

Readability of Financial Reports and IFRS Adoption in Australia

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Declaration

I hereby certify that this thesis is the result of my own research and that it has not, in part or in full, been submitted for a higher degree to any other university or institution.

Acknowledgements

I commenced my PhD as an innocent and immature person, who did not suffer from being underweight, who did not have the slightest idea of the true meaning of stress, and who did not understand why others needed to hide/work in their own caves. I also believed I could complete the thesis in less than the designated timeframe; how wrong I was. But, today I am proud to say that I have accomplished a huge task. And I would not have been able to achieve this without the help of others.

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Abstract

This thesis examines the impact of the adoption of International Financial Reporting Standards (IFRS) on the readability of financial disclosures, firm performance and analysts' forecasts in Australia. The thesis comprises three papers.

The first paper (Chapter 2) provides an historical review of quality in relation to financial reporting in Australia by investigating how the qualitative characteristics of relevance, reliability, comparability and understandability developed in Australia between 1961 and 2004. The notion of the 'quality of financial reporting' has been debated extensively by accounting standard setters and regulators both nationally and internationally. However, there is no unanimous agreement as to the meaning of the word 'quality' or the qualitative characteristics that contribute to notions of 'quality of financial reporting'. The objective of this paper is to investigate the meaning of quality in relation to financial reporting in different time periods over the past 40 years; how different characteristics were identified and developed; and how particular characteristics emerged, dominated and were then superseded or disappeared due to corporate collapses, changing economic conditions and globalisation.

The second paper (Chapter 3) examines the association between readability, firm performance and IFRS in Australia by assessing the impact of the adoption of IFRS on the readability of Notes to the financial statements in the Australian context, and the interaction effect between IFRS and firm performance on readability. This paper

uses the complexity of financial reports (Gunning Fog Index) and the number of words (Length) as proxies to measure the readability of financial reports. Results show that financial reports are significantly lengthier, yet are more readable in the post-IFRS period. Further, additional analyses identify that the length of disclosures in *Summary of Significant Accounting Policies*, *Financial Instruments* and *Intangible Assets* are significantly longer after the adoption of IFRS. However, there is no evidence to support any management obfuscation hypothesis in Australia as evidenced in prior United States (US) studies. Results do not demonstrate any differences in the readability of financial reports for poorly performing as opposed to better-performing firms in either pre- or post-IFRS periods, suggesting that managers continue to report both positive and negative information to investors.

The third paper (Chapter 4) examines the association between the readability of financial disclosures, analysts' forecasts and IFRS adoption in Australia by assessing whether the readability of Notes to the financial statements mediates the relationship between IFRS adoption and analysts' forecast accuracy. Results indicate that the readability of firms' disclosures mediates the relationship between IFRS adoption and the accuracy of analysts' forecasts. That is, the paper partially explains that more readable financial disclosures after the implementation of IFRS lead to greater accuracy of analysts' forecasts.

As a whole, this thesis first explores the concept of the quality of financial reporting, where notions of quality can be traced under different names and elements. The thesis identifies that quality is captured by the four qualitative characteristics,

relevance, reliability, comparability and *understandability*, where each qualitative characteristics represents an aspect of quality. The thesis then selects one of these aspects, *understandability*, and further narrows down to *readability*, in order to investigate the impact of IFRS on the readability of financial disclosures from: (1) the preparers' perspective because management prepares financial disclosures in the form of Notes to the financial statements and they may implicitly make assumptions about the appropriate level of readability of financial disclosures; and (2) the users' perspective because users read and attempt to understand the content of financial disclosures.

In order to examine the preparers' perspective, this thesis explores the relation between the readability of financial disclosures before and after IFRS adoption, and firm performance. To examine the users' perspective, this thesis investigates the relation between readability, IFRS adoption and analysts' forecasts.

Chapter 1: Introduction

1.1 Introduction and Motivation

Australia adopted International Financial Reporting Standards (IFRS) for reporting periods beginning on or after 1 January 2005. IFRS are based on the International Accounting Standards Board's (IASB) *Framework for the Preparation and Presentation of Financial Statements* (hereafter the *Framework*). In 2004, the Australian Accounting Standards Board (AASB) adopted the IASB *Framework*. Incorporated in the *Framework* at the time of its release were four principal qualitative characteristics of financial statements: understandability, relevance, reliability and comparability¹ (AASB 2004b). In arguing for its alignment with the IASB *Framework*, AASB Policy Statement 4 stated that 'the main benefits of international convergence and international harmonisation [would] include improving the quality of financial reporting in Australia to best international practice' (CPA Australia 2006, p. 1591).

The concept of 'quality' has been central to any debate on financial reporting, accounting standard setting and regulation both in Australia and internationally. The debate on quality in relation to financial reporting has been complex, confusing and even contradictory, and goes as far back as 1961 in Australia. As a result, it remains uncertain as to whether the objectives of IFRS adoption have been achieved, particularly in relation to understandability, as a qualitative characteristic of financial reports.

¹ The 2004 *Framework* was adopted as a reference point in order to compare the readability of financial disclosures pre- and post-IFRS.

According to the *Framework*, ‘an essential quality of the information provided in financial reports is that it is readily understandable by users’ (AASB 2004a, p. 16). This thesis uses the work of scholarly researchers to identify what it means for information to be ‘readily understandable’. Smith and Taffler (1992, p. 84) argue that ‘if the message intended by the preparers of accounting disclosures is to be successfully conveyed the receiver must be able both to read and understand it’. Hence, the authors suggest that for financial disclosure to be useful, it is related partially to the complexity of the information (i.e., readability), and partly to the capability of users in comprehending the appropriate meaning (i.e., understandability). This thesis adopts the view of Smith and Taffler (1992), that understandability and readability are separate components, but in combination they help convey the message of financial reports.

Understandability is a concept that is measured in the literature by cloze procedure (e.g., Adelberg 1979, 1982, 1983; Stevens et al. 1983; Adelberg and Razek 1984; Patel and Day 1996), and readability is a concept that is measured in the literature by readability indices (e.g., Heath and Phelps 1984; Courtis 1986; Jones 1988; Baker and Kare 1992; Jones and Shoemaker 1994; Courtis 1995, 1998). Arguably, readability indices provide an objective and reliable measure, as readers’ actual participation is not required (Jones 1988). In addition, readability indices are widely accepted as numerous social science studies have used readability indices to measure financial disclosures (see, e.g., Li 2008; Biddle et al. 2009; Lehavy et al. 2011; De Franco et al. 2014).

This thesis selects readability measures to evaluate the usefulness of disclosures in Notes to the financial statements after the adoption of IFRS. In other words, the thesis examines the impact of IFRS adoption on the readability of financial disclosures in the Australian context from the preparers and users' perspectives. The preparers' perspective is important because management prepares financial disclosures in the form of Notes to the financial statements, which implicitly make assumptions about the appropriate level of readability of financial disclosures. The users' perspective is important because users read and attempt to understand the content of financial disclosures.

First, in Chapter 2, this thesis explores the historical development of concepts of 'quality' of financial reporting. It investigates how the four qualitative characteristics of *relevance*, *reliability*, *comparability* and *understandability* developed in Australia and examines the academic and professional literature to determine how quality is defined. In addition to archival material, a number of interviews were conducted, and questionnaires distributed to seek the views of academics and others who contributed to the quality debate between 1961 and 2004. The research finds that, in Australia, the notion of 'quality' is captured by the concepts of *relevance*, *reliability*, *comparability* and *understandability*. The names and descriptions of these financial reporting elements have been debated over a 40-year period, yet the exact meaning of these elements remains unresolved, despite their adoption by the AASB *Framework* as the qualitative characteristics of accounting information (AASB 2004a). However, the exact meanings do not need to be resolved in order to identify that *relevance*, *reliability*, *comparability* and *understandability* are elements of

quality that commonly define financial reporting quality, and each qualitative characteristic is an aspect of quality.

After examining the concept of ‘quality’, by exploring how each of the four qualitative characteristics were defined over the past 40 years in chapter 2, chapters 3 and 4 focus on the empirical analysis of one qualitative characteristic. Specifically, chapters 3 and 4 investigate the impact of IFRS adoption on financial reporting quality in Australia through the lens of understandability: a qualitative characteristic of accounting information. The chapters empirically examine this one aspect of the quality of financial reports and its relation to IFRS adoption. Within the accounting literature, the quality of accounting information has been measured using a variety of models that rely on different variables as proxies for quality, such as relevance and reliability. For instance, many studies have applied a residual income valuation model to examine the value relevance of accounting (e.g., Bernard 1995; Feltham and Ohlson 1995; Ohlson 1995; Collins et al. 1997; Frankel and Lee 1998; Brown et al. 1999; Lee et al. 1999); other studies have used accruals and discretionary accruals (Sloan 1996; Teoh et al. 1998a, b; Nelson et al. 2002). In regards to reliability, there are studies that have relied on the principle of conservatism to analyse the systematic difference in earnings (e.g., Basu 1997; Pope and Walker 1999; Ball et al. 2000; Giner and Rees 2001; Ball et al. 2003). However, as relevance and reliability have been examined extensively in the extant literature, this thesis focuses on one aspect of the quality of financial reports that has had less attention – readability – which also relates to understandability.

Some studies suggest that there is no difference between readability and understandability (e.g., Barnett and Leoffler 1979; Adelberg and Razek 1984; Jones 1988); however, as discussed previously, Smith and Taffler (1992) suggest that these are two separate components. Based on this suggestion, this thesis examines readability as an element of understandability.

Accordingly, Chapter 3 evaluates the relationship between the readability of financial disclosures, firm performance and IFRS adoption from a preparer's perspective. This chapter first examines whether the readability of financial statements has improved since the adoption of IFRS. Readability is tested separately based on two components, namely, the *length* and *complexity* of financial reports. Number of words is used to measure the length of the financial statements, whereas the Gunning Fog Index is used to measure the complexity of disclosures. The chapter then evaluates the relationship between readability and firm performance.

Li's (2008) study found that management can obfuscate the readability of financial reports in response to poor performance. This provided managers with an opportunity to undertake more opportunistic behaviour in the event of poor performance. Therefore, has the introduction of IFRS altered managers' opportunistic behaviour in Australia? In other words, has the introduction of IFRS affected the relationship between readability and firm performance?

Chapter 4 continues to evaluate empirically the readability of financial disclosures and the implementation of IFRS but focuses on users of financial reports. Findings

from Chapter 3 indicate that financial reports are more readable after the implementation of IFRS. Hence, it is important to identify if the readability of financial reports will also influence the decision making of financial report users. As financial analysts are among the primary users of financial information (Schipper 1991), this chapter will specifically examine the relationship between the readability of financial disclosures, analysts' forecasts and IFRS adoption. In so doing, it identifies a potential explanation for the improvement in analysts' forecast accuracy in the adoption year, as found by Cotter et al. (2012). This chapter identifies whether the improvement in the readability of Notes mediates the relationship between the adoption of IFRS and greater analyst forecast accuracy. The following section provides a review of the literature.

1.2 Literature Review

1.2.1 IFRS adoption and the quality of financial reporting

Quality of financial reporting is an important concept; shareholders rely on financial statement preparers to provide quality reports that are useful for decision making, and this is reflected in the emphasis standard setters place on the notion of quality especially after the adoption of IFRS. According to AASB Policy Statement 4, the expected benefits of international harmonisation would include an increase in 'quality of financial reporting in Australia to best international practice' (CPA Australia 2006, p. 1591). Australia agreed that all reporting entities, including all firms listed on the Australian Securities Exchange (ASX), would apply IFRS from 1 January 2005 (FRC 2002). However, the quality of Australian accounting standards

was recognised prior to the adoption of IFRS, and ‘Australia was, and still is, regarded as one of the top four standardsetters ...’ (Tweedie 2011, p. 25). With limited studies that discuss what is meant by ‘quality of financial reporting’, it is necessary first to understand the concept of quality, and whether its meaning has changed over time, so as to provide a context for the other two studies in this thesis.

The debate over quality commenced around 1960 when different accounting methods were developed to improve financial reporting quality (Clarke 1984). Major external events such as rapid inflation and major corporate collapses during the 1970s impacted significantly on information usefulness, where *relevance* of information took precedence over *reliability* (McFarland 1969). As inflation became more stable in the 1980s, *reliability* became important again, and information was considered useful if it was both *relevant* and *reliable*. In the 2000s, Australia was working towards international harmonisation, and the standard setters included a secondary interactive characteristic, *comparability*, in the conceptual framework. In addition, *understandability* was introduced as one of the qualitative characteristics (Miller 1985; Henderson and Goodwin 1990; Millanta and Knapp 1995). Although ‘quality’ of financial reporting is not directly defined, the development of different names and descriptions are elements of quality that broadly coalesced into the qualitative characteristics developed by the AASB *Framework* namely, *relevance*, *reliability*, *comparability* and *understandability* (AASB 2004b). Therefore, each of these four qualitative characteristics is used to describe one aspect of ‘quality’.

Prior literature has expressed mixed views regarding financial reporting quality after the adoption of IFRS. For example, Ball (2006) is concerned that the implementation of IFRS may not enhance information usefulness despite the many advantages associated with its adoption. Nevertheless, Barth et al. (2008) show that by adopting International Accounting Standards (IAS) rather than non-US domestic standards, financial reporting quality improves, there is a reduction in earnings management and earnings smoothing, with more timely recognition of losses. In addition, recent studies have found that compliance with IFRS enhances the quality of financial disclosure in Germany, Switzerland and Austria (Daske and Gebhardt 2006), the UK (Iatridis 2010) and Ghana (Agyei-Mensah 2013). However, Paulo et al. (2013) are unable to identify any improvement in financial report quality in Brazil or Europe.

To evaluate empirically the impact of IFRS adoption on the quality of financial reporting in Australia, this thesis focuses on examining the readability of financial disclosure, which is one aspect of understandability, one of the qualitative characteristics of accounting information. Information usefulness depends on both readability and understandability, both of which measure the complexity of financial disclosure and the users' aptitude to interpret the relevant meanings respectively (Smith and Taffler 1992). Accordingly, it is critical that users have the capability to both read and understand financial reports; an important communication tool between preparers and users. As noted previously, Smith and Taffler (1992) suggest that readability and understandability are separate components, but standard setters should focus more on understandability. However, the IASB has acknowledged issues in relation to readability. According to the former vice-chairman of the IASB,

Tom Jones, ‘what we have done experimentally is we’ve rewritten some of our standards in very simple English, leaving out all the technical complexity ...’ (Jones cited in CPA Australia 2005, p. 12). While it is not possible to eliminate all technical complexity from accounting standards, it is possible to ensure that standards are readable; thus, this thesis explores the impact of IFRS adoption on the readability of written material.

1.2.2 Readability of financial reports

Readability of written material is not a new concept and the extant literature that examines readability dates back to the 1940s. For example, Gunning (1945) investigated the readability of newspapers, and concluded that newspapers were difficult reading material. This finding led Gunning to develop a new measure to evaluate the readability of written material, known as the Gunning Fog Index (hereafter Fog Index) (Gunning 1952). Around the same time, Flesch (1948, 1949, 1951) also established a measure to test readability, known as Flesch Reading Ease. These measures are two of the most well-known readability measures that have been used in the prior literature, and they will also be used in this thesis. Another readability measure not included in this thesis but which was inspired by the Flesch Reading Ease is the Dale-Chall Formula, which relies on a word list of 3,000 words to predict vocabulary difficulty. The Dale-Chall Formula depends upon a specially designed list of 3,000 common words where a word is deemed difficult if it is unfamiliar to most fourth-grade students (Dale and Chall 1948a, b). In addition to the Dale-Chall Formula, Fry’s Readability Graph uses a graphic solution for readability

(Fry 1968), and the Lix Readability Formula determines the difficulty of reading a foreign text (Björnsson 1968).

Numerous previous studies examine the readability of whole financial reports using the Fog Index and/or the Flesch Reading Ease and agree that, on average, readability of financial reports is ‘difficult’ or ‘very difficult’. Because of the overuse of long sentences and words with many syllables, reading ease has not improved over time (Pashalian and Crissy 1950, 1952; Soper and Dolphin 1964; Smith and Smith 1971; Dolphin and Wagley 1977; Holley and Early 1980; Courtis 1995). Other researchers have examined the readability of Notes to the financial statements, and consider them to be ‘very difficult’ to read even for very experienced users (Healy 1977; Barnett and Leoffler 1979; Smith and Taffler 1992). Although these other reports are ‘difficult’ to read, when compared to reports such as chairmans’ reports, presidents’ letters and employee reports, the readability of Notes is noticeably harder as opposed to other sections of financial reports owing to the use of technical jargon. Also, on average, the Notes are less readable in larger firms’ financial reports as opposed to smaller firms (Still 1972; Pound 1980; Heath and Phelps 1984; Courtis 1986; Jones 1988; Schroeder and Gibson 1990; Baker and Kare 1992; Jones and Shoemaker 1994).

In the last 10 years, the readability literature has extended the evaluation of the readability of financial reports to examine the association between readability and other areas, such as current earnings and earnings persistence (Li 2008), the trading behaviour of investors (You and Zhang 2009; Miller 2010), analysts’ following

(Lehavy et al. 2011) and analysts' reports (De Franco et al. 2014). Li (2008) found that managers in poorly performing firms tend to prepare less readable (i.e., harder to read) financial reports than better-performing firms, suggesting that managers obfuscate information and may strategically hide adverse information from users. With less readable financial disclosures, investors' reactions to trading volumes and stock-price movements are affected and delayed (You and Zhang 2009). It is because investors find it too costly to process complicated reports, thereby reducing their trading activity and consensus, but the impact is more significant on small investors than on large investors (Miller 2010). Although less readable firm disclosures affect investors' trading behaviour negatively, they increase the demand for analysts' services. When firms prepare less readable disclosures, analysts' followings grow due to the increasing demand for their services; hence, analysts put more effort into generating reports that are also more informative (Lehavy et al. 2011). Accordingly, the readability of financial reports is important as it influences the behaviour of both investors and analysts, and De Franco et al. (2014) conclude that more readable analysts' reports increase trading volume.

An examination of the extant literature shows a rich analysis of the readability of financial disclosures; however, how has the implementation of IFRS affected the readability of financial reports? Accordingly, the objective of Chapter 3 is to examine the readability of financial statements after the adoption of IFRS. In addition, this thesis also investigates if managers in Australian firms obfuscate information when firms perform poorly, as identified in a US study (Li 2008). After a thorough evaluation of the readability of financial reports from the preparers'

perspective, the thesis will continue to explore the readability of financial disclosures from the users' perspective, and poses the question: does readability mediate the relationship between IFRS adoption and analysts' forecast accuracy?

1.2.3 Analysts' forecasts

There are different groups of users of financial reports such as investors, government agencies and financial analysts. Undoubtedly, one of the major groups of users is the financial analysts who routinely rely on financial reports to predict and forecast firms' performance. Glaum et al. (2011, p. 1) found that 'only the quality of notes to companies' financial statements appears to matter to analysts; the quality of management reports appears to make no difference'. Therefore, analysts have been selected in this thesis to represent the users group in evaluating the readability of financial disclosures.

