour standards, environmental, social or ethical considerations are taken into account in investment decision making.	Legislation
Corporations Act 2001, s181(1)(a)	Requires directors to exercise their powers and discharge their duties in good faith in the best interests of the corporation (it is assumed that best interest of corporation is equal to shareholders' interest, means maximization of profit) (Thirarungreang, 2013).	Legislation
Audit reform and corporate disclosure (CLERP 9) Parliamentary joint committee on corporate responsibility and triple bottom line reporting	Inquiry into corporate responsibility and triple bottom line reporting for incorporated entities in Australia (report released March 2006)	Legislation
<i>Industry codes</i> UN Global compact Australian minerals industry environmental code of conduct Chemical industry's responsible care Code of banking practice		Binding to signatory organisations
<i>Assessment devices</i> Implementation of basic workplace rights (SA 8000) Reporting and performance assurance (AA 1000) Procedures for environmental management (ISO 14000)	Human rights, workers' rights, employee relations, corruption Complements GRI guidelines Environment	Voluntary
<i>Reporting guidelines and frameworks</i> Global Reporting Initiative 2002 Sustainability Reporting Guidelines (GRI) World Business Council for Sustainable Development (WBCSD)		Voluntary

Appendix 3 - GICS Industry Code

GICS (Global Industry Classification Standard) is a joint Standard and Poor's/Morgan Stanley Capital International product aimed at standardizing industry definitions. To bring Australia in line with the rest of the world Standard and Poor's have reclassified all ASX listed entities according to GICS. From 1 July 2002 the ASX industry classification became redundant (ASX, 2014).

Sector	GICS
Energy	(101010-101020)
Materials	(151510-151050)
Industrial	(202010-203050)
Consumer Discretionary	(252510-255040)
Consumer Staples	(301010-303020)
Health Care	(353510-352030)
Financials	(404010-404030)
Information Technology	(454510-453010)
Telecommunication Services	(505010-501020)
Utilities	(555510-551050)

Appendix 4 - Comprehensive CSR Checklist

Comprehensive CSR checklist adopted from Young and Marais (2012).

Coding Framework for CSR Reporting		
No	CSR domain of actions	CSR actions
	Labour	Fight against discrimination
1		Diversity
2		Disabilities policies
3		Equal opportunity
		Working conditions
4		Working conditions (health, safety)
5		Risk management for employees (charter, processes)
6		Work/life balance
		Career development
7		Education of employees/human development, training/careers
8		Responsible management of employment
		Industrial relations
9		Freedom of association
10		Collective bargaining
11		Employee share plan
12		Effective two-way communications with all employees
13	Ethics	Code of conduct or ethics
14		Whistleblower function
15		Child and forced labor
16		Protection of other human rights
17	Community	Health programs
18		School/education programs
19		Water projects
20		Development of local employment
21		Community infrastructure assistance (labor, supplies, monetary)
22		Philanthropy
	Environment	Prevention of pollution
23		Water pollution prevention
24		Air pollution prevention
		Climate change mitigation and action
25		Global warming (emissions reduction initiatives)
26		Ozone depletion (emission monitoring)
		Sustainable resource use
27		Use of scarce resources (water, energy)
28		Treatments of wastes/Recycling initiatives
		Environmental management
29		Innovative ecological/environmental technologies
30		Strategic environmental management /adoption of standards
31		Environmental objectives and appraisal
32		Expenditures on environmental protection
33		Risk management
34		Accountability about the corporate strategy of production
35		Partnerships on environmental projects
		Protection and restoration of the natural environment
36		Reforestation
37		Restoration of the sites
38		Protection of diversity
39		Management of environmental nuisances
	Business behaviour	Consumer issues
40		Use of toxic substances
41		Percentage of R&D budget devolved to CSR
42		Marketing research about customers' CSR needs or expectations
43		CSR products (green, ethical, etc.)
44		CSR advertising towards customers/responsible marketing
45		Protecting consumers' health and safety
46		Responsible contractual agreements
47		Assistance for poor/incapacitated customers
48		Information provided to consumers and gauging their satisfaction

		Socially responsible purchasing
49		Internal policies (charter)
50		Setting purchasing criteria (social and environmental)
51		Applying assurance practices
52		Managing suppliers relations
53		Building internal SRP capacity
		Fair operating practices
54		Anti-corruption training and policies
55		Responsible political involvement
56		Fair competition (avoidance of anti-competitive behaviour)
57		Compliance with regulation
	Finance and governance	Finance and CSR
58		CSR investments
59		Inclusion in CSR stock indices
60		Dialog with CSR rating agencies
		Principles of governance
61		Accountability towards stakeholders
62		Investor relations
63		Respect of governance principles
64		Shareholders communication policy
	Aggregated CSR policy	Formalization of the CSR policy
65		Strategic intent toward CSR expressed by the CEO or the Chairman
66		Definition of CSR objectives
67		Expression of CSR in core values of business
68		Definition of CSR actions
69		Evaluation of improvements in CSR actions
70		Evaluation of CSR outcomes
71		Evaluation of the impacts of the CSR policy on stakeholders
72		Independent review of the CSR policy
		Organizational structure of CSR
73		Top manager in charge of CSR (or sustainable development) on the board
74		Sustainability committee on the board
75		Existence of a CSR department
76		CSR charter
		CSR systems
77		Training program for the corporate employees in CSR
78		Training programs for the corporate stakeholders in CSR
79		Rewarding CSR at the executive level
80		Rewarding CSR for corporate managers
81		Functional or cross departmental structures towards CSR
82		Building of a socially responsible culture among the employees (by CEO)
83		Implementation/use of standards
84		Support of CSR internal entrepreneurship
		Dialogue with stakeholders
85		Involvement of the employees in the construction of the CSR reporting
86		Involvement of the external stakeholders in the CSR reporting
87		Involvement of the employees in the CSR audit/control of the enterprise
88		Involvement of the external stakeholders in the CSR audit of the enterprise
89		Partnerships with stakeholders at the corporate level (NGOs, State, etc.)
90		Annual meeting with stakeholders held by the CSR director
91		Publication of a CSR report
	Local CSR policy	Organizational structure of CSR
92		CSR representatives at part of each subsidiary
		CSR systems
93		Rewarding CSR at the local level
94		Support of CSR local internal entrepreneurship behaviour
95		Training programs for the local employees in CSR
96		Training programs for the local stakeholders in CSR
		Dialogue with stakeholders
97		Structures devolved to the dialogue with local stakeholders (committee, etc.)
98		Partnerships with stakeholders at the local level (NGOs, State, etc.)

Appendix 5 - Normality Tests

Normality tests for dependent, independent and control variables.