Before the implementation of IFRS, results in relation to attributes of analysts' forecasts and IFRS adoption varied. Ashbaugh and Pincus (2001) report that compared to the use of national accounting standards, compliance with IAS led to lower analyst forecast errors. Moreover, the result is more significant when differences in accounting standards relative to IAS are greater. However, Cuijpers and Buijink (2005) observe higher forecast dispersions for firms that voluntarily adopted IAS and suggest that it may take time to realise the benefits of IFRS adoption.

In contrast, the following literature unanimously agrees that forecast accuracy increases after the introduction of IFRS. Ernstberger et al. (2008) and Glaum et al. (2011) found that in a homogeneous environment, forecast accuracy is greater for firms applying IFRS than for those applying German Generally Accepted Accounting Principles (GAAP). However, the benefits of IFRS adoption are not universal and may differ across countries and legal origins (Wang et al. 2008; Byard et al. 2011; Horton et al. 2013; Preiato et al. 2013). Using IFRS provides better quality information if IFRS are rigorously enforced, (Hope 2003, 2004; Byard et al. 2011; Preiato et al. 2013), and if domestic accounting standards are substantially different from the standards adopted under IFRS implementation (Byard et al. 2011). These results show that forecast uncertainty decreased and forecast accuracy increased. (Tan et al. 2011; Horton et al. 2013). The implementation of IFRS also exhibits other benefits; for instance, information asymmetry may be reduced (Hodgdon et al. 2008) and it is beneficial to financial analysts as mandatory IFRS adoption attracts foreign analysts, especially to countries that adopt IFRS (Tan et al. 2011). Further, Cotter et al. (2012, p. 414) found that ‘analysts coped well with the change to IFRS in the adoption year’, as there is greater forecast accuracy in the adoption year. However, the authors ‘could not empirically link the year-end IFRS impact disclosures to attributes of analyst forecasts’.

Nevertheless, there could be specific changes within IFRS that affect properties of analysts’ forecasts negatively. For example, the adoption of IFRS in Australia prohibits certain capitalisation of intangible assets, but capitalisation results in lower

forecast errors and dispersion. Therefore, such restrictions could potentially increase forecast errors and reduce information usefulness (Matolcsy and Wyatt 2006).

The extant literature provides consensual support for the assertion that IFRS adoption increases forecast accuracy. But what are the potential factors that drive such an improvement? Cotter et al. (2012) attempt to identify reasons as to why IFRS compliance leads to greater forecast accuracy, but their results are inconclusive. Therefore, one of the aims of this thesis is to investigate whether the readability of financial disclosures is one of the potential factors that lead to greater analyst forecast accuracy after IFRS adoption.

1.3 Research Questions

Following are the research questions posed in this thesis:

1. What is meant by ‘quality’ in relation to financial reporting? And did that meaning change over the period 1961 to 2004? (Chapter 2)
2. What is the impact of the adoption of IFRS on the readability of Notes to the financial statements in Australia? And has the introduction of IFRS altered the relationship between readability and firm performance? (Chapter 3)
3. Does the readability of Notes to the financial statements mediate the relationship between IFRS adoption and analysts’ forecasts? (Chapter 4)

1.4 Research Method

The research methodology adopted in Chapter 2 is a qualitative analysis and synthesis of the relevant academic and professional literature from 1961 to 2004. In addition, to provide a further perspective on discussions regarding the elements of quality, interviews with and surveys of academics and others who contributed to the quality debate during the identified period were conducted. There were five interviews and four surveys. These included views from experts in academia and practice, such as Professors and Associate Professors of accounting and standard setters. The length of each interview was approximately one hour and they were digitally recorded and transcribed. The digital recording and transcription of each interview was stored in separate folders for easy access and identification.

In relation to the empirical part of this thesis (Chapters 3 and 4), the research method is quantitative and used publicly available data. The sample selected is all firms listed on the ASX between 2001 and 2009. The transitional period was omitted to avoid the preparers' unfamiliarity with the IFRS system, such as unfamiliarity with the adoption of any new accounting standards. Therefore, pre-IFRS denotes the period from 2001 to 2004 and post-IFRS denotes the period from 2006 to 2009. Data in relation to firms' financial reports were collected from *Aspect Annual Reports Online* and the firms' websites. This thesis used the Fog Index as the primary measure and the Flesch Reading Ease in sensitivity analysis; these readability indices were computed based on the publicly available Java Fathom library. Different types of regression models were used to test the hypothesis. Chapter 3 used two fixed-effects regression models. The first model regressed the readability of financial

disclosures, separated into the readability index and length of the financial reports, against IFRS adoption with the other firm characteristics as control variables. The second model regressed the readability index and length of the financial reports against an interaction between IFRS adoption and firm performance, to test the impact of IFRS adoption on the relation between firm performance and the readability of financial disclosures.

In relation to the additional data for analysts' forecasts in Chapter 4, the thesis used I/B/E/S for information relating to properties of analysts' forecasts, *MorningStar DataAnalysis Premium* for sales and growth, CRIF for market capitalisation and SIRCA for earnings announcement dates. These databases were combined to first identify firms that matched the samples from the I/B/E/S ticker, ASX and SIRCA (#RIC) codes; firms were discarded if no match was identified. Further, to ensure sufficient diversity to calculate the dispersion of the forecasts, the sample firms were excluded if less than four analysts followed them.

This chapter used a number of ordinary least squares (OLS) regression models to test for a mediation effect. A mediation effect examines if the improvement in analysts' forecast accuracy after the adoption of IFRS is due to more readable financial reports. For a mediation effect to be established a significant relationship first has to be confirmed for three regressions. Analyst forecast error was regressed against IFRS adoption, readability index was regressed against IFRS adoption, and forecast error was regressed against readability index. In a fourth regression of analysts' forecast error on IFRS adoption, readability was included as a mediating variable, which

should be significant, and the coefficient of IFRS adoption should be smaller than in the first regression model. The Sobel (1982) product of coefficients approach was used to test the significance of the mediation effect. Chapters 3 and 4 provide a detailed description and analysis of these empirical models. Statistical software – STATA – was used to conduct all the analyses.

1.5 Structure of the Thesis

The format of this thesis is by publication and is composed of three papers. The first paper (Chapter 2) provides an historical review of the notion of quality in relation to financial reporting in Australia between 1961 and 2004. The second and third papers (Chapters 3 and 4) are empirical studies that attempt to explore the notion of quality particularly in relation to the readability of Notes to the financial statements and how this readability was affected after the adoption of IFRS. The aims and motivations of these papers are presented as follows.

1.5.1 Paper 1 (Chapter 2): An historical review of quality in financial reporting in Australia

1.5.1.1 Aim

Australia's early adoption of IFRS in 2005 was justified by the argument that the quality of financial reporting would be improved as a result. The purpose of Paper 1 is to provide an historical review of quality in relation to financial reporting in Australia by investigating how the qualitative characteristics of *relevance*, *reliability*, *comparability* and *understandability* developed in Australia between 1961 and 2004.

It also provides a history of contemporary accounting dilemmas and reveals a lack of resolution in relation to issues associated with each of the qualitative characteristics. An earlier version of Paper 1 was presented at the 12th World Congress of Accounting Historians in 2008. The paper (co-authored with Elaine Evans and Sue Wright) was published in *Pacific Accounting Review*, 2010, vol. 22, issue 2, pp. 147–169. The author of this thesis contributed 80 per cent to this paper.

1.5.1.2 Motivation and contribution

‘Quality of financial reporting’ is an important concept that is regularly referred to, especially since the adoption of IFRS in Australia. According to AASB Policy Statement 4, the benefits of international convergence and harmonisation include ‘improving the quality of financial reporting in Australia to best international practice’ (CPA Australia 2006, p. 1591). The notions of quality are contestable and malleable, and the emphasis on the meaning of quality has changed over time. This paper establishes links between attributes of accounting information that have been considered vital over the past 40 years, and the four qualitative characteristics adopted by the AASB *Framework* to investigate what characteristics were in play at the time Australia adopted IFRS. The paper investigates and reveals that many terms and associated elements have been identified in the academic and professional literature, all of which have contributed to a definition of the notion of ‘quality’ at various times. Because this study evaluates the evolution of these elements and how different meanings changed over time, it contributes to an understanding of the genesis of the qualitative characteristics of financial reporting.

1.5.2 Paper 2 (Chapter 3): Readability of Notes to the financial statements and the adoption of IFRS

1.5.2.1 Aim

It can be argued that financial reports should present clear and easily comprehensible information that is useful for investors, yet in general there are uncertainties regarding the impact of IFRS adoption on financial report readability. Accordingly, this study examines the association between the readability of financial disclosures, firm performance and IFRS adoption in Australia by assessing: (1) the impact of the adoption of IFRS on the readability of Notes to the financial statements in the Australian context; and (2) the interaction effect between IFRS and firm performance on readability. An earlier version of Paper 2 was presented at the American Accounting Association (AAA) conference in 2011. This paper (co-authored with James Lau and Pawel Mazur) is currently under review in *Accounting and Business Research*. The author of this thesis contributed 80 per cent to this paper.

1.5.2.2 Motivation and contribution

There is general criticism that financial reports are hard to read. In particular, Notes to the financial statements are the least readable when compared to other sections of financial reports (e.g., Courtis 1995; Hoogendoorn 2006; Li 2008; Peach 2009). In response to this criticism, the IASB rewrote some of the accounting standards in plain English (CPA Australia 2005). Since the wording of the Notes is reproduced mainly from the accounting standards and specimen accounts devised by various accounting firms, reducing the use of technical jargon in the standards should lead to these Notes being more readable. The IASB's agenda to simplify the wording of

accounting standards after the implementation of IFRS provides the motivation to investigate the readability of financial disclosures to determine the effectiveness of the IASB's initiative.

Also, the worldwide adoption of IFRS indicates that it is important to examine the impact of IFRS adoption on readability. Information usefulness is essential in the *Framework*, as the purpose of financial reports is to provide information that is useful for economic decisions (IASB 2010). For information to be useful, users of financial reports need to be able to understand it. For a message to be understandable, it needs to be readable. Once it is readable, how and to whom is it useful? Managers as preparers disclose information about firm performance through numbers, which are presented in financial reports. Notes providing further explanation accompany these numbers. If managers include less disclosure in these notes, information may not be transparent. If managers include too much disclosure, there could be information overload, which could lead to confusion and uncertainty (CPA Australia 2005; Hoogendoorn 2006; CPA Australia 2007; Wilkinson 2007; O'Brien 2009; Peach 2009). Because it is important to examine both the length and complexity of financial reports, this study investigates the readability of financial disclosures, as measured by length and complexity, firm performance and IFRS adoption.

This study extends the financial report readability literature by evaluating the impact of IFRS adoption by assessing whether the readability of financial reports is affected by the implementation of IFRS. The study contributes to an understanding of the issues relating to effective communication. For information to be communicated

effectively, it needs to be more readable, and it is argued that readability can be achieved when there are more disclosures as they can enhance transparency, and increasing transparency should alleviate uncertainty and confusion. However, other studies argue that IFRS may be too complex and difficult to read (e.g., Hoogendoorn 2006; Peach 2009). This study helps to resolve this ambiguity by finding that readability is enhanced in spite of lengthier disclosures.

1.5.3 Paper 3 (Chapter 4): Readability of Notes to the financial statements, analysts' forecasts and IFRS adoption

1.5.3.1 Aim

The objective of this paper is to evaluate whether more readable financial disclosures will improve the decision making of financial report users, in particular financial analysts who are a significant group of users (Schipper 1991). Accordingly, the paper examines the association between the readability of financial disclosures, analysts' forecasts and IFRS adoption in Australia by assessing whether the readability of Notes to the financial statements mediates the relationship between IFRS adoption and analysts' forecasts. This is a sole-authored paper.

1.5.3.2 Motivation and contribution

In prior studies, Cotter et al. (2012) report that analysts' forecast accuracy is enhanced in the year of adoption; in Australia, Cheung and Lau (2014) found that financial reports are more readable after the implementation of IFRS; and Lehavy et al. (2011) report that, in the US, analysts' forecast accuracy improves when financial

reports are more readable. So, if there is greater analyst forecast accuracy and more readable financial disclosures after the adoption of IFRS, and if readability affects analysts' forecasts, then does the readability of financial disclosures mediate the association between analysts' forecast accuracy and IFRS adoption? If a mediation effect is established, this will provide a possible explanation as to why analysts' forecasts improve after the adoption of IFRS. The paper extends the financial reporting readability literature as it helps to explain why analysts' forecast accuracy improves IFRS compliance. It also demonstrates that the readability of financial disclosures partially mediates the relationship between IFRS adoption and analysts' forecast accuracy. This result was not identified in Cotter et al.'s (2012) study.

1.6 Contribution of the Thesis

In addition to the contribution made by each of the papers, this thesis contends that readability is an important aspect of financial reporting. Moreover, the thesis explores how the change in accounting standards affects the readability of financial disclosures, specifically focusing on the effect of IFRS adoption on management's preparation of financial disclosures in the Notes, their level of readability, how firm performance affects readability and how that level of readability affects analysts' forecast accuracy. This thesis provides empirical evidence to standard setters regarding the benefits of adopting IFRS. It also provides assurance to practitioners and users regarding the improved readability of financial disclosures in the post-IFRS periods.

1.7 Organisation of the Thesis

The remainder of the thesis is organised as follows. Chapter 2 provides an historical review of quality in financial reporting in Australia (Paper 1). Chapter 3 empirically evaluates the readability of Notes to the financial statements and the adoption of IFRS (Paper 2). Chapter 4 (Paper 3) covers the association between readability of financial disclosures, analysts' forecast and IFRS adoption. The conclusions and implications are discussed in Chapter 5.

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Chapter 2: An Historical Review of Quality in Financial Reporting in Australia²

2.1 Introduction

Before the introduction of International Financial Reporting Standards (IFRS), Australia had a reputation for the quality of its national accounting standards. Yet the stated objective and one of the perceived benefits of IFRS adoption is improved quality of reporting. AASB Policy Statement 4 argues that ‘the main benefits of international convergence and international harmonisation [would] include improving the quality of financial reporting in Australia to best international practice’ (CPA Australia 2006, p. 1591).

To understand the notion of quality and to determine what it is that needed improving we pose the following questions: what is meant by ‘quality’ in relation to financial reporting? And did that meaning change over the period 1961 to 2004? In seeking answers to these questions, this paper traces the evolution of elements related to the quality of financial reporting in Australia. As such, it is not examining the objective of financial reporting or the notion that compliance with accounting standards will actually provide quality financial reports.

The period opens in 1961 with the introduction of a national legislation for companies in Australia (*Companies Act 1961*) that emphasised the notion of ‘true

² This chapter was published in *Pacific Accounting Review*, 2010, vol. 22 (2), pp. 147-169. The data was collected in 2007.

and fair' in relation to financial reporting. It closes in 2004 when the Australian Accounting Standards Board (AASB) *Framework* was issued 'as an Australian guidance document to accompany the 2005 platform of Australian equivalents of International Financial Reporting Standards (ICAA 2008, p. 23). The AASB *Framework* is the Australian equivalent of the International Accounting Standards Board (IASB) *Framework*.

In addition to reviewing the academic and professional literature in relation to quality of financial reporting in Australia, we present the views of a number of experts in academia and practice. These experts included eight accounting professors in Australia who witnessed changes and developments in the meaning and usage of the word 'quality', and are known to have contributed to accounting debates over many years. They have taught in universities, written accounting textbooks, and held positions in professional accounting and regulatory bodies. Other experts were two practitioners who were identified by the four original interviewees as being important contributors to debates surrounding the quality of financial reporting.

There is limited discussion in relation to 'quality of financial reporting' in professional and academic discourse, yet quality is a concept that is regularly referred to, notably in recent years when Australia adopted IFRS. Although the meaning of the word 'quality' is seldom addressed directly, different associated elements have been identified that contribute to a definition of the concept of 'quality'. In this paper they are grouped according to the qualitative characteristics

identified in the 2004 AASB *Framework* namely, *relevance*, *reliability*, *comparability* and *understandability* (AASB 2004).

This paper contributes to our understanding of the qualitative characteristics of financial reporting by examining the evolution of the elements that make financial information in general purpose financial reports useful. It is organised as follows. The second section briefly describes the backdrop to the development of accounting in Australia from the 1960s to the 1990s. The next section reviews the academic and professional literature in relation to notions of quality during the period under review. The fourth section reports the views expressed by leading accounting professors and others on the development of the concept of quality. The final section draws together the agreed definitions and unresolved issues for each of the qualitative characteristics, and suggests how future research may use these to further our understanding of the meaning and value of quality of accounting information for their users.

2.2 Background and Historical Development

Before 2002, when the Financial Reporting Council (FRC) formally announced that all Australian reporting entities would adopt the standards of the IASB, Australia enjoyed an international reputation for its high-quality national accounting standards. Yet it was one of the early adopters of IFRS with the express purpose of ‘improving the quality of financial reporting’. Some understanding of the development of the elements and concepts related to quality will shed light on what it is that needed improving.

In Australia, historical cost accounting was widely accepted as the dominant accounting valuation method used by the accounting profession until the mid-1970s (Clarke 1984, p. 91). This accounting method uses the original nominal monetary value to record the value of an asset (Hendriksen and Van Breda 1992, p. 491), and it is based on a stable measuring unit where price changes are ignored. The use of original monetary value for accounting information is verifiable and *reliable* to users.

However, during the early 1970s, high inflation resulted from a rapid increase in oil prices and wage growth (Reserve Bank of Australia Bulletin 2000, p. 22; ABS 2008). Academics recognised the limitations of historical cost accounting, arguing that although the information it provided was *reliable*, it was not useful. Without an adjustment to reflect changes in the price level, the information was irrelevant for decision making. Some argued that this led to major corporate collapses later in that period (Skyles 1988; Deegan 2006, pp. 130, 131).

Professor R. J. Chambers was one of the first Australian academics in the 1960s to make a significant contribution to the development of a different accounting method, Continuously Contemporary Accounting (CoCoA). Chambers attempted to improve external financial reporting quality (Clarke 1984, p. 80), and to overcome the limitations of historical cost accounting, he adjusted capital for purchasing power to capture the concept of 'real capital' (ibid, p. 89). CoCoA prescribes that 'assets should be valued on the basis of exit [or selling] prices' (Deegan 2005, p. 104). Although such reporting would provide information that users find more *relevant* to their decision making, the new method of accounting was too different to current

practice at the time, and its adoption was not widely championed. Furthermore, the Sandilands Report (1975) in the UK on *Inflation Accounting* argued that an accounting method which includes differences in purchasing power was not useful, because the rate of inflation varies between individuals and between entities. Hence alternatives to historical cost accounting, such as the use of current value, were not accepted in Australia in the 1960s (Clarke 1984, pp. 83, 91).

In summary, the debate in the 1960s over how to incorporate changing prices into the accounting system highlights the importance of considering the needs of users when assessing the quality of financial reporting. Major external events influenced the usefulness of information in different periods. The primary characteristic of quality shifted from *reliability* to *relevance*; then *reliability* was restored to equal importance with *relevance* when considering quality. Later, *comparability* was introduced as a secondary interactive quality by standard setters under the conceptual framework, while *understandability* was deemed also to be ‘one of’ the qualitative characteristics (Miller 1985; Henderson and Goodwin 1990; Millanta and Knapp 1995).

2.3 The Elements of Quality

The notion of quality in relation to financial reporting is ambiguous and contestable. Different names and descriptions of the concepts have been developed, as illustrated in Figure 2-1. To understand the notion of quality and discover how its meaning evolved over a 40-year period, this section investigates how *relevance*, *reliability*, *comparability* and *understandability* developed and were settled upon as elements of

quality in Australia between 1961 and 2004. Further, Figure 2-1 illustrates how the ideas behind each of the qualitative characteristics evolved, developed, continued or were abandoned.

<Insert Figure 2-1 here>

2.3.1 Relevance

According to the AASB *Framework* (ICAA 2008), *relevance* has a ‘predictive and confirmatory role’ (para. 27), where ‘to be useful, information must be *relevant* to the decision making needs of users. Information has the quality of *relevance* when it influences the economic decisions of users’ (para. 26). ‘The *relevance* of information is affected by its nature and materiality’ (para. 29), and ‘information is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial report’ (para. 30).

The definition of relevance in the AASB *Framework* is similar to other definitions that were circulated in the period under review (Stewart 1966; Birkett 1968; Barton 1969; McFarland 1969; Greenball 1971; Popoff 1973; McKeon 1976; Lee 1982; Miller 1985; Ryan 1985, 1988a, b; English 1992). In an attempt to define *relevance*, different attributes were articulated. The two attributes discussed from the 1960s to the 2000s were usefulness (which later became decision-usefulness, thus including the concept of timeliness) and materiality.

The main focus of usefulness is the provision of useful information in a timely manner for decision making. Elsworth (1964, p. 668) proposes that usefulness ‘could help [users] in their interpretation’. One American Accounting Association (AAA) study in 1966 suggests that useful accounting information occurs, when ‘it involve[s] a consideration of all four standards, that is, *relevance*, verifiability, freedom from bias and quantifiability’ (Caplan 1969, p. 51). Bodenhorn (1978, p. 4) reports the findings of the Study Group by the American Institute of Certified Public Accountants (AICPA) in 1973 and clarifies for what purpose users need information. He says that ‘since economic decision-makers cannot know the future, they must approach it by looking to the past and the present. For this reason, financial statements that provide information about the past and the present are useful for making predictions on which to base economic decisions’. This is supported by Coombe (1983, pp. 524, 525) who states that, ‘... [if] accounting standards can help stop shareholders and creditors losing money through company failures, they serve a useful and commercial purpose’.

However, the definition of usefulness does not clarify the identity of the users: that is, for whom is it useful? Should financial reports be prepared from the users’ perspective or from the preparers’ perspective? And what is the users’ purpose? (American Accounting Association 1977; Staubus 1977; Hampton 1999). Information which is useful to some individuals and for some purposes may not be useful to other individuals and for other purposes (Henderson 1971; Fargher 1973, p. 33). The definitions of relevance and usefulness require the identification of the

implied user, and the reasons why these reports are prepared, as well as the provision of this information on time (Gynther 1968; Kenley 1969; McFarland 1969).

The second term, *materiality*, meant the provision of sufficient and significant information to users. In the early 1960s, there was a focus on adequate information, because users wanted to obtain significant information to impact their decision making (O'Halloran 1958). However, in the absence of guidance as to how much information is sufficient, from the 1970s, this was determined by professional judgement. Hence, '[it] is arbitrary and therefore is an area of opinion' (Harrowell 1967, p. 404).

Kenley (1971, p. 10) posits that 'financial reporting is only concerned with significant information'. However, which information is significant? Craswell (1969, p. 6) suggests that 'an item should be regarded as material if there is a reason to believe that knowledge of it would influence the decision of an informed investor'. Consistent with AAS 5 Materiality in Financial Statements,³ 'an item should be considered material if its omission, non-disclosure or misstatement would result in distortion of, or some other shortcoming in, the information being presented in the financial statements, and thereby influence users of the statements when making evaluations or decisions' (Walker 1970; Pound 1985, p. 30). However, there is a slight inconsistency in the definition of the term 'materiality' between AAS 5 and the AASB's standards, where the former denotes 'deliberate deception or manipulation',

³ AAS 5 is an Australian Accounting Standard (AAS) on materiality. It defines what is meant by materiality, its associated role and compliance issues. This statement was issued by the Australian Accounting Research Foundation (AARF) in September 1995.

while the latter induces ‘more innocent undertones’ (Millanta and Knapp 1994, p. 81). As there is no strict rule to determine whether or not a particular piece of information is material, the exercise of skill and professional judgement based on experience is required to give a true and fair view of the business performance (Kenley 1969; Walker 1970; Howieson 1989; Millanta and Knapp 1994). This is because there is a ‘possibility of otherwise identical items being considered material in one set of circumstances and immaterial in another’ (Millanta and Knapp 1994, p. 78).

Although different terms are used to explain relevance, in effect the two concepts, usefulness and materiality, are closely associated. The combination of concepts underpinning the different terms leads to our current understanding of the term relevance; that is, ‘information has the quality of *relevance* when it influences the economic decisions of users by helping them evaluate past, present or future events or confirming, or correcting, their past evaluations (usefulness)’ (ICAA 2008), and the ‘omission or misstatement could influence the economic decisions of users taken on the basis of the financial report (materiality)’. The terms ‘usefulness’ and ‘materiality’ are still widely accepted to describe this element of quality in financial reporting. Further, the use of decision usefulness as part of relevance is consistent with the conceptual framework because decision usefulness is, in its own right, the main objective of financial reporting. However, several important aspects of these concepts have not been resolved; in particular, who are the users of financial reports, and for what purposes are the financial reports used?

2.3.2 Reliability

The AASB *Framework* para. 31 states that ‘to be useful, information must also be *reliable*. Information has the quality of *reliability* when it is free from material error and bias and can be depended upon by users to represent faithfully that which it either purports to represent or could reasonably be expected to represent’ (ICAA 2008). Further, para. 32 states that ‘information may be *relevant* but so unreliable in nature or representation that its recognition may be potentially misleading’.

To understand the development of this definition, key concepts are identified. They are conservatism (which became prudence in the 1970s); accuracy (for which alternative terms are verifiability in the 1960s and 1970s and validity in the 1970s); disclosure; true and fair or present fairly; and substance over form and neutrality. While some of these terms are no longer current, others are still applied and are discussed in turn.

The term ‘conservatism’ related to exercising quality judgement in times of uncertainty and risk, and was ‘not a justification for deliberate understatement’ (Kenley 1969, p. 418). However, it was replaced in the 1970s by ‘prudence’, where preparers need to include a degree of caution in the exercise of judgement under conditions of uncertainty, so that assets or income are not overstated and liabilities or expenses are not understated (AARF 1990). Prudence relied on the use of historical cost accounting (Faggotter 1975, p. 177). After the 1970s, both prudence and accuracy were phased out and not used as main concepts to capture reliability.

Accuracy was commonly used during the 1960s and 1970s, and its meaning was consistent over time. Halkerston (1964, pp. 626, 628) proposes that accuracy means that ‘earnings shown in the past income statements are a reflection of the company’s true economic performances, [where] published accounts should allow a reconciliation between profits as declared by the directors and the profits as computed by the Tax Commissioner’. In other words, to measure the truthfulness of information, it is crucial to ‘produce a measurement which is useful to decision makers and upon which they may base expectations and is tailored to the practical needs of decision makers’ (Burke 1967, p. 128).

Consistent with Halkerston (1964), Bottrill (1973, p. 142) agrees that accuracy is to ‘prepare information on an historical basis [where] nobody can argue the accuracy of the work and the result is verifiable without argument’. And verifiable refers to ‘the correctness of mathematics and logical arguments, the trustworthiness of reports, the authenticity of documents, the accuracy of historical and statistical accounts, the *reliability* and exactness of observations’ (Williams and Griffin 1969, p. 143).

Validity was an alternative term for accuracy and was argued to provide a more definitive guide than terms such as ‘usefulness, fairness, *relevance* or predictive ability ... where predictive ability is evaluated in terms of ability to predict events of interest to decision-makers’ (Greenball 1971, p. 2). Validity is ‘the degree to which the method actually measures that property which it purports to measure’ (ibid, p. 1). If the financial reports are trustworthy with valid results, users are able to make

decisions and judgements based on the information given, provided that such information is available and is disclosed to them.

Disclosure is where ‘accounting reports should disclose [information] which is necessary to make them not misleading’ (Gynther 1968, p. 270), and ‘based on a sound judgement and materiality level’ (Yorston 1959, p. 507). This can be achieved when preparers ‘provide appropriate disclosure of any departure from [the professional bodies’] recommendations. Disclosure in the accounts should give reasons and should be quantified’ (Balmford 1977, pp. 547, 554) Any inconsistencies between accounting standards and accounting practices are clearly identified. The term ‘disclosure’ was used in conjunction with the term ‘true and fair’ in the 1980s.

The words ‘true and fair’ were used frequently during the 1960s, being previously known as ‘true and correct’ until 1944 (Gill 1983, p. 701). However, confusion arises as to what is meant by true and fair. It generally means that financial statements are in compliance with generally accepted accounting principles (GAAP), which assist with the presentation of companies’ financial position (Elsworth 1964; Gole 1964; Kenley 1964; Gutteridge 1965; Horrocks 1967; Australian Accountant 1969; Miller 1969). For instance, ‘[development of] a more comprehensive statement of the meaning of “generally accepted accounting principles”’ (Gutteridge 1965, p. 36), was regarded as a technique to help achieve true and fair.

Nevertheless, the definition of what standard setters meant by complying with GAAP is vague and unclear (Baxt 1967; Cowan 1971). Ryan (1967, p. 106) presents the

view that ‘within certain flexible extremities, “true and fair” can mean very much what directors and auditors want them to mean ... The qualification is [the assurance] that there is an identifiable code which answers the description of “generally accepted accounting principles”’. Further, Carey (1967, p. 9) argues that ‘generally accepted principles are distressingly permissive. Often they specify not one but two or more very different methods of treating certain transactions’.

Academics have attempted to clarify the meaning of true and fair. Baxt (1967, p. 30), states that it can be achieved through the preparation and analysis of the balance sheet ‘using historical cost of accounting’, and any other additional information necessary to ‘convey a truthful statement as to the company’s position’. It meant a record of an historical event, rather than a record to predict probable future directions. Of course, the question of identifying the users, for whom preparers wish to provide such a ‘true and fair’ view, remained unanswered (Baxt 1967, p. 38; Ryan 1967, p. 97).

The *Companies Act 1961* provided no guidance to assist preparers as to how to comply with GAAP. ‘The meaning of the words “true and fair” is not to be found within the four corners of the Act’ (Ryan 1967, p. 98). In addition, when the words true and fair were substituted for true and correct, ‘the difference in effect which the substitution sought to achieve is not clear’ (ibid, p. 100). Riley (1973, p. 16) reported in the 1970s that he found ‘the expression “a true and fair view” is not much easier to comprehend than its predecessor “a true and correct view”’. As Birkett (1968, p. 651) suggests, ‘the legislation does not operationally define this phrase, and, apparently,

neither the legislators nor the courts have any intention of doing so ... The profession has defined “true and fair” in terms of “generally accepted accounting principles” – where they are merely rules, by which financial statements are prepared, and about which no consensus has been reached’.

The definition of ‘presents fairly’ or ‘fairly presents’ can be considered as identical to the meaning of true and fair. It meant ‘in accordance with generally accepted principles of accounting ... with substantial accuracy’ (Garner 1960, p. 223). Towards the end of the 1960s, it included a certain degree of judgement. As McFarland (1969, p. 507) suggests, ‘they may differ widely on what presentation is fair for specific transactions and there is no firm basis for saying that one expert accountant’s opinion is correct to the exclusion of all others’.

In the 1960s, true and fair was generally taken to mean compliance with GAAP, and reliance on professional judgement. However, because its definition was not operationalised, there was difficulty in reaching a consensus view and the debate over true and fair view continued into the 1970s at which time it moved away from compliance with GAAP (Ryan 1977). Taylor (1977, p. 21) signals the dilemma of the ‘inconsistent view in relation to the objective of financial reporting. A true and fair view is said to be disclosure of all information necessary, while truth and fairness is to provide financial information about the economic affairs of an entity for use in decision-making’.

In the 1980s, the Statement of Accounting Practice D 1.1⁴ stated that ‘a true and fair view implies appropriate classification and grouping of the items and indicates that a true and fair view implies the consistent application of generally accepted accounting principles. Further, an adequate disclosure is an important requirement of a true and fair view’ (Gill 1983, p. 702). Regrettably, ‘legislators have abstained from providing any guidance as to its meaning ... left entirely to the directors and accountants monitored by the auditor to interpret what disclosure is necessary to arrive at a true and fair view’ (Gill 1983, p. 701). It was argued that compliance with GAAP or evaluation based on professional judgement could both be claimed to have attained a true and fair view (Ryan 1985; English 1989). Yet, the true and fair view had not been supported by the accounting bodies, and ‘no attempt has been made ... to specifically define “true and fair”’ (Edwards 1985, p. 6).

In the 1990s, the original debate explaining true and fair had no resolution (Deegan et al. 1994; Gearin and Khandelwal 1995). Critics, such as practitioners and academics, disagree that the term ‘true and fair’ can be equated with accounting standards (Deegan et al. 1994, p. 5), even though such a view was mostly advocated by ‘company directors, auditors and the Australian Securities Commission’ (Deegan et al. 1994, p. 4).

The debate in relation to the use of the term ‘true and fair’ or ‘present fairly’ continued with Picker (1992, p. 3) who suggests that to present fairly, ‘non-corporate

⁴ Statement D 1.1 is a *Statement of Accounting Practice* issued by The Institute of Chartered Accountants in Australia. Para. 3 of Statement D 1.1 discussed the ‘Presentation of the Balance Sheet’ in relation to a *true and fair* view.

reporting entities' must apply consistently 'SACs⁵ and accounting standards in their preparation and presentation'. On the contrary, to give a true and fair view, companies still need to apply SACs and accounting standards consistently (Picker 1992; Deegan et al. 1994), but it was only applicable to 'companies reporting under [Australian] Corporations Law'⁶ (Picker 1992, p. 3).

Substance over form was introduced in the Conceptual Framework in the 1970s as an 'important principle in accounting practice that is concerned with reporting a true and fair view and with providing financial statement users with information that can assist them in their decision making' (Millanta and Knapp 1995, p. 33). It meant that the economic substance of assets (and liabilities) may differ from their legal form, resulting in different treatments. 'It is the essential quality of the information, rather than the way it is presented, that is of the greater importance' (Murray 1994, p. 23). Substance over form had an increasing impact in determining *reliability* and it focused on the intention or the quality of information. According to Kenley (1971) financial accounting must emphasise economic substance. Further, to determine the intended use, users first need to assess whether or not they are provided with all available and neutral information, as it enhances 'confidence in the quality of financial reporting' (McGregor and Paul 1990, p. 13). Neutrality was 'the property by virtue of which a statement, singular or aggregative, is relevant whatever ends are

⁵ Statements of Accounting Concepts (SACs) were issued by the AASB together with the AARF during the early 1990s. Their objective was to develop the SACs as the basis for developing accounting standards in Australia (Picker et al. 2006).

⁶ With the aim of uniform laws and practices to regulate corporations in Australia, uniform companies' legislation was passed throughout Australia from 1961 to 1963. Subsequently, in order to keep the Australian market internationally competitive, amendments to companies and securities legislation from national schemes to the new national corporations legislation led to a new Corporations Act. Hence in Australia, there were 1962, 1981 and 1991 schemes, followed by the *Corporations Act 2001*.

selected by the actor for consideration’ (Craswell 1969, p. 6). ‘For an accounting standard-setting body to remain politically viable, its processes must be, and be seen to be, neutral’ (Hines 1983, p. 25). According to Miller (1985, p. 50), neutrality ‘implies even-handedness and not distorting accounting measurement to achieve some extraneous goal such as the stability of the financial system’. He further argues that ‘*reliability* is assumed and analysed by reference to the qualities of representational faithfulness, verifiability and neutrality’ (ibid, p. 50). However, it is important to note that ‘truth, fairness, neutrality, objectivity, freedom from bias and so on, change from era to era and place to place – from one person or group’s viewpoint to another ... Truth is not independent of time, place and viewpoint – there are many possible truths’ (Hines 1987, pp. 31, 33).

Since the 1980s, there has been a growing trend to use the term ‘neutrality’. McGregor and Paul (1990, p. 13) argue that ‘it is necessary that accounting standards be neutral, as far as possible, if confidence in the quality of financial reporting is to be enhanced’. Therefore, ED42B⁷ para. 20 states that ‘*reliability* is to be free from bias, that is, be neutral’ (Henderson and Goodwin 1990, p. 37). In other words, neutrality is the ‘faithful representation of information, including the uncertainties surrounding it’ (ibid, p. 38).

Various terms have been developed to represent *reliability*; however, their meanings are not significantly different from each other, and they are interrelated. In simple

⁷ Exposure Draft 42B (ED42B) is an exposure draft issued by the AARF in 1989 that related to the [then] planned conceptual framework. In particular, ED42B proposed that *relevance* and *reliability* should be the two primary qualitative characteristics of financial reporting and should be of equal importance.

terms, there is agreement that *reliability* means that information should be unbiased and non-misleading (neutral). Careful exercise of professional judgement in deciding the economic reality, rather than its mere legal form, is required (substance over form), so as to ensure that useful and important information is not omitted and is disclosed in an attempt to satisfy users' decision-making needs (disclosure). An unresolved aspect of this definition is: how can information be unbiased and neutral when choices available under accounting standards require the use of professional judgement?

2.3.3 Comparability

Comparability is defined in para. 39 of the AASB *Framework*, where 'users must be able to *compare* the financial reports of an entity through time in order to identify trends in its financial position and performance. Users must also be able to *compare* the financial reports of different entities in order to evaluate their relative financial position, financial performance, and cash flows'. Para. 41 further states that 'the need for *comparability* should not be confused with mere uniformity, it is inappropriate for an entity to leave its accounting policy unchanged when more *relevant* and *reliable* alternatives exist' (ICAA 2008).

The current understanding of *comparability* is similar to previous definitions (Tootell 1963; Gole 1964; Accountancy Research Foundation 1968; Dunn 1975; Australian Accountant 1989; van der Tas 1992; Sharpe 1998). It is important for users to make decisions on a sound basis using financial information that has been prepared to

allow *comparisons* within the same company across time and between companies. *Comparability* ‘demands that identical events in the two situations will be reflected by identical accounting facts and figures ... different events will be reflected by different accounting facts and figures in a way which quantitatively reflects those differences in a *comparable* and easily interpretable manner’ (Bell 1982, p. 11). Thus, ‘companies [that are] operating in comparable circumstances make the same choice between alternative accounting methods. This would eliminate one of the disturbing aspects causing differences between the figures in a financial report not originating from performance differences’ (van der Tas 1992, pp. 212, 213).

Comparability can also be explained with the aid of two terms that became widely known in the 1960s: consistency and uniformity/standardisation. Consistency implies that ‘the same methods should be used in each period or else the variation must be disclosed’ (Horrocks 1967, p. 570). The rationale behind reducing accounting alternatives is ‘a consistent approach, [which] acts as a deterrent against a company selecting accepted alternatives for different periods to produce widely varying results as a manoeuvre to deliberately mislead or to create the best picture’ (Harrowell 1967, pp. 403, 404). ‘Consistency is not the same as uniformity, and the emphasis has been on consistency of accounting treatment in the one company, combined with disclosure of the accounting method adopted’ (Kenley 1969, p. 416). In other words, ‘consistency is met when sound logical valuation methods, depending on the circumstances, are followed each year’ (Bottrill 1973, p. 146). This was also supported by Miller (1985). Over time, there has been no significant variation to the meaning of consistency. It means that whilst there are no differences in accounting

standards, variation in accounting practices has been allowed, provided that any such differences were disclosed.

Uniformity differs from consistency. Keown (1968, p. 195) states that ‘uniformity [exists] so that readers of financial statements will not be misled ... it does not mean a rigid set of detailed rules which would remove from the profession all need for the exercise of judgement and initiative’. Uniformity denotes ‘similar treatment of the same item occurring in many cases in similar business environments ... [while] different situations will be reported differently’ (Barton 1969, p. 618). Although this definition seems similar to the one applied to consistency, the distinction is the loss of flexibility in practice. ‘A regulation may apply to all companies ... [and] may contain a precise definition’ (Tay and Parker 1990, p. 73), with a ‘reduction or exclusion of choice’ (Tay and Parker 1992, p. 218). Uniformity is much stricter, with no variation in either the accounting standards or accounting practices, whereas consistency implies less strict regulations under which more choices are available.

The term ‘standardisation’ was used more regularly in the 1970s. It ‘generally aims to simplify and unify all aspects of accounting information systems in order to improve the *reliability* and consistency of information’ (Enthoven 1974, p. 298), and ‘is a movement towards uniformity’ (Tay and Parker 1990, p. 73).

In summary, there is a slight disparity between the two terms used in defining *comparability*. According to the AASB *Framework* definition, the ultimate aim is to allow users of financial reports to *compare* financial statements within the same

company across time and with different companies in the same period. Inconsistent use of accounting methods is deemed appropriate if it results in enhancement of *relevance* and *reliability*. But the question remains: how much discretion is appropriate to achieve *relevance* and *reliability*, or in more contemporary language, should good accounting practice be governed by principles or rules?

2.3.4 Understandability

According to para. 25 of the AASB *Framework*, *understandability* aims for ‘an essential quality of the information provided in financial reports [so] that it is readily *understandable* by users. Users are assumed to have a reasonable knowledge of business and economic activities and accounting, and a willingness to study the information with reasonable diligence’ (ICAA 2008). *Understandability* in earlier periods was defined as having ‘sufficient wording in a “narrative” or “vertical” form of financial statements to make themselves explanatory’ (Donnelly 1964, p. 84).

Over time, communication has been used consistently in defining *understandability* and has focused on two main developments: who or what was the focus in attaining *understandability*, and should financial information be reported in technical or non-technical accounting terms?

Anderson (1963, p. 320) identifies the focus of communicating, when he claims that ‘general acceptance by the business and professional world of the single accounting language should be the ultimate aim and that any information given should be

explicit, complete and free from ambiguity'. Furthermore, 'published accounts and the information provided with them should be communicated appropriately and sincerely to a wide range of interested parties' (Gole 1964, p. 14). Therefore, to achieve an effective and efficient communication process, the receiver or user of financial reports was the most critical factor that aided in accomplishing this task (Birkett 1968; Craswell 1969), and their importance continued to be acknowledged in the 1970s.

However, there were mixed views expressed about the identity of the receiver or user of the financial report in later years. On the one hand, communication was seen as a means 'to get over to clients the message which accountants are seeking to convey. Financial statements are a means to an end where accountants should analyse and interpret to the people for whom the information is intended' (Donnelly 1970, pp. 375, 377). However, Dunn (1975, p. 19) suggests, 'the effectiveness of communication is dependent upon the user's ability to read and digest the financial information: to understand what is stated; what is not stated, but which is implicit; and what is not stated but which may be concealed or masked'.

Generally, users of financial reports were not expected to have any prior accounting knowledge when reports were prepared in the 1960s and early 1970s (Tootell 1959; Yorston 1959; Anderson 1963; Donnelly 1964; Kirkhope 1965; Irish 1966; Ryan 1967; Keown 1968; Donnelly 1970; Stamp 1970). Educating the public about some basic accounting knowledge was an option to ensure that users *understand* the intended messages (Gutteridge 1965; Accountancy Research Foundation 1968).

However, after the 1970s, and in particular after the development of SAC 3,⁸ general purpose reports were no longer prepared for those who were not proficient in accounting (Harrowell 1967; Accountancy Research Foundation 1968; Birkett 1968; Kenley 1971; Lee 1982; Anderson and Epstein 1995). To communicate effectively, financial reports were expected to be prepared for technically competent interpreters.

Although these users had adequate expert knowledge, it was considered that they may have preferred non-technical, everyday language rather than technical accounting terms when attempting to *understand* and analyse these annual reports. There was a debate in the 1960s in relation to the type of language used, which was more appropriate when preparing financial reports. The aim of communication was to ensure that users *understood* what accountants intended to convey. Apart from concentrating on the technical terms, it was contended that accountants should try to explain financial statements by using ‘non-technical language’ (Donnelly 1964, p. 85). As Harrowell (1967, p. 402) suggests, ‘a financial report should be a form of communication. It should have a clear message, should avoid any details, which obscure its message and should avoid ambiguous phrases’. But, the [then] legislation identified an opposing view under the current practice, ‘we are apparently required to interpret [the financial reports], in a technical and artificial sense completely at variance with their ordinary and natural meaning’ (Ryan 1967, pp. 104, 105).

⁸ SAC 3 relates to the ‘qualitative characteristics of financial information’ and was issued in August 1990. It provides guidance to reporting entities in relation to certain desirable characteristics for the preparation and presentation of financial information into general purpose financial reporting. In particular, para. 37 of SAC 3 aims to provide information to users in an understandable manner, and does not indicate the need for users to have a proficient accounting background (Leo et al. 2005, p. 6).

In the 1970s, it was argued that the concept of quality might be more achievable if it was presented in terms that have normal, ordinary meaning, rather than in ordinary words that have technical meaning, such as true and fair view (Kohler 1979). Therefore, there was a tendency to support the use of simple, ordinary language in the 1980s and 1990s.

Lee (1982, pp. 152, 153) proposes that, 'no matter how effective the process of accounting quantification, its resultant data will be less than useful unless they are communicated adequately ... Communication takes place only when a signal evokes the same response from its recipient as would direct experience'. However, 'accounting terms are rarely if ever defined to the point where they can be unambiguously and meaningfully interpreted by the actor' (ibid, p. 159). As such, the use of technical terms may not be an appropriate communication method.

Lee (1982) further identifies the flaws in the use of language when conveying these messages to users and suggests that, 'accounting is a highly complex and technical language. As such, there are various linguistic problems which, to date, accountants have done little to recognise or resolve' (ibid, p. 163). Therefore, to 'communicate in a language that the shareholders understand, [it is] important to find out what information shareholders use in making their investment decisions, and what additional information would be useful to them in that task' (Anderson and Epstein 1995, p. 25). Hence, 'it would be in the national interest for academic and professional obscurities to be expunged and to be replaced by simple, clear, non-technical, language' (Craig and Hussey 1990, p. 34). Accounting is criticised because

‘reliance was placed on jargon-riddled explanations’ (ibid, p. 34). If these technical terms have no clear definition, the intended message is unlikely to reach users, resulting in poor quality accounting information. Therefore, there is general support for plain, simple language when preparing financial reports.

According to prior literature, when academics and practitioners refer to *understandability* in the past, they usually refer to the term ‘communication’. Consistent with the current understanding from the AASB *Framework*, to attain *understandability*, effective communication is the key to success. It is important that preparers are able to communicate their intended messages to ‘identified’ users, where information should be *relevant* to users’ decision making. Hence, the better the users understand the information conveyed in the financial reports, the higher the quality. Although the use of non-technical, simple, everyday language is strongly recommended, users are expected to have a certain degree of knowledge in accounting, which is consistent with SAC 3. However, within this definition are a number of unresolved issues: (again) who are the users, and should accounting reports use technical or more general language to communicate with them?

By the 2000s, each of the four elements of *relevance*, *reliability*, *comparability* and *understandability* could be linked to one or more concepts or terms that were developed over the preceding 40 years. As Figure 2-1 illustrates, the meaning of each of the four elements had not shifted significantly, although there had been discussions and debates, which led to the addition or subtraction of words. Cautious agreement on the concept of quality had been reached, and was captured by notions

of *relevance*, *reliability*, *comparability* and *understandability* as attributes of quality financial reporting under IFRS. However, this agreement has occurred without full resolution of the debates that had taken place in the period 1961 to 2004.

Figure 2-2 highlights on-going issues that remain unresolved after decades of discussion and debate. While *relevance* and *reliability* remain the two fundamental elements of quality, basic questions remain unresolved: who are the users of financial reports, and for what purpose/s do they use those reports? Further, is *reliability* compromised by threats to neutrality and notions of materiality with the possibility of professional judgement in establishing economic substance? *Comparability* and *understandability* enhance relevance and reliability; however, they may also be compromised by the inconsistent use of accounting methods in the case of the former and an expectation that users will have a certain degree of accounting knowledge in the case of the latter. In the following section, we update the quality debate, based on interviews and surveys of contemporary academics and other interested parties, who were asked their views about the nature of accounting and the ability of accounting information to be *relevant*, *reliable*, *comparable* and *understandable*. These interviews and surveys make clear the extent to which there is agreement between these participants that the four elements in the AASB *Framework* capture components of quality.

<Insert Figure 2-2 here>

2.4 Updating the Quality Debate⁹

To supplement the literature review and provide a perspective on the debates about the elements of quality now that IFRS have been adopted, we sought the views of academics and others who contributed to and synthesised the quality debate during the period under investigation. Their views provide first-hand evidence of the usage of the word ‘quality’ in the context of financial reporting. A set of questions (reproduced in Appendix A) were used in interviews with four leading accounting professors in Australian universities (Interviewees A, B, C and D), and in questionnaires sent to four other professors, an accounting regulator and a representative from one of the Australian professional accounting bodies (other respondents). These questions seek their views about what is meant by quality of accounting information.

The first question asked respondents to define quality in the context of financial reporting. Interviewee A considers that quality in relation to accounting data is not well defined. His perspective is that accounting data needs to be fit for the purposes for which they are normally used. In other words, the quality of financial data should be judged by its *relevance*, with more focus on the end use of accounting information than on the preparation. Interviewee B agrees that quality is related to the usefulness or *relevance* of information for decision making. Financial reporting is of ‘high

⁹ This update refers to interviews undertaken in 2007. In 2008, the AASB issued ED164 An Improved Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and Qualitative Characteristics and Constraints of Decision-useful Financial Reporting Information. ED164 confirms that relevance and reliability (faithful representation) remain the two fundamental qualitative characteristics of decision-useful financial reporting and the other characteristics, including comparability and understandability, enhance those two fundamental characteristics. However, there are still unsolved issues, as illustrated in Figure 2, which the AASB continues to debate.

quality' if it enables readers to make sound economic decisions and if it focuses on the users' needs.

On the other hand, Interviewee C concentrates on two other important elements that define quality, namely, *reliability* and *comparability*. If a company is reporting its economic reality with continuing evidence of its *reliability*, then such a company is deemed to be reporting high-quality accounting information.

Interviewee D combines these points of view, equating quality with the terms 'true and fair', 'relevance' and 'reliability'. Companies should disclose more to provide a 'true and fair' view. Because there is no measurement basis that is superior to all others in all circumstances, there will always be a trade-off between *relevance* and *reliability*.

The other respondents suggest that it is common to struggle with the definition of the term 'quality', as most users treat financial reports as a piece of literature. Quality depends on 'for whom the information is prepared' and 'for what purpose'. For instance, if information enables investors to make informed decisions, and managers are confident in the completeness and integrity of the financial reporting, then it is judged to be identified as quality information.

The next question asked 'How do you evaluate quality?' to which the interviewees and other respondents offered differing opinions. Interviewee A and another respondent suggest that quality should be evaluated in respect to certain desired

qualities or specific criteria. Such criteria ought to focus on use rather than on users, as users have different expectations and needs.

Owing to the increasing complexity of the business environment and business technology, Interviewee C contends that the financial statement is no longer the primary source of information as users can access a wide range of other information sources, such as the internet, media releases, etc. for decision-making purposes. Complementary information is available from other sources, such as other users and providers of information and financial analysts. These factors need to be taken into consideration when specifying, regulating and evaluating quality.

According to Interviewee D, several indicators that can be check-listed for quality are good rules, accounting systems, internal controls, governance, disclosure or transparency, auditors' independence, regulators and competent accountants. In addition, for quality to be achieved, it is vital to have a degree of integrity at individual and institutional levels.

The views of the other respondents are that quality should be evaluated in terms of *relevance*: how well financial reporting attracts users' satisfaction and how well it meets their decision-making needs. Information should be related to decisions to be made and the facts or estimations pertinent to those decisions. In addition, *reliability* is important: there should be an indication of the extent to which it reflects actual economic experience. One respondent said that financial reporting should be

sufficient and *relevant* for assessing accountability for stewardship, and for evaluating the value and investment merits of the business.

A follow-on question asked what was driving the discussion over quality and other associated issues. In response, Interviewees A and B suggest that the main force was the various waves of company failures. Users expect that they can use financial information to forecast a company's future direction and performance, but when a company fails, they find that the information they have relied on was misleading. *Relevance* and usefulness should be the primary elements of quality and should focus on the users' perspectives.

Interviewee C considers that the continuing accounting scandals drove the debate about quality in part because there have always been problems with valuations of various types of assets, such as mastheads and mining leases. According to Interviewee C, these events led to the creation of the Accounting Standards Review Board (ASRB) to give legislative force to accounting standards, a role that the ASRB accepted willingly because it was interested in the underlying questions of quality. Further, Interviewee C suggests that the profession is another driver behind the quality debate, emphasising the quality of financial information. The professional bodies have always been very 'high-minded' about maintaining and improving accounting standards. The production of high-quality information is fundamental to the integrity of the profession, according to Interviewee C.

In contrast, Interviewee B includes the role of ‘thought leaders’ such as academics, key professionals and good financial journalists, as key contributors to the discourse on quality. These ‘thought leaders’ document the generation of unreliable and erroneous data by companies. They highlight the poor quality of accounting information, which may have led to a misallocation of resources in the economy. They ask whether users have been duped by accounting information, and therefore whether resources have been invested in corporations that clearly did not deserve it because of their false reporting.

Most of the interviewees and other respondents agree that the debate over the quality of accounting information was prompted by a series of corporate failures. They mention the collapse of Enron, largely as a result of its off-balance sheet transactions and the globalisation of capital markets, as factors that brought the quality debate to public attention. In particular, it led to a spotlight on *comparability* and consistency issues, possibly at the expense of *relevance* and usefulness. In addition, each of the interviewees and other respondents identify another issue that brought quality into the debate: the decision by the FRC in 2002 to adopt IFRS from 1 January 2005.

Finally, interviewees and other respondents were asked for their early recollections of the use of the terms ‘relevance’ and ‘reliability’.

According to Interviewee B, when quality was first applied to accounting information, the expectation was that it would be higher for internal use and lower for external use. *Relevance* and *reliability* were used in the late 1960s to early 1970s

by academics such as Chambers and Gynther who were the advocates of current value accounting in Australia.

Interviewee C defines *relevance* as being *relevant* to a decision, and *reliability* as verifiability, freedom from bias and measurability. He recalls that both these terms were included in a statement of accounting theory by a committee of the American Accounting Association (AAA) in 1966. Interviewee D traces the Australian usage of the terms ‘relevance’ and ‘reliability’ from the Financial Accounting Standards Board (FASB) in 1973. He suggests that part of the problem in accounting is the incentives for managers and directors to distort; hence, there are often trade-offs between *relevance* and *reliability*.

Other respondents recall that the use of these terms began in the 1940s, by early academic writers such as McNeil, followed in the 1960s by Edwards and Bell, Chambers and Gynther. In Australia, an example is Chambers’ *Accounting Evaluation and Economic Behavior* (1966). Quality was originally thought to mean *reliable* information that reflects actual transactions and is supported by documentation. One respondent argues that the role of *relevance* and *reliability* was taught in university accounting courses, while another says that it started when there was a perceived conflict between them.

It is not surprising that the views of these academics and practitioners reflect the lack of consensus in the literature and the unresolved issues over the meaning of quality. Their responses demonstrate the diversity of views and complexity of arguments that

surround the debate on the concept of quality (and its elements) in financial reporting in Australia. However, their arguments and views mainly revolve around the elements and different components identified previously, and illustrated in Figures 2-1 and 2-2. The views of these academics and practitioners demonstrate the cautious agreement on the essence of these elements and their contribution to the concept of quality.

2.5 Summary, Conclusion and Unresolved Issues

This paper presents an historical review of the issue of quality (and its four elements) in financial reporting in Australia, first from the professional and academic literature in Australia during the period 1961 to 2004, and second from a series of interviews and surveys. The four elements of quality are: *relevance*, *reliability*, *comparability* and *understandability*. There are two components of *relevance* (usefulness and materiality), and their meaning has been consistent. In the 1960s and 1970s, *relevance* was the dominant element but more recently it has been challenged by *reliability*, which is now equally as important. The enduring components of *reliability* are ‘true and fair’ and ‘compliance with generally accepted accounting principles’. In the late 1980s, *comparability* surfaced as a secondary element of quality with the pursuit of international harmonisation of accounting standards and the expansion of global markets. In the same period, *understandability* emerged also as a lesser element, with early debates focusing on ‘everyday language’ versus ‘technical language’ as the best form of communication to users of financial statements. In 2002, with the adoption of the IASB *Framework*, both *comparability*

and *understandability* were specifically included as qualitative characteristics of financial reports.

After tracing the use of the word ‘quality’, are there answers to the questions that we posed in the introduction to this paper? What is meant by ‘quality’ in relation to financial reporting and has that meaning changed over the period 1961 to 2004? The evidence shows that its meaning has been captured by the more recently articulated four qualitative characteristics (as recognised by the IASB and AASB) and as illustrated in Figure 2-1. These elements have endured, albeit in different guises, over many years and this research validates their central presence in the quality debate in both the literature and the recollections of leading accounting academics.

Notwithstanding the general agreement about the four elements that comprise descriptions of quality, there remain a number of contentious issues where no resolution seems possible in the next 40 years (see Figure 2-2). *Relevance* may mean the production of timely information that can be used in decision making but the interviewees still question whether research has clearly identified users and uses of annual reports, for example, and the decisions made that are based on information contained in those reports. In other words, for what decisions are financial reports relevant? Whilst different levels of detail may be appropriate for different users and uses, it is left to professional judgement to determine what information is material and what is not. To what extent is that discretion used judiciously? It may be agreed that *reliable* means that information is accurate, valid, free from bias and based on conservative principles, such that the substance of an economic event is presented

fairly. However, the professional judgement required by the preparers (e.g., see Yorston 1959; Kenley 1969; McFarland 1969) as outlined in ED 164, is largely ignored or poorly disclosed in annual reports, thus threatening both *reliability* and *comparability*.

The majority of the interviewees and other respondents agree that debate over the quality of financial reporting was prompted by a series of corporate failures. If the objective of financial reporting (in the form of general purpose financial reports) is the provision of reliable information for decision making, why have there been so many corporate collapses so soon after the release of annual reports? In relation to *comparability*, an unresolved issue is the problem of consistency versus uniformity as outlined by Harrowell (1967), Kenley (1969) and Bottrill (1973). In contemporary terms uniformity relates to ‘rules-based’ while the concept of consistency is more closely aligned with ‘principles-based’. Whilst ever the current perception that United States GAAP are ‘rules-based’ standards and International Accounting Standards (IAS) are ‘principles-based’ (Gaffikin 2008) prevails, the debate will continue because the distinction can lead to different accounting treatment of the same transaction.

Finally, it is self-evident that if accounting information is to be useful, it has to be understood. The foremost document that communicates accounting information is the annual report. According to the current *Framework* ‘users are assumed to have a reasonable knowledge of business and economic activities and accounting and a (willingness to study the information with reasonable diligence’ (para. 25). What is

‘reasonable’ in relation to accounting and business knowledge? As suggested by some interviewees, annual reports contain technical language and jargon which by their very nature exclude many users from accessing meaning from the reports, thus rendering them less useful for decision making.

These issues provide a challenge for future research. In particular, it would be helpful to extend the discussion to include the views of users of general purpose financial statements. Questions to users can explore: what they understand by quality of financial reporting (definition); how they recognise and monitor it (evaluation); to what extent have they been sensitised to quality and by whom (drivers of the discussion); and to what extent do users understand how contentious is the question of quality. Finally, further research can investigate the influence of the IASB and the FASB on the Australian conceptual framework project.

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Confirmation of Ethics Approval

1 message

Ethics Secretariat <ethics.secretariat@mq.edu.au>

6 June 2014 12:48

To: Esther Cheung <esther.cheung@mq.edu.au>

Dear Sir/Madam,

This email is to confirm that the following ethics application cited below received final approval from the Macquarie University Human Research Ethics Committee:

Chief Investigator: Miss Esther Wai Yin Cheung**Ref:** HE23FEB2007-D05017**Date Approved:** 28 March 2007**Title:** "A historical perspective on quality of financial reporting in Australia from 1960 to 2000"

Please do not hesitate to contact me if you have any questions.

Yours sincerely,

Dr Karolyn White
Director, Research Ethics and Integrity
Chair, Macquarie University Human Research Ethics Committee

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2.7 Appendix A – Interview questions

1. Over the past 40 years, what do you understand to be Australia's reputation in relation to quality of accounting information / accounting standards?
2. What is your definition of quality?
3. How do you evaluate quality?
4. Where do we look for an historical understanding of this field of study? Any suggested readings?
5. Who were the significant contributors to the quality debate over the last 40 years?
6. Why these particular people?
7. Are there other people that we can talk to?
8. What was driving the debate over quality and other associated issues?
9. What are your early recollections of the use of the terms 'relevance', 'reliability' and 'true and fair'?
10. What did quality mean then and what does it mean now?
11. When was the dimension of quality first applied to accounting information?
Any suggested starting point?
12. It has been said that the current language of the accounting profession emphasises the word 'quality' in relation to financial reporting in Australia. Do you think this is the case? If so, why, and can you identify any external events to which emphasising 'quality' was a reaction?

Figure 2-1
Australian qualitative characteristics

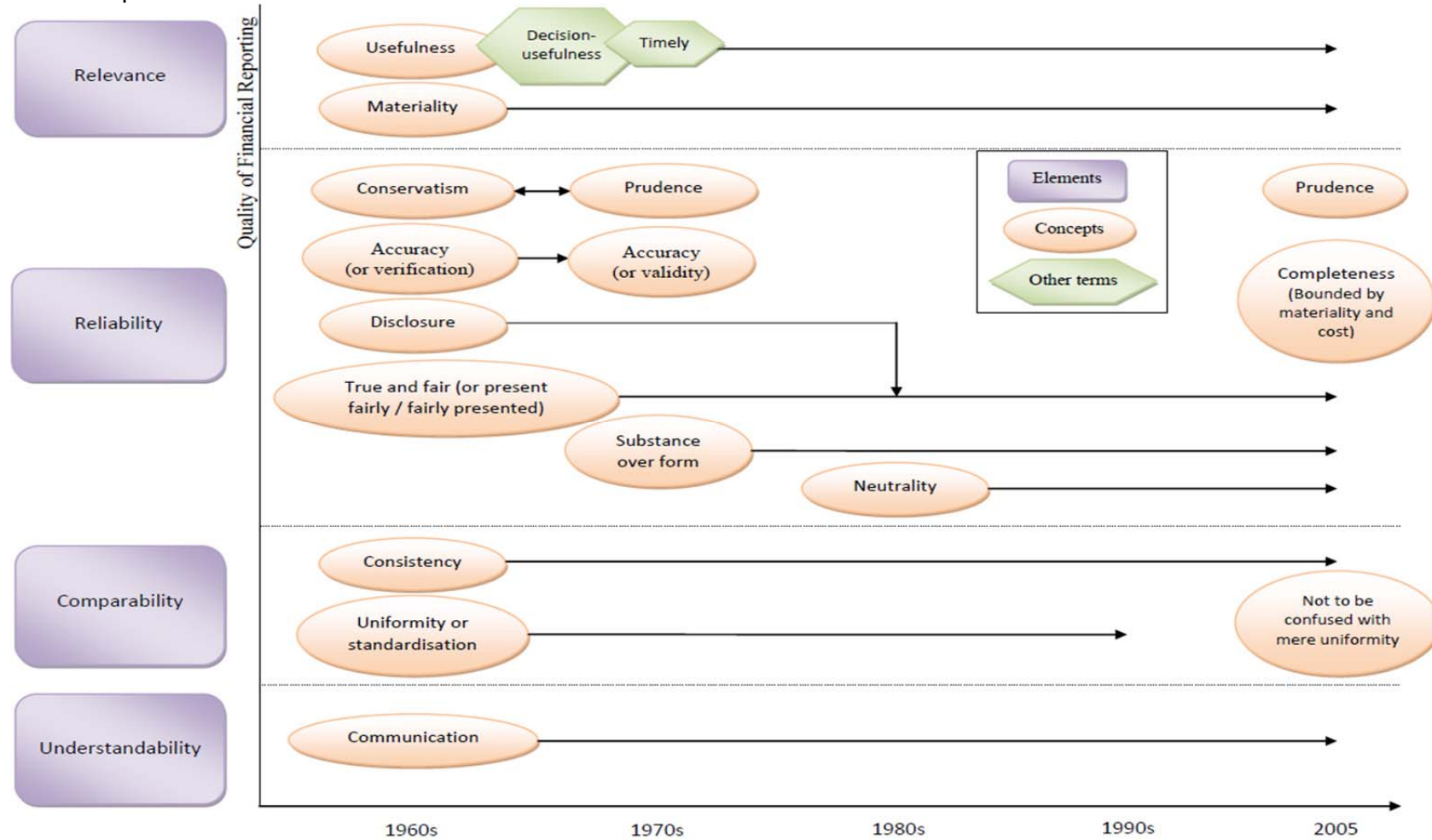
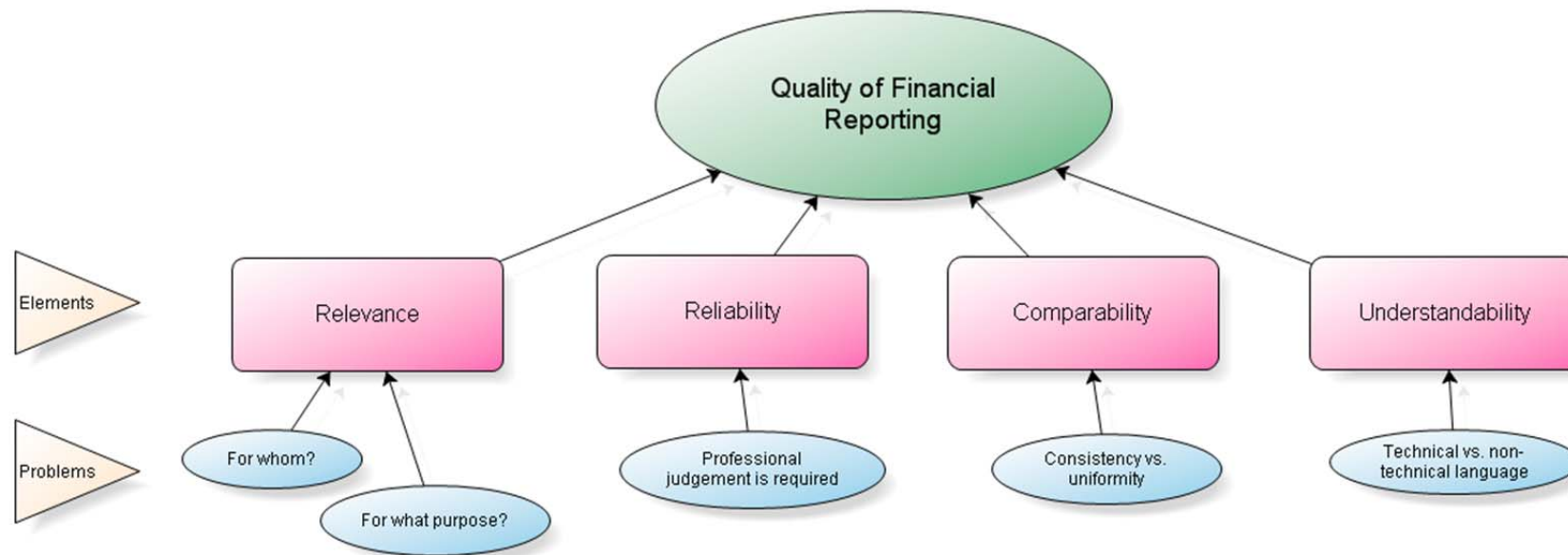


Figure 2-2

Unresolved issues with the quality of financial reporting as at 2005



Chapter 3: Readability of Notes to the Financial Statements and the Adoption of IFRS

3.1 Introduction

The introduction of International Financial Reporting Standards (IFRS) in Australia was a contentious financial reporting issue at the time, and standard setters continued to argue that the quality of financial reporting would improve as a result (CPA Australia 2006). The standards have nevertheless become widely accepted over the past decade, and since 2001 almost 120 countries have committed to their adoption (Tarca 2004; CPA Australia 2005; Hoogendoorn 2006; Alali and Cao 2010; Rezaee et al. 2010). However, most adopting countries only apply IFRS to the consolidated statements of listed companies (Zeff and Nobes 2010; Nobes 2013). The aim of IFRS is to standardise companies' financial reporting through a single set of high-quality accounting standards, and to provide clear information with greater disclosure (AASB 2004a).

Readability in relation to narrative accounting statements is defined as 'the difficulty of the text and success in the communication of accounting messages' (Smith and Taffler 1992, p. 85), and is a function of the complexity and length of the text (Li 2008). The readability of financial reports is critical to the effective communication of financial information to users (as readers) so that they can make economic decisions. Effective communication of financial information is at the heart of the accounting profession's mission (Cheung et al. 2010). To achieve this objective of

providing clear and useful information, financial reports, in particular, disclosure notes have to be readable. Thus, we pose the first research question: are disclosures in Notes to the financial statements more readable post-IFRS compared to pre-IFRS?

In addition, the readability of financial reports may be subject to managerial manipulation. According to the ‘management obfuscation hypothesis’, managers in poorly performing firms tend to obscure the presentation of accounting narratives within complex and less transparent disclosures (Li 2008). When information is made obscure, markets under-react; managers therefore have an incentive to reduce market responses to bad news, especially if the bad news is more costly to analyse (Bloomfield 2008). Although it is possible that poorly performing firms have more to report, such as restructuring provisions, impairments and going-concern discussion, Li’s (2008) study found that poorly performing firms have less readable annual reports (because they are more complex and longer) compared to better-performing firms. Thus, one may speculate whether IFRS have achieved the desired objectives: standardisation of financial reporting and greater disclosure in financial reports so that managers in poorly performing firms have less opportunity to obscure the presentation of accounting disclosures. This study aims to extend Li’s (2008) study to the context of IFRS adoption by asking: has the introduction of IFRS altered the relationship between readability of financial reports and firm performance? This is the second research question. Overall, this study examines the association between readability, firm performance and IFRS by assessing: (1) the impact of the adoption of IFRS on the readability of Notes to the financial statements (hereafter Notes) in an Australian context; and (2) the interaction effect between IFRS and firm performance

on readability. Readability is tested separately based on two components, namely, the *length* and *complexity* of financial reports.

Firms aim to provide quality financial reports especially after the adoption of IFRS, yet ‘quality of financial reporting’ is difficult to measure and is seldom addressed directly. Cheung et al. (2010) describe the concept of ‘quality’ as captured by the four qualitative characteristics: relevance, reliability, comparability and understandability (ICAA 2008). Although Smith and Taffler (1992) argue that readability and understandability are separate components, understandability can only be achieved if users are able to both read and understand the financial disclosures. Therefore, the measure of readability can also be used to capture one aspect of quality. Because Australia was one of the first countries to achieve full IFRS adoption (for reporting periods beginning 1 January 2005), a study conducted in Australia may be useful as a guide for countries that have adopted, or will adopt, IFRS. Australia provides an ideal setting to identify whether or not there is an improvement in the quality of companies’ financial reports following the implementation of IFRS since Australia has a long history of (since 1966), and experience with, standard setting and standard development (AASB 2013). In addition, Australia is still regarded as one of the top four standard setters (Tweedie 2011). As such, the Australian context provides a test of the effect of IFRS on readability, such that results found in that test might be generalisable to other contexts.

The motivation for this study is two-fold. First, prior literature and general criticisms by users of financial reports indicate that reports are difficult to read, especially the Notes (see, e.g., Courtis 1995; Hoogendoorn 2006; Li 2008; Peach 2009). This led the IASB to re-write some accounting standards in 'simple English', and to exclude all technical complexity (CPA Australia 2005). Given that it was necessary for standard setters to reconsider the use of technical jargon in financial disclosures, it is reasonable to assume that there was a problem with the existing standards. Further, as the wording of the Notes is mainly a reproduction of the accounting standards and specimen accounts devised by various accounting firms, the use of less technical complexity should result in the Notes being more readable. Therefore, the development of IFRS and the IASB's initiative to simplify their wording provides the motivation to examine the readability of financial disclosures in Australia.

The second motivation lies in the worldwide adoption of IFRS. Since the adoption of IFRS aims to reduce accounting choices and provide clear information with greater disclosure requirements, there is a suggestion that IFRS are more effective in providing useful financial information for economic decisions than other nation-specific standards (AAA 2003). Although the controversy concerning the relative effectiveness of existing accounting standards is beyond the scope of this study, it is important to note that to acquire worldwide acceptance, accounting standards must be applied universally. Many countries, including Australia, Hong Kong and members of the European Union (EU), adopted IFRS in 2005 (Deloitte 2010), and China adopted new Chinese accounting standards that substantially converge with IFRS in 2007 (Deloitte 2006; IFRS 2006; Taub 2006; Mackintosh 2009). Canada and

Korea adopted IFRS in 2011 (IFRS 2011; Kim 2011), and Argentina, Malaysia, Mexico, Russia and Singapore in 2012 (MASB 2008; Foo 2009; IFRS 2014). India will also converge with IFRS at a date yet to be confirmed (IFRS 2014). The United States (US) Securities and Exchange Commission (SEC) has reiterated its commitment to IFRS convergence, but the decision of when and how to incorporate is ‘unlikely to occur before 2015 or 2016 at the earliest’ (Dawes 2010, p. 70). As evidenced by the widespread adoption of IFRS described above, there is an ongoing need to examine how readable financial reports are for users.

Following prior literature (Li 2008), we measure and analyse the readability of financial reports based on two dimensions: the length of financial reports (number of words), and the complexity of the text (measured by the Gunning Fog Index, hereafter Fog Index). The empirical analysis generates the following insights. First, although it is anticipated that longer annual reports are less readable (based on Li (2008) who finds that longer financial reports are more complex), our results indicate that financial reports are significantly longer but more readable after IFRS adoption. This suggests that length and complexity may be two separate dimensions of readability, and it is possible to have longer financial reports that are less complex. Second, it is found that there is no relation between the length of financial reports and firm performance in both pre- and post-IFRS adoption periods. There is also no association between complexity and performance, suggesting that in Australia, there is no evidence to support the existence of an incentive for opportunistic behaviour of managers in obfuscating financial information for poorly performing firms. In addition, length of disclosures in *Summary of Significant Accounting Policies*,

Financial Instruments and *Intangible Assets* are significantly longer as a result of the adoption of IFRS.

The first contribution of the study is that it extends the financial report readability literature and contributes to understanding the issues associated with effective communication. The study sheds light on the impact of IFRS adoption by examining whether the introduction of IFRS affects the readability of financial reports. Second, the study contributes to understanding the issues associated with readability and firm performance after the implementation of IFRS, and we do not find any evidence that the adoption of IFRS results in managers' obfuscating financial disclosures.

The remainder of the paper is organised as follows. Section 2 provides the background to the study. Section 3 discusses the development of the theory and the formulation of the hypotheses. Section 4 outlines the research design and variable definitions, and the samples are covered in Section 5. Results are presented in Section 6. Section 7 extends the readability study with additional analyses, and the conclusions and implications are given in Section 8.

3.2 Background

Communication is an important skill, which aims to convey the sender's desired message to others. It involves transferring signals to the intended user in a reliable and understandable manner. If a message is not correctly understood, it is less useful for either decision-making or monitoring purposes (Smith and Smith 1971; Holley

and Early 1980; Jones 1988). This situation applies generally and specifically when accounting information is communicated to external users of that information through published financial reports. In an attempt to respond to shareholders' information needs, it is crucial for financial reports to communicate clearly and effectively (Holley and Early 1980; Baker and Kare 1992; Courtis 1998). Thus, 'ease of understanding is one of the most important characteristics of effective reporting' (Schroeder and Gibson 1990, p. 79).

The usefulness of accounting information depends on both the complexity of the written material (i.e., readability) and the capability of the user to interpret the appropriate meanings (i.e., understandability); therefore, to ensure successful communication between users and preparers, users must be able to both read and understand the financial information provided (Smith and Taffler 1992). Further, to improve the readability of written material, the relationship between the difficulty experienced by users in reading a text and the characteristics of that text must be measured. Accordingly, readability indices have been developed to measure the effectiveness of written communication (Jones 1988; Dorrell and Darsey 1991). The better-known indices are the Flesch (Flesch 1948, 1949, 1951) and Fog Indices (Gunning 1945, 1969; Kwolek 1973), which will be discussed in the research design and variable definitions section.

Researchers began to raise awareness of, and show interest in, the readability of written material in the mid-1940s. Numerous prior studies examined the readability of financial information, as will be discussed in the next section. However, some

more recent studies have extended the examination of readability beyond a focus on annual reports. These studies investigated the relationship between readability, current earnings and earnings persistence (Li 2008); readability and investors' trading behaviour (You and Zhang 2009; Miller 2010); readability and analysts' following (Lehavy et al. 2011); and readability of analysts' reports (De Franco et al. 2014).

Li (2008) conducted the first large-sample, cross-sectional study of readability with 55,719 firm-years over a 10-year period in the US. He demonstrates that annual report readability is related to earnings persistence, where firms with lower earnings or poor performance have annual reports that are harder to read (i.e., they have a higher Fog Index and are longer), whereas firms with more persistent positive earnings have annual reports that are easier to read.

More recently, You and Zhang (2009) studied the immediate and delayed market reaction to complexity in 10-K filings in the US. They found that longer reports lead to higher processing costs and are associated with less trading activity, and a greater under-reaction to more complex 10-K reports. Miller (2010) investigated the effect of financial reporting complexity on small and large investors' trading behaviour in relation to Form 10-K filings in the US. The study reveals that filings that are more complex are too costly for some investors to process. Specifically, more complex filings are associated with reduced trading activity and lower consensus for small investors, although they have only limited impact on large investors.

In the US, Lehavvy et al. (2011) studied the impact of the readability of firms' written communication on the behaviour of analysts, and show that their behaviour is related to the readability of firms' communication. In relation to analysts' following, Lehavvy et al.'s results indicate that the amount of effort incurred to generate analysts' reports, and the informativeness of those reports was greater for firms with less readable Form 10-Ks. De Franco et al. (2014) conducted one of the first studies in the US to analyse the readability of analysts' reports and note that greater report readability leads to increased trading volume, which supports the notion that readability is important to analysts and investors. In summary, all such studies indicate that readability has an impact on investors' trading behaviour and analysts' following.

Thus far, there is limited research in the area of IFRS and readability; this study will fill this gap by examining the impact of IFRS adoption in Australia on readability.

3.3 Theory Development and Hypothesis Formulation

3.3.1 Financial report readability in the pre-IFRS period

Financial reports are an important tool for preparers to communicate their performance to users. The term 'preparers' refers to management who produce financial disclosures in the form of Notes. The level of readability of these disclosures can be a matter of management judgement, as suggested by Li (2008) who found that management obfuscate the readability of financial disclosures when firms perform poorly. Although the preparation of financial reports is highly regulated and must meet the compliance requirements set by standard setters, any

change in accounting standards will affect the presentation and disclosures of the financial reports because management has discretion in the choice of wording in the disclosures. This study anticipates that the adoption of IFRS will particularly affect the Notes. However, the impact on financial disclosures is uncertain; therefore, it is important to examine the readability of financial disclosures to ensure that preparers communicate clearly and effectively.

A number of extant studies have examined the readability of financial reports prior to the introduction of IFRS. These studies examined both the full financial reports and Notes, and conclude that the readability of financial reports is generally ‘difficult’ or ‘very difficult’, with many long sentences and multi-syllable words. Not only is the language in financial reports generally incomprehensible to the majority of the adult population, the readability of financial reports also has not improved over time (Pashalian and Crissy 1950, 1952; Soper and Dolphin 1964; Baker and Kare 1992; Courtis 1995; Li 2008). In particular, other studies have demonstrated that the level of readability of financial reports declined in the 1970s compared to the 1950s. Financial reports in the 1970s continued to be composed of a relatively high level of technical material, signifying an ineffective communication mechanism for the average user (Dolphin and Wagley 1977; Holley and Early 1980). As will be discussed below, the Notes were found to present a similar decline in readability.

Healy (1977) found that in New Zealand, Notes were typically deemed ‘very difficult’ to read, and in general, large companies provide less readable Notes than small companies. Notes are also significantly more difficult to read than other sections of

financial reports (Smith and Smith 1971; Healy 1977; Barnett and Leoffler 1979; Heath and Phelps 1984; Curtis 1986, 1995; Li 2008). When conveying messages to users, having clearer and more readable Notes is vital to assist unsophisticated investors in understanding the company. Although financial reports are generally written for users who have an assumed knowledge in accounting and/or business, they should be written so that an average investor can comprehend them (Worthington 1978; FASB 2004). Furthermore, there is a need to identify the potential readership of various sections of the financial report to improve social accessibility, as a lack of decoding skills may result in social inaccessibility. Since the nature and design of reports are a function of the objective of communication, preparers should select and organise materials by reflecting the needs of their intended users (Parker 1982).

In summary, the prior literature is unanimous that readability of financial reports and Notes is 'difficult' or 'very difficult'. Reports and Notes are usually lengthy and include many multi-syllable words. As noted by Worthington (1978), the ability to read and understand material is challenging when writers do not attempt to communicate explicitly but seek to obscure their meanings with impressive sentences. The level of reading difficulty (readability) appears to have declined but still remains 'difficult' or 'very difficult'. This study therefore expects that the readability of reports and Notes was 'difficult' or 'very difficult' prior to the adoption of IFRS. As noted previously, the purpose of the study is to assess the level of readability after IFRS adoption, based on the objectives of IFRS and the IASB to simplify the wording of reports and Notes.

IFRS 1 aims to enhance transparency (AASB 2003), which can be improved through increased financial disclosures; therefore, this study will focus solely on examining the readability of Notes in an evaluation of the impact of IFRS on readability. Because it can be argued that there is a direct association between IFRS adoption and the disclosure requirements in the Notes, we anticipate that the readability of Notes will be different after IFRS adoption.

3.3.2 Expectations of financial report readability in the post-IFRS period

Prior to the adoption of IFRS, Australian entities prepared their financial reports in accordance with Australian generally accepted accounting principles (AGAAP). However, as a result of the implementation of IFRS, many accounting policies and standards were affected, for example, business combinations and goodwill, financial instruments, share-based payments, intangible assets, leases and inventories, etc. (Deloitte 2004). Some of the changes related to measurement and were to have a quantitative effect on financial reports, while other changes related to disclosure requirements and had a qualitative effect. In turn, the readability of the Notes has also been affected. Differences between AGAAP and IFRS are reported in the Note *Explanation of Transition to AIFRS*, as required by AASB 1 *First-time Adoption of AIFRS* (AASB 2003).

As discussed in the following sections, there were debates that differences between the Australian accounting standards and IFRS could either create uncertainty and confusion or provide clearer and more useful financial information. As the adoption

of IFRS has led to various changes in accounting policies and standards (Deloitte 2004), this study evaluates how the transition to IFRS affects the readability of the Notes. There is no research on the effect of IFRS adoption on financial report readability in Australia; however, several articles and surveys have expressed opinions and expectations about the readability of financial reports. Readability can be broken down into two main elements: *length* and *complexity*.

3.3.2.1 Length

One of the stated objectives of IFRS 1 (or AASB 1) is to ‘contain high quality information that is transparent for users and comparable over all periods presented’ (Parker 2004, p. 58). This suggests that developers of IFRS identified prior disclosures and levels of disclosure as providing information to users that was insufficiently transparent. One way in which transparency can be enhanced is through an increase in the required level of disclosure. In relation to voluntary disclosure, Ding et al. (2007) show that IFRS require more disclosure than most domestic accounting standards. This signals to the market that firms are committed to disclosing more information after adopting IFRS (Tarca 2004). Although IFRS do not explicitly aim to increase the level of disclosure, this objective can be inferred by considering AASB 1047¹⁰ and commentary by practitioners.

With respect to IFRS 7 (*Financial Instruments*) and IAS 19 (*Post-employment Benefits*), for example, the requirements of these standards are more comprehensive

¹⁰ AASB 1047 *Disclosing the Impacts of Adopting Australian Equivalents to International Financial Reporting Standards*. This standard required entities to disclose the relevant impacts, including key differences in accounting policies, in their financial reports for the year preceding the year of adoption.

than their equivalent predecessor standards (AASB 2009). With respect to practitioner commentary, Robert Kelly, a partner at KPMG, stated that after the adoption of IFRS, ‘financial reports are very long’ and generally rather ‘difficult to read and understand’ (Kelly 2006, p. 4). Likewise, Martin Hoogendoorn, a partner at Ernst & Young and a Professor of Financial Accounting at Erasmus University, The Netherlands, expressed the same concern about IFRS in European countries, and concurred that ‘on average, I estimate that, as a result of IFRS, financial statements have increased by at least 20–30 pages’ (Hoogendoorn 2006, p. 25). Similarly, other studies have found that investors, companies and participants in the capital market agree that the disclosure requirements under IFRS are more extensive than pre-IFRS, where there are significantly more disclosures required by IFRS (CPA Australia 2005, 2007; Wilkinson 2007; O'Brien 2009; Peach 2009).

The Australian Accounting Standards Board’s (AASB) disclosure requirements are congruent with the stated objectives of IFRS 1, which aims to increase transparency. In other words, the need to provide additional explanations due to the adoption of IFRS, so as to enhance transparency, is likely to be manifest in longer standards. We hypothesise that the increased disclosure requirements of IFRS will lead to longer financial reports. Therefore:

H1a: *The length of the Notes to the financial statements is significantly greater after the adoption of IFRS*

3.3.2.2 Complexity

Apart from length, the other element of readability is complexity (Li 2008), which is measured by the Fog Index. As discussed in the previous section, IFRS 1 states that the requirement of IFRS to disclose more financial information aims to enhance transparency. Transparency often demands more (or lengthier) disclosure, therefore financial reports could be less readable. It is argued that increasing the transparency of financial information to users may alleviate uncertainty and confusion, especially when users' opinions of what constitutes greater transparency are considered. Greater transparency is achieved by providing investors with 'unbiased, clear and transparent information' through the presence of consistent standards globally, in addition to a focus on the 'provision of user-friendly information for the capital markets' (Dzinkowski 2009, pp. 46, 47; O'Brien 2009, p. 4). Transparency may also enhance information usefulness (Peach 2009). Information is useful if users can depend upon it when making economic decisions; hence, financial reports should be concise and easy to read, because they are important communication and accountability devices (Barnes 2006).

Although technical jargon is often used when setting accounting standards, the IASB has taken measures to simplify the language used, and some standards have been rewritten in simple English (CPA Australia 2005). Many commentators believe that IFRS will foster better communication among users (e.g., Tarca 2004). Former IASB chairman, Sir David Tweedie, said that 'the future of principles-based standards means a "clean sheet approach" to accounting standards, whereby a standard must pass four tests. It should be written in plain English, be easily explained, make

intuitive sense and easily present the facts' (CPA Australia 2007, p. 17). Penny (2011) also suggests that IFRS have a mission of increasing financial report readability, and argues that entities can decide on the level of detail needed to comply with the rules, but must consider minimising excessive information provided to readers. Thus, there was a growing recognition of the importance of financial report readability on the part of the standard setters (CPA Australia 2005, 2007). Moreover, if achieving readability of financial reports is important, it would be logical to expect that the implementation of IFRS would provide more readable financial reports. However, the following comments reflect general concerns that IFRS adoption may increase the complexity of financial reports.

Hoogendoorn (2006, p. 25) expresses concern that 'financial statements will be difficult to read and understand for most users'. In addition, investors, companies and participants in capital markets agree that the implementation of IFRS creates complex financial reports such as financial instruments and share-based payments, and that it is complicated for even the most sophisticated investor to interpret and understand reports of listed companies prepared under IFRS (CPA Australia 2005, 2007; Wilkinson 2007; O'Brien 2009; Peach 2009). Hence, it is also possible to anticipate that the adoption of IFRS will lead to less readable financial reports.

The views thus far on the complexity of financial reports in the post-IFRS adoption period are mixed, and there is no distinct indication as to whether financial reports are more or less readable post- compared to pre-IFRS. With these diverse and conflicting opinions and expectations, it is difficult to form a hypothesis that

complexity is greater or less post- versus pre-IFRS. Rather, the question is an empirical one, and the hypothesis is stated accordingly.

H1b: *The complexity of Notes to the financial statements is different after the adoption of IFRS*

In sum, *length* and *complexity* of financial reports are components of readability. Hypothesis 1a predicts that the length of the Notes will increase post-IFRS compared to pre-IFRS because of the increased disclosure requirements of IFRS. This would suggest, *ceteris paribus*, a decrease in readability. In general, longer or more pages means a lower readability factor due to a longer processing time. However, Hypothesis 1b predicts the effect of IFRS on complexity but is non-directional, suggesting that financial reports could either be more or less readable post-IFRS compared to pre-IFRS. Increased complexity, manifest in the use of more multi-syllable and complex words, results in decreased readability. However, the proper choice of words may enhance transparency and reduce confusion or misunderstanding and, in turn, increase readability. Hence, two components (length and complexity) may co-exist such that the Notes may be longer post-IFRS (as expected in Hypothesis 1a) but simultaneously more or less readable depending on the level of complexity post-IFRS compared to pre-IFRS.

3.3.3 Relationship between performance and readability in the pre- and post-IFRS periods

The literature shows that readability of financial reports and firm performance are interrelated, because firm performance has been identified as affecting readability (Courtis 1986; Baker and Kare 1992; Subramanian et al. 1993; Li 2008). According to the ‘management obfuscation hypothesis’, firm performance relates to the firm’s disclosure level as detailed below (Bloomfield 2002).

The management obfuscation hypothesis proposes that managers in poorly performing firms tend to obscure the presentation of accounting narratives within complex and less transparent disclosures (Li 2008). Adverse information may be obfuscated intentionally or may occur when different people write different sections of the financial report (Courtis 2004). This hypothesis is supported by several studies, the most recent of which examined a large sample of 55,719 firm-years for a 10-year period (Li 2008). A relationship between firm performance and readability was identified, with the conclusion that profitable firms tend to prepare more readable financial reports than non-profitable firms, and that managers in poorly performing firms may strategically provide more complex financial reports to preclude investors from easily identifying adverse information (Baker and Kare 1992; Subramanian et al. 1993; Li 2008).

However, studies to date exploring the association between firm performance and readability are based on US samples (Baker and Kare 1992; Subramanian et al. 1993; Li 2008). Arguably, accounting standards developed in the US adopt a rules-based

approach, while Australia and IFRS adopt a principles-based approach. There have been extensive debates over the discrepancies between the two accounting approaches (FASB 2002; Maines et al. 2003; Nelson 2003; Schipper 2003; Ravenscroft and Williams 2005), and a study of IFRS may yield different results from prior studies based on US data. However, apart from having different accounting approaches, the US and Australia have different litigation systems. Hence, it is necessary to examine these key differences, and the implications of the differences for the association between firm performance and the readability of financial reports. These differences are discussed in the next section.

3.3.3.1 Rules-based vs. principles-based approach

It is widely acknowledged that US standards are rules-based (Leuz 2003; Joshi et al. 2008; Tribunella 2009; Hail et al. 2010; Rezaee et al. 2010). Rules-based standards are different from principles-based standards in two main ways: (1) they permit ‘scope and treatment’ exceptions; and (2) they provide detailed interpretive and implementation guidance, which can lead to managerial manipulation (FASB 2002; Schipper 2003; FASB 2004; Ernst & Young 2010).

Contrary to the US, Australia takes a principles-based approach to its accounting standards, and this approach is justified as a means to reduce financial report complexity (Psaros 2007, p. 528; Greenspan and Hartwell 2009; Jamal and Tan 2010, p. 1327). It is suggested that a principles-based approach could: (1) have more convergence with international accounting standards; (2) reduce managerial manipulation; and (3) provide greater professional judgement (AAA 2003, pp. 74-76;

Ball 2006). The objective of the present study is not to identify whether there is any right or wrong approach, or whether one approach is superior to the other. Rather, we discuss dissimilarities between the two approaches that could lead to a different impact on the association between readability and firm performance. Details of these dissimilarities are discussed in the following section.

The principles-based approach requires similar accounting treatment for business transactions that are similar in nature, with no or few exceptions ('bright-lines') to the principles. By contrast, the rules-based approach allows similar transactions or events to be exempted from the general treatment or exception – based on the specific situation or context of the transaction or event. Under the rules-based approach, standards become increasingly more complex owing to the need for more rules to describe the exceptions. Additionally, and as a consequence, the rules-based approach often results in business transactions and events that are intrinsically similar being accounted for differently because of the different situation or context in which they occur (FASB 2002, p. 3). By contrast, the principles-based approach provides for a more consistent and broader application of accounting treatment across similar transactions and events when compared with the rules-based approach (Schipper 2003). And, as noted earlier, the principles-based approach is closely aligned with the IFRS approach (FASB 2002, 2004).

Rules can increase accuracy and reduce imprecision (Nelson 2003). However, because the rules-based approach allows exceptions, where 'the detail [rules] necessary to communicate accurately can also create opportunities for transaction

structuring' (Nelson 2003, p. 101), self-interested managers may exploit the exceptions to manipulate accounting treatments of what, under a principles-based approach, would be intrinsically similar transactions or events (FASB 2002; Nelson et al. 2002; Schipper 2003; FASB 2004; Greenspan and Hartwell 2009). In addition, Maines et al. (2003, p. 75) suggest that 'detailed standards are likely to be incomplete or even obsolete by the time they are published'; thus, the effectiveness of the rules-based standards is weakened. Webster and Thornton (2005) provide further support for the greater effectiveness of principles-based accounting standards relative to rules-based standards, finding that principles-based standards lead to higher earnings quality.

In brief, a rules-based approach provides rigid and detailed guidelines, which may contradict the principles-based approach, which has fewer such guidelines and broader guidance. If firms are required to follow more detailed guidelines, the guidelines should be more technical compared to less detailed guidelines. Therefore, the financial disclosures of firms with fewer detailed guidelines should be more readable, and this study could potentially find results contrary to those of Li (2008).

3.3.3.2 Litigation systems in the US and Australia

Investors rely on available information when making economic decisions; hence, they may benefit if firms disclose more information. However, more disclosure requirements may increase the opportunity of shareholder litigation, resulting in higher litigation costs for firms (Leuz 2010). Li (2008) shows that litigation risk is positively related to readability, and when firms face higher litigation risks, they end

up preparing less readable annual reports. It is argued that the US has the highest expected regulation and litigation costs, whereas the expected litigation costs are relatively low in Australia (Lee et al. 2003; Aerts and Tarca 2010). Since firms in the US have higher litigation costs, managers in these poorly performing firms may have more incentive to prepare less readable annual reports, and Li (2008) found that firms with lower earnings prepare annual reports that are harder to read.

In summary, according to Li's (2008) findings, the readability of financial disclosures is different between better-performing and poorly performing firms. However, owing to the distinctions between the rules-based and principles-based approaches, and the different litigation systems in the US and Australia, it is uncertain whether the positive relationship between readability and firm performance will hold. Thus, we present our second hypotheses:

H2a: Length of financial reports in poorly performing firms is different from better-performing firms prior to the adoption of IFRS

H2b: Complexity of financial reports in poorly performing firms is different from better-performing firms prior to the adoption of IFRS

3.3.4 Relationship between IFRS, firm performance and readability in the post-IFRS period

This study will further examine the interaction effect between IFRS and firm performance on readability after the adoption of IFRS. With the objective of developing high-quality, understandable and enforceable global accounting standards, where high quality requires a low capacity for managerial manipulation (Ball 2006), ‘IFRS are designed to: ... curtail the historical Continental European discretion afforded managers to manipulate provisions, create hidden reserves, “smooth” earnings and hide economic losses from public view’ (Ball 2006, p. 9). Hence, IFRS (1) restrict management’s accounting choices with a reliance on professional judgement (Ashbaugh and Pincus 2001; Tyrrall et al. 2007); and (2) have a higher level disclosure requirement to improve transparency and reflect economic reality (Ball 2006; Jones and Higgins 2006; Hail et al. 2010).

As discussed previously, disclosure requirements and transparency are positively interrelated, such that an increase in information disclosure increases transparency. Therefore, as companies disclose more information, they will need to prepare longer financial reports to comply with accounting standards. Minimising reporting differences through the adoption of IFRS, and possibly an improvement in standardised reporting due to greater disclosure and an increase in transparency levels may result in similar reporting formats for better- and poorly performing companies. Hence, we anticipate that there will be less variation in the length of financial reports between the two types of firm post-IFRS compared to pre-IFRS.

H2c: The relationship between firm performance and the length of financial reports is weaker after the adoption of IFRS

Furthermore, when the same set of accounting standards is applied consistently on an international basis, investors' ability to detect managerial fraud or manipulation is enhanced owing to the limited set of permissible accounting treatments (Hail et al. 2010). In addition, less guidance and fewer 'bright-line' rules can impose less transaction structuring, which better reflects economic reality (McGregor and Street 2007; Hail et al. 2010). Barth et al. (2008) demonstrate that firms adopting IFRS engage in less earnings management than firms not adopting IFRS. In other words, if there is a negative relationship between firm performance and the complexity of financial reports before the adoption of IFRS, the standardisation of IFRS should mitigate this relationship. Hence, it is possible that standardisation could involve less opportunistic managerial behaviour in relation to manipulating financial statements and thus reduce managers' ability to obscure messages. Following the implementation of IFRS, the reporting requirements for both poorly performing and better-performing firms should thus be more standardised and similar, meaning that there will be less variation in the complexity of financial reports between the two types of firm post-IFRS compared to pre-IFRS. Hence:

H2d: The relationship between firm performance and the complexity of financial reports is weaker after the adoption of IFRS

3.4 Research Design and Variable Definitions

3.4.1 IFRS and the readability of financial reports

Our first research question (which relates to Hypothesis 1) is whether the introduction of IFRS affects the readability of financial reports. We compare the readability of financial reports between the pre- and post-IFRS periods using the following fixed-effects regression models:

$$\begin{aligned} Readability_{i,t} = & \alpha_0 + \beta_1 Post_{i,t} + \beta_2 Size_{i,t} + \beta_3 MTB_{i,t} + \beta_4 Age_{i,t} + \beta_5 SI_{i,t} + \beta_6 Ret_Vol_{i,t} \\ & + \beta_7 Earn_Vol_{i,t} + \beta_8 MA_{i,t} + \beta_9 SEO_{i,t} + \beta_{10} Market\ return + \beta_{11} Firm \\ & fixed\ effects + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where:

Readability = Fog Index

Post = an indicator variable of IFRS

Size = firm size

MTB = market-to-book ratio

Age = firm age

SI = special items

Ret_Vol = share return volatility

Earn_Vol = earnings volatility

MA = merger and acquisition

SEO = seasoned equity offering

Market return = yearly return index

The dependent variable of the regression is the readability of the Notes. Following Li (2008), this study employs two measures as the primary measures of financial report readability, namely the *length* of the financial report and the *Fog Index* of complexity (Gunning 1945, 1969; Kwolek 1973). The Fog Index is determined by sentence length and the percentage of ‘complex’ words, that is, words with three or more syllables.

$$Fog = (words\ per\ sentence + \%\ of\ complex\ words) \times 0.4$$

According to Li (2008), the readability scale consists of a five-point scale, ranging from unreadable, to difficult, to ideal, to acceptable and to childish. According to the Fog Index, a lower Fog Index represents information that is more readable (or easier to read), while a higher Fog Index means it is less readable (or harder to read). On average, a Fog Index of 12–14 means the article is ‘ideal’ to read; between 14 and 18 the article is ‘difficult’; and an index greater than 18 indicates that the article is ‘unreadable’ (Li 2008).

Length is the natural logarithm of the number of words in the Notes. The use of the natural logarithm rather than the raw number of words is due to the skewness in the number of words across firms and some extreme values (Li 2008).

$$Length = \ln (no.\ of\ words)$$

We also consider an alternative readability measure, the Flesch Reading Ease measure, which is an index determined by word length and average sentence length, for robustness (Flesch 1948, 1949, 1951). The measure is calculated as:

$$\text{Reading ease} = 206.835 - 0.846 \times \text{no. of syllables} / 100 \text{ words} - 1.015 \text{ av. sentence length}$$

Readability formulae are good predictive measures (Pound 1980, 1981) for which no readers' actual participation is required. These measures are also easy to adopt, reliable, valid and objective, as indicated in numerous studies (Heath and Phelps 1984; Lewis et al. 1986; Jones 1988; Schroeder and Gibson 1990; Jones and Shoemaker 1994). Although Loughran and McDonald (2014) disagree with the use of Fog index to evaluate financial documents, this thesis takes the view along with many other recent studies that Fog index is an appropriate measure of financial disclosures (e.g., Li 2008; Miller 2010; Lehavy et al. 2011).

The focal independent variable of the regression is *Post*, which is an indicator variable that takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The year 2005 is excluded from our analysis because it is a transitional year. We argue that the adoption of IFRS is likely to affect the readability of financial reports, and as a result, we expect β_1 to be statistically significant.

The other independent variables included in the regression are determinants of financial report readability based on Li (2008). *Size* is firm size, which is defined as the logarithm of market capitalisation.¹¹ *MTB* is market-to-book ratio, which is defined as the current share price divided by the book value per share.¹² *Age* is firm age, which is measured as the difference between the ‘official listing date’ extracted from the Australian Securities Exchange (ASX) and the financial reporting date from *Aspect Fin Analysis*. *SI* is special items, which is defined as net abnormals divided by the book value of total assets.¹³ *Ret_Vol* and *Earn_Vol* are both proxies of volatility of business, where *Ret_Vol* is share return volatility, which is measured as the standard deviation of monthly share returns in the previous year;¹⁴ and *Earn_Vol* is earnings volatility, which is measured as the standard deviation of the EBIT scaled by total assets for the past five fiscal years.¹⁵ *MA* and *SEO* are both indicator variables that control for specific firm events. *MA* is merger and acquisition that takes the value of 1 if a firm acquired another firm in a year and 0 otherwise.¹⁶ *SEO* is seasoned equity offering that takes the value of 1 if a firm has issued shares in a

¹¹ Data were extracted from the 2008 *Centre for Research in Finance* (CRIF) at the Australian Graduate School of Management. Market capitalisation = CRIF Total capital (in cents) in June divided by 100.

¹² Price-to-book is item 49 of the Annual Ratio Analysis from *Aspect Fin Analysis*.

¹³ Net abnormals is item 19 of Annual Profit & Loss from *Aspect Fin Analysis*, and total assets is item 48 of Annual Balance Sheet from *Aspect Fin Analysis*.

¹⁴ Share return = CRIF price relative – 1, where *price relative* = $(Price_t / Price_{t-1})$ and *share return* = $[(Price_t - Price_{t-1}) / Price_{t-1}]$, and excludes any firms that have price relative values of less than five months, or price relative values of –9 or –99.

¹⁵ EBIT is item 14 of Annual Sundry Analysis from *Aspect Fin Analysis*, and total assets is item 48 of Annual Balance Sheet from *Aspect Fin Analysis*.

¹⁶ The following determines if a firm has been acquired by another company. First, select ‘A’ from CRIF ‘delist codes’ (which indicates the firm is being acquired). Then, check the corresponding company name via ‘company code’, and compare with the ‘delist reason’, ‘related gcode’ (which denotes the acquirer) and ‘max delist date’ (which denotes the date in which the firm is delisted from the ASX).

year and 0 otherwise.¹⁷ All variables except *MA* and *SEO* are winsorised at the 1 per cent level on either tail in order to eliminate the effect of outliers.

We use *market return* to control for macro-economic conditions, measured as the yearly return index of the All Ordinaries Index retrieved from *Datastream*. We use *market return* instead of year indicator, as both *Post* and year indicator variables proxy for time period, and including both variables in the regression would cause multicollinearity.

3.4.2 Relationship between performance and readability in the pre- and post-IFRS periods

Our second research question (which relates to Hypothesis 2) examines the relationship between performance and readability in both the pre- and post-IFRS periods. We first test the relation between performance and the readability of financial reports in the pre-IFRS period with the following fixed-effects regression models:

$$\begin{aligned} Length_{i,t} = & \alpha_0 + \beta_1 ROA_{i,t} + \beta_2 Size_{i,t} + \beta_3 MTBi_{i,t} + \beta_4 Age_{i,t} + \beta_5 SI_{i,t} + \beta_6 Ret_Vol_{i,t} \\ & + \beta_7 Earn_Vol_{i,t} + \beta_8 MA_{i,t} + \beta_9 SEO_{i,t} + \beta_{10} Market\ return + \beta_{11} Firm\ fixed \\ & effects + \varepsilon_{i,t} \end{aligned} \quad (2a)$$

¹⁷ Proceeds from issues is item 27 of Annual Cashflow from *Aspect Fin Analysis*.

$$\begin{aligned}
Fog_{i,t} = & \alpha_0 + \beta_1 ROA_{i,t} + \beta_2 Size_{i,t} + \beta_3 MTBi_{i,t} + \beta_4 Age_{i,t} + \beta_5 SI_{i,t} + \beta_6 Ret_Vol_{i,t} \\
& + \beta_7 Earn_Vol_{i,t} + \beta_8 MA_{i,t} + \beta_9 SEO_{i,t} + \beta_{10} Market\ return + \beta_{11} Firm\ fixed \\
& effects + \varepsilon_{i,t}
\end{aligned} \tag{2b}$$

We use *ROA* (return on assets) to measure firm performance, which is defined as earnings before interest and tax (EBIT) divided by the book value of assets. We follow Li (2008) by using an indicator variable *Profit/loss* as an alternative measure of firm performance; this takes the value of 1 if a firm reports profits and 0 otherwise. The statistical significance of β_l would signal the possibility of managerial manipulation of the readability of financial reports.

We then test whether the introduction of IFRS has altered the relation between the performance and readability of financial reports using the following fixed-effects regression models:

$$\begin{aligned}
Length_{i,t} = & \alpha_0 + \beta_1 Post_{i,t} + \beta_2 ROA_{i,t} + \beta_3 Post*ROA_{i,t} + \beta_4 Size_{i,t} + \beta_5 MTBi_{i,t} + \beta_6 Age_{i,t} \\
& + \beta_7 SI_{i,t} + \beta_8 Ret_Vol_{i,t} + \beta_9 Earn_Vol_{i,t} + \beta_{10} MA_{i,t} + \beta_{11} SEO_{i,t} \\
& + \beta_{12} Market\ return + \beta_{13} firm\ fixed\ effects + \varepsilon_{i,t}
\end{aligned} \tag{2c}$$

$$\begin{aligned}
Fog_{i,t} = & \alpha_0 + \beta_1 Post_{i,t} + \beta_2 ROA_{i,t} + \beta_3 Post*ROA_{i,t} + \beta_4 Size_{i,t} + \beta_5 MTBi_{i,t} + \beta_6 Age_{i,t} \\
& + \beta_7 SI_{i,t} + \beta_8 Ret_Vol_{i,t} + \beta_9 Earn_Vol_{i,t} + \beta_{10} MA_{i,t} + \beta_{11} SEO_{i,t} + \beta_{12} Market \\
& return + \beta_{13} firm\ fixed\ effects + \varepsilon_{i,t}
\end{aligned} \tag{2d}$$

In this regression, we include an interaction variable between *Post* and *ROA*. If the introduction of IFRS has significantly altered the relation between readability and firm performance, then β_3 would be statistically significant.

3.5 Sample

3.5.1 Sample selection

All firms listed on the ASX across the pre- and post-IFRS periods were selected for this study, except for firms with a financial year-end other than June. This is to avoid confusion with dates; for example, the adoption year is different for firms with a financial year-end in December rather than June. The periods under investigation are based on an unbalanced sample, which includes four years prior to, and four years after, the adoption of IFRS. The transitional period (i.e., one year prior to the first full adoption) was omitted to avoid any confounding effects, such as unfamiliarity with the IFRS system for both users and preparers.¹⁸ Therefore, firms with a reporting period ending on 30 June and which had financial reports within the period 2001 to 2004 were selected for pre-IFRS, and those with financial reports within the period 2006 to 2009 were selected for post-IFRS comparisons. This provided a sample of 1,120 firms with 7,843 observations, excluding the 2005 transitional year.

Financial reports were collected from *Aspect Financial Reports Online*, and the reports were obtained in PDF format. Using a PDF format involves a different

¹⁸ According to Deloitte (2004), the date of transition is defined as the ‘beginning of the earliest period for which an entity presents full comparative information under IFRSs in its first IFRS financial statements’.

process than that used in other studies that processed data in XML/HTML format (e.g., Li 2008). In our study, we had to first extract the content of the reports before being able to obtain the readability measures. Text extraction from PDF files is not a straightforward task and requires a sophisticated treatment, which may introduce errors, as indicated in Table 3-1. The entire process was organised as a pipeline of four modules: (1) text extractor (PDF2Text Converter); (2) text cleaner; (3) relevant section extractor; and (4) readability measures calculator. Detailed and comprehensive steps are included in Appendix 1, but in brief, the PDF files are first converted into text files. Owing to technical issues, these files then need to be ‘cleaned’ after they have been converted to minimise problems in further text processing. Third, relevant sections of the financial reports are extracted, which are Notes to the financial reports, excluding any headings, sub-headings, page numbers, and paragraphs of less than one line, and tables. Finally, the readability measures of both Fog and Flesch Indices are computed based on the publicly available Java Fathom library.¹⁹ To ensure successful extractions of most financial reports during the data collection process, companies that provided two different formats of the same financial report had both reports extracted and the best version was selected manually. A manual check was also performed on the deletion of financial reports that had incomplete extraction to ensure accuracy and consistency. This resulted in a sample of 7,843 firm-years for an eight-year period between 2001 and 2009, excluding 2005.

<Insert Table 3-1 and Appendix 1 about here>

¹⁹ See <http://www.representqueens.com/fathom>

3.5.2 Descriptive statistics

Panel A of Table 3-2 provides summary statistics for the sample. The mean of the Fog Index of the Notes is 17.67. Based on the standard interpretation of the index, Notes in this sample are classified as ‘difficult’ to read. In Li’s (2008) US data, the mean of the Fog Index of the Notes in that sample was 18.96, which means that on average, financial reports in the US were classified as unreadable.²⁰ It appears that the average financial report in Australia is easier to read than its US counterpart. With regard to the length of the financial reports, the mean and standard deviation of the number of words of financial reports are 19,501 and 9,758 respectively. By contrast, in Li’s (2008) sample, the mean and standard deviation of the number of words were 12,443 and 20,284 respectively. It appears that on average, financial reports in Australia are significantly longer but have less cross-sectional variation than their US counterparts.

Panel B of Table 3-2 provides univariate analysis to test the mean differences of readability of financial reports in the pre- and post-IFRS adoption periods. The results show that the Fog Index of the Notes is significantly lower after the adoption of IFRS, which means that financial reports are easier to read after the introduction of IFRS compared to those in the pre-IFRS period. In relation to the length of the financial reports, the mean of the number of words and the natural logarithm of the number of words in the Notes both indicate that financial reports in the post-IFRS

²⁰ It is argued that analysts in the US read financial reports and request for more disclosures, yet why are US reports considered unreadable? This is because there is a difference between processing costs and the level of disclosures. In general, the processing cost for analysts is higher on less readable than more readable disclosures. In addition, analysts’ following is greater for firms with less readable disclosures (Lehavy et al. 2011). Hence, analysts may request more information.

adoption period are significantly longer than the pre-adoption IFRS period. The univariate analysis shows that there are significant differences in the readability of financial reports after the introduction of IFRS, which provides preliminary support for Hypothesis 1.

<Insert Table 3-2 about here>

3.6 Results

3.6.1 IFRS and the readability of financial reports

In this section, we answer the research question of whether the introduction of IFRS affects the readability of financial reports. We regress the two readability measures (*Length* and *Fog Index*) against the indicator variable of IFRS (*Post*), along with other control variables. The dependent variable of Models 1 and 2 from Table 3-3 is *Length*. We anticipate that the increased disclosure requirement of IFRS will lead to longer financial reports and results are consistent with our expectation. The variable *Post* is significantly positive at the 1 per cent significance level, which means that on average, financial reports in the post-IFRS period are significantly longer than those in the pre-IFRS period. As a result, Hypothesis 1a is supported. According to the results from Model 1, the coefficient of 0.727 means that on average the number of words in the Notes increases 72.7 per cent after the adoption of IFRS.

In Models 3 and 4, we use *Fog Index* as the dependent variable. Results from Model 3 indicate that the variable *Post* is significantly negative at the 1 per cent significance

level, which means that on average, financial reports are more readable (i.e., less complex) after the introduction of IFRS compared to those in the pre-IFRS period. The coefficient of the variable *Post* is -1.469 , and based on the standard interpretation of the *Fog Index*, financial reports on average remain difficult to read despite improvement in readability after the adoption of IFRS. In Model 4, we drop the share return volatility variable (*RET_VOL*), because it contains a large number of missing values. The number of observations included in the regression increased by more than a thousand, but the results from Model 4 remain largely unchanged. As a result, Hypothesis 1b is supported.

Overall, the results indicate that after the introduction of IFRS, financial reports are longer but less complex.

<Insert Table 3-3 about here>

3.6.2 Relationship between performance and readability in the pre- and post-IFRS periods

Our second research question examines the relationship between performance and the readability of financial reports in the pre- and post-IFRS periods. We first test the relationship in the pre-IFRS period. We use return on assets (*ROA*) as the measure of firm performance by regressing the two readability measures against *ROA* and control variables. If managers on average obfuscate the readability of financial reports in order to mask poor firm performance, the coefficients of *ROA* should be

significantly negative. The results from Table 3-4 show that the coefficients of *ROA* in Models 1 to 4 are not statistically significant, which signals that there is no significant relationship between firm performance and the readability of financial reports in the pre-IFRS period. A sensitivity analysis is conducted by using an indicator variable of *Profit/Loss* as an alternative measure of firm performance, and the unreported results also show no significant relation between firm performance and the readability of financial reports. As a result, Hypotheses 2a and 2b are not supported. Our results indicate that the level of firm performance does not affect either the *length* or *complexity* of the financial reports in the pre-IFRS periods, which is in contrast to the evidence presented in prior literature that focuses mainly on US data, in which Li (2008) found that firms with poorer earnings have financial reports that are less readable.

<Insert Table 3-4 about here>

We further investigate whether the introduction of IFRS has altered the relationship between readability and firm performance. We regress readability measures against the indicator variable of IFRS (*Post*), the firm performance measure (*ROA*), the interaction variable between the two variables (*Post*ROA*), and control variables. If the introduction of IFRS has significantly altered the relationship between firm performance and the readability of financial reports, the coefficients of the interaction variable (*Post*ROA*) should be statistically significant. The results from Table 3-5 show that coefficients of *Post* are highly significant in all models, which means that financial reports in the post-IFRS period remain more readable compared

to those in the pre-IFRS period after the additional control for firm performance. However, the coefficients of *ROA* and *Post*ROA* under all models are insignificant at the conventional levels, representing a lack of association between the readability of financial reports (*Length* and *Fog Index*) and firm performance in both the pre- and post-IFRS periods. As a result, Hypotheses 2c and 2d are not supported.

We find that managers in this sample did not alter the length or complexity of the financial reports in response to different levels of firm performance in either the pre- or post-IFRS periods. Our empirical results suggest that the opportunistic managerial behaviour observed in the US does not appear to be evident in Australia.

<Insert Table 3-5 about here>

3.6.3 Robustness test

The results from Tables 3-3 to 3-5 are based on an unbalanced sample, which means that the composition of firms in the pre-IFRS period is not the same as those in the post-IFRS period. The difference in the composition of firms in the pre- and post-IFRS periods arises from unusable annual reports, missing data, delisting, mergers and acquisitions and bankruptcy. Including all available firms in the sample maximises the sample size but the drawback is that it could introduce bias to the analysis. To ensure that the empirical results are not driven by an unbalanced sample, we replicated the analysis based on a constant sample. Only firms with all eight years of observation were included in the sample. The constant sample is composed of 381 firms. The results from Table 3-6 are consistent with the results shown in Tables 3-3

to 3-5: financial reports on average are significantly longer but easier to read after the introduction of IFRS; there is no significant relationship between firm performance and the readability of financial reports in either the pre- or post-IFRS periods.

<Insert Table 3-6 about here>

3.7 Additional Analyses

The previous sections provide preliminary evidence on the implication of the length and complexity of financial reports, firm performance and the adoption of IFRS. Results indicate that financial reports are significantly lengthier after the implementation of IFRS. This section aims to provide further analyses to examine possible Notes that drive the increased length of the financial reports.

AASB 1047 provides a list of changes in accounting policies that could affect disclosures after the adoption of IFRS (AASB 2004b, pp. 7, 8). These accounting policies could either be disclosed as separate or combined as Notes in the financial reports. This list includes financial instruments; share-based payments; business combinations; impairment of assets; intangible assets; income tax; employee benefits; effects of changes in foreign exchange rates; provisions, contingent liabilities and contingent assets; and investment property.

To evaluate each of these Notes thoroughly, it is crucial to examine how AASB 1047 translates into the actual Notes of the financial reports. Most companies' financial

reports are based on model financial statements known as ‘specimen accounts’ (ICAA 2013). A few large accounting firms prepare these specimen accounts, and each has a unique name. For instance, specimen accounts prepared by Ernst & Young are known as ‘Endeavour (International) Limited’ (hereafter Endeavour), and this can assist companies with the preparation of their annual financial reports. This study will first begin the analyses using Endeavour to check the list of changes in accounting policies provided by AASB 1047, ensuring the change is not due to a quantitative nature, as well as to familiarise ourselves with where each accounting policy is reported in the Notes, as illustrated in Appendix 2.

<Insert Appendix 2 about here>

First, *financial instruments* and *share-based payments* relate to the new disclosure requirement and share-based compensation to employees respectively. However, users have to be careful when locating these additional disclosures, as some firms record financial instruments and financial risk as separate Notes whereas other firms include all financial-related information in a single Note. After adoption, firms continue to disclose financial instruments in similar but more detailed Notes. Similarly, with *share-based payments*, prior to adoption, this information could be included in several Notes, yet it could be disclosed in different Notes in the post-adoption period. Second, prior to the adoption of IFRS, entities were not required to separately disclose *Business Combinations*,²¹ *Impairment of Assets* and *Intangible*

²¹ *Business Combinations* is an accounting policy that records information relating to goodwill impairment testing.

Assets. Although AASB 138 *Intangible Assets* is a new accounting standard adopted by Australian entities on or after 1 January 2005 (Cheung et al. 2008), some entities continued to jointly disclose their intangible assets and impairments even after IFRS was implemented. Therefore, these three accounting policies will be assessed together as *Intangible Assets*. In addition, entities use the same Note to disclose intangible assets in both pre- and post-IFRS, but the disclosures are more comprehensive after the adoption of IFRS. Third, the impact of *Income Tax* relates to the requirement to adopt a balance sheet approach which does not affect disclosure requirements; hence, it is excluded from the analyses. Fourth, changes in *Employee Benefits* relates to calculating actuarial gains and losses of the defined benefit superannuation (super) plan, as the super plan is specific to the defined benefit scheme and is quantitative in nature; hence, it is also excluded from the study. Fifth, *the Effects of Changes in Foreign Exchange Rates* relates to a selection of presentation currency, which is also quantitative in nature and is irrelevant in explaining the increased disclosure length; therefore, it will not be included in the analyses. Sixth, the impact of *Provisions, Contingent Liabilities and Contingent Assets* is associated with the recognition of the disposal of long-lived assets and the timing of proposed dividends, and as entities are most unlikely to dispose of long-lived assets on a regular basis, the impact of this accounting policy is thus eliminated. Finally, *Investment Property* relates to changes in measurement method, and will not affect the disclosure requirement; thus, it is discarded from the additional analyses.

An important finding from the initial analysis using Endeavour was not discussed in the AASB 1047 list of changes. However, this study identified that any changes in the accounting policies that are reflected in the actual Notes also appear in the Note –

Summary of Significant Accounting Policies. It is observed that this particular Note became much lengthier after the adoption of IFRS, as entities are required to increase their disclosures to accommodate either new accounting standards or changes to the existing accounting standard relating to the adoption of IFRS. Hence, it is anticipated that *Summary of Significant Accounting Policies* could also be one of the disclosures that drives the increased length of financial reports.

Following the release of AASB 1047, Jubb (2005) and Ernst & Young (2005) conducted surveys to examine the expected impacts of AASB 1047 on corporate disclosures after the adoption of IFRS. Jubb (2005) examined the qualitative disclosures and number of words in annual and half-yearly reports of all Australian companies listed on the ASX for periods ending 30 June 2004. Results of the 808 companies indicate that the most expected accounting policy differences are: (1) *Income taxes*; (2) *Impairment of assets*; (3) *Share-based payments*; (4) *Financial instruments*; and (5) *Intangible assets*. The study by Ernst & Young (2005) considered both quantitative and qualitative disclosures in 30 June 2005 financial reports, evaluating the top 100 listed companies from *BRW*'s 2005 Top 500 public companies list. Ernst & Young (2005) reveals that the accounting policies most impacted by the adoption of IFRS were: (1) *Share-based payments*; (2) *Goodwill amortisation*; (3) *Income taxes*; and (4) *Defined benefits superannuation plans*, which is consistent with those identified by Jubb (2005).

In summary, the disclosure impacts as discussed in AASB 1047 (2004b), Jubb (2005) and Ernst & Young (2005), as well as the initial analysis of Endeavour, led to the

selection of the final four accounting policies for the current study: (1) *Summary of Significant Accounting Policies*; (2) *Financial Instruments*; (3) *Share-based Payments*; and (4) *Intangible Assets* (which includes *Impairment of assets* and *Goodwill impairment*). It is expected that these four accounting policies could drive the increased length of the Notes.

3.7.1 Sample and results

As there is more than one model of specimen accounts for firms to choose from when preparing their financial reports, different firms may adopt different names/headings to the Notes. In addition, as previously discussed, some firms could report their share-based payments and/or financial instruments under different Notes sections than other firms. As a result, 50 firms were randomly selected from the original constant sample. The sample periods remain the same with a reporting period that ends on 30 June, the period 2001 to 2004 selected for pre-IFRS, and the period 2006 to 2009 selected for post-IFRS comparisons.

Panel A of Table 3-7 displays the descriptive statistics of the sub-sample. It shows that, on average, firms in the sub-sample are more profitable, larger, older and have less earnings and return volatilities than firms in the full sample. However, the average Fog Index and the number of words in the sub-sample are very close to the full sample. This indicates that, in terms of readability measures, the sub-sample is a representative sample of the firms used in the original analysis.

Panel B of Table 3-7 provides the univariate analysis to test the mean differences of the *Length* of the four selected accounting policies in the pre- and post-IFRS adoption periods. The results show that, on average, the disclosure of the four selected accounting policies is significantly longer after the introduction of IFRS. The disclosure in *Summary of Significant Accounting Policies* shows the biggest increase in the number of words (3,763) and it appears to be the major contributor of the significant increase in the length of the financial report documented in earlier analyses. The disclosure in *Financial Instruments* also displays a large increase in the number of words (757); the increase in the number of words of the disclosure in *Share-based Payments* and *Intangible Assets* is comparatively less (229 and 259 respectively). It is notable that the mean disclosure of intangible assets in the pre-IFRS period is nearly zero, which indicates that little or no disclosure beyond the financial figures of intangible assets was provided by firms prior to the adoption of AASB 138 *Intangible Assets*. Prior to IFRS adoption, there was no equivalent standard to AASB 138; however, firms still reported their intangible assets under the same Note. This disclosure occurred even though there was no prior standard and no guidelines on intangible assets. This is evidenced in the results where there were fewer disclosures. In addition to the number of words, the natural logarithm of the number of words of the four selected accounting policies was also used to test the mean differences, and the unreported results are qualitatively the same.

<Insert Table 3-7 about here>

Table 3-8 reports the regression results of the impact of the introduction of IFRS on the length of disclosure in the four selected accounting policies. We regress the *Length* (natural logarithm of the number of words) of the accounting policies against the indicator variable of IFRS (*Post*) and other control variables. We expect that the increased disclosure requirement of IFRS should lead to more disclosure in all four selected accounting policies. Model 1 shows that the variable *Post* is significantly positive at the 1 per cent significance level, which means that, on average, the length of disclosure in the *Summary of Significant Accounting Policies* is significantly longer in the post-IFRS compared to the pre-IFRS period. Likewise, the variable *Post* is also significantly positive at the 1 per cent significance level in Models 2 and 4, which indicates that the length of disclosure in *Financial Instruments* and *Intangible Assets* are also significantly longer after the introduction of IFRS. On the contrary, the variable *Post* is not statistically significant in Model 3, which means that, on average, there is no significant difference in the length of disclosure in *Share-based payments* in the pre- and post-IFRS period. Overall, the results show that the introduction of IFRS led to significantly more disclosures in *Summary of Significant Accounting Policies*, *Financial Instruments* and *Intangible Assets*.

<Insert Table 3-8 about here>

3.8 Conclusions and Implications

This paper provides large sample evidence about the relationship between readability and IFRS adoption, as well as readability and firm performance in Australia. It

extends prior research by evaluating whether the introduction of IFRS has altered the association between readability and performance based on Australian firms. The empirical findings can be summarised as follows.

First, following the introduction of IFRS in Australia, this study finds the following impacts: (1) financial reports are significantly longer, and the additional analyses further illustrate that three accounting policies, namely, *Summary of Significant Accounting Policies*, *Financial Instruments* and *Intangible Assets* have significantly longer disclosures as a result of the adoption of IFRS. These could potentially drive the increased length of the financial reports. In addition, (2) in spite of their increased length, financial reports are less complex.

In addition, the financial reports of smaller, younger firms, as well as firms that did not issue new shares are easier to read compared to their counterparts. However, financial reports remain 'difficult' to read despite the improvement in readability after adopting IFRS. Our result supports the earlier concern that increased disclosures as a result of the introduction of IFRS have led to longer financial reports (CPA Australia 2005; Hoogendoorn 2006; CPA Australia 2007; Wilkinson 2007; O'Brien 2009; Peach 2009). But this does not necessarily mean that they will be more 'difficult to read' (Kelly 2006). In fact, as illustrated by the present study, length and complexity are two separate dimensions of readability, whereby financial reports can be concurrently longer and more readable. Although financial reports are evidently lengthier, overall they are less complex following the introduction of IFRS. This sheds light on the debate regarding the potential benefits of the adoption of

IFRS, namely, having better quality financial reports through more readable communications. This paper supports the intention of the standard setters that ‘quality of financial reporting’, as evaluated by readability of financial disclosure, has improved. As financial reports are more readable after the adoption of IFRS, these results suggest that increased disclosure has enhanced transparency. Further, more detailed disclosure presented by preparers’ is beneficial to users as it alleviates uncertainty and confusion.

Second, there is no evidence to show that the introduction of IFRS has altered the relationship between readability and firm performance. We do not observe any association between firm performance and the readability of financial reports prior to or after IFRS adoption. Although our result is inconsistent with prior literature, in which poorly performing companies provide less readable financial reports in the US setting (e.g. Li 2008), it indicates that in the Australian setting there is no difference in financial report readability regardless of whether the company is performing well or poorly. In other words, both types of companies prepare reports that have similar complexity and word length. Therefore, our results do not support the ‘management obfuscation hypothesis’, suggesting that in Australia, managers in poorly performing firms do not appear to obscure presentation with less readable disclosures. Our result could relate to the distinctions between the rules-based and principles-based approach to standards. The rules-based approach, which applies in the US and is the context of prior studies that have supported the obfuscation hypothesis, allows ‘scope and treatment’ exceptions and detailed guidance, which may be exploited by self-interested managers to disguise poor firm performance. This contrasts with the

principles-based approach, which applies in Australia and in IFRS, and which allows fewer exceptions and broader guidance resulting in more consistent accounting treatments of similar business transactions and events. Alternatively, differences in results between this and prior studies may be due to the discrete litigation systems in the US compared to Australia. Higher litigation costs in the US provide more incentive for managers in poorly performing firms to prepare less readable annual reports.

Third, we integrate the previous two analyses and examine if the relationship between firm performance and readability is affected by the introduction of IFRS. We find no significant association between firm performance and the length or complexity of financial reports. Hence, consistent with our previous findings, that regardless of better- or poorly performing firms, the length and level of complexity in financial reports are similar under pre- and post-adoption periods. Thus, the introduction of IFRS continues to reveal no (or less) scope for managerial manipulation in relation to hiding performance. One could argue that if there is no managerial manipulation prior to IFRS adoption, it is expected that there would continue to be no manipulation after adoption, especially when the objectives of IFRS 1 are to provide better quality financial reporting by enhancing transparency and increasing disclosure requirements.

Some limitations of this study need to be recognised. First, readability formulae are useful in predicting whether prose passages are likely to be readable by a target audience, but the formulae are based on simple assumptions. They mainly measure

word length and average sentence length, ignoring other attributes that contribute to an attractive and interesting financial report, such as coloured printout, design, layout and style of report and readers' interests (Pound 1980). In addition, readability formulae are unable to distinguish technical from non-technical terms, for example, simple words like 'pension asset ceiling'. Second, this study was conducted in the Australian context. Although the study provides a unique setting to identify whether the quality of a company's financial reports may be improved by enhancing its financial report readability, the results may not be generalisable insofar as an IFRS-adopting countries' pre-IFRS accounting standards may contain different verbiage to AGAAP. However, since IFRS are applicable to all reporting entities in Australia, this study could be used as a guide for those who have adopted, or will adopt, IFRS. Future studies may investigate the relationship between IFRS, readability and firm performance in other countries that have adopted IFRS. This should better prepare other countries that are considering IFRS adoption.

3.9 Appendix

Appendix 1

Steps to extract Notes to the financial statements.

(1) Text Extractor

In general, there are two types of PDF documents: native PDF and ‘scans’. Documents of the first type are ‘born digital’, that is, they contain a text layer with formatting commands. Obtaining text from such documents is possible by reading these commands and extracting text from them. ‘Scans’ are PDF files which are created by scanning original documents or generating page content as graphic elements; these do not contain the text layer and text extraction from these is only possible with optical character recognition (OCR) techniques.

We used the PDF2Text converter implemented in Java by Brett Powley at Macquarie University. It is not publicly available, but some of its details can be found in Powley et al. (2009). The converter reads a PDF file and outputs two files: a text file with a stream of text and an XML file with additional formatting information for each text token (word and punctuation character). We used only the text output for our study. The tool does not perform OCR, so no output is generated for non-native PDF files, and these files are not used in our study.

(2) Text Cleaner

The text file produced in PDF2Text conversion sometimes contains ‘garbage’, which may fill the content of one paragraph, a section or even the whole document. This is due to technical issues faced by the converter, related to the font encoding used in the PDF file. The text output can also contain Unicode punctuation characters and ligatures,²² which can be problematic for further text processing. For these reasons, we performed text cleaning, during which we detected and removed the ‘garbage’ and converted Unicode characters to their American Standard Code for Information Interchange (ASCII) counterpart. We implemented this tool as a Perl script.

(3) Relevant Section Extractor

Not all parts of the financial reports were used to calculate the readability metrics. We detected relevant sections by searching for specific section headers. With some heuristics based on line length and the ratio of digits to letters, we then removed lines that were identified as section headers or rows in tables. Data that were collected with this program may be subject to differences compared to data that were collected manually. For example, we noted an example where the section header *Notes to the financial statements* was misspelt and therefore it could not be matched by the script. In another case, the section header appeared only in the table of contents, but the page where the section started did not have the header. However, correct handling of such cases requires very sophisticated text analysis, which was beyond our

²² ‘Ligature’ in Unicode is a technical term in typography and computing, and is a single character that represents two letters: for example ‘fi’ in ‘fiddle’. Ligature narrows letters occurring next to each other to save space and enhance the print layout. UTF-8 (unicode) encodes ligatures where they appear in PDF files.

capabilities. This illustrates the great advantage of having access to structured data (e.g., in HTML or XML) over processing PDF files.

(4) Readability Measures Calculator

The Flesch Reading Ease and Fog Index were computed with our application²³ based on the publicly available Java Fathom library. This library provided the necessary functions to calculate these metrics. Apart from the two measures, the library also gave access to the partial results used in the formulae of these measures.

²³ This can be downloaded from <http://web.science.mq.edu.au/~mpawel/software>

Appendix 2

Contents of the Notes to the financial statements							
Note	2001	2002 ²⁴	2003 ²⁵	2004	2006	2007	2008
1	Summary of significant accounting policies	Summary of significant accounting policies – New and revised	Summary of significant accounting policies – New and revised	Summary of significant accounting policies	Summary of significant accounting policies – New and revised	Summary of significant accounting policies – Revised	Summary of significant accounting policies – New and revised
					Financial risk management	Financial risk management	Financial risk management – Revised (slightly longer)
					Critical accounting estimates and judgements	Critical accounting estimates and judgements – Revised (longer)	Critical accounting estimates and judgements
2	Segment information	Segment information	Segment information	Segment information	Segment information	Segment information	Segment information
3	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue
4	Operating profit	Change the term ‘operating profit’ to: Profit from ordinary activities	Profit from ordinary activities	Profit from ordinary activities	Other income	Other income	Other income
					Correction of error, revision of estimates and variation from preliminary report	Correction of error, revision of estimates and variation from preliminary report	Correction of error, revision of estimates and variation from preliminary report

²⁴ 2002: Apart from the change of term, the only changes are Note 1 and the new Note 18. (Red: major change; purple: small change; blue: only name/term change.)

²⁵ 2003: Change term, and Revised notes 1 (new ‘onerous contracts’ and ‘restructuring costs’) and 38.

	2001	2002	2003	2004	2006	2007	2008
5	Fundamental error (A few small paragraphs)	Fundamental error	Fundamental error	Fundamental error	Expenses	Expenses	Expenses – Revised (small change)
6	Income tax	Income tax	Income tax – New	Income tax – Revised	Income tax expense – New	Income tax expense	Income tax expense
7	Extraordinary item (Minimal disclosure)	Extraordinary item	Extraordinary item	Extraordinary item	Extraordinary item		
8	Discontinuing operation	Discontinuing operation – New (small change)	Discontinuing operation	Discontinuing operation	Discontinuing operation	Discontinuing operation	Discontinued operation
9	Current assets – Cash assets	Current assets – Cash assets	Current assets – Cash assets	Current assets – Cash assets	CA – Cash and cash equivalents	CA – Cash and cash equivalents	CA – Cash and cash equivalents
10	CA – Receivables	CA – Receivables	CA – Receivables	CA – Receivables	CA – Trade and other receivables	CA – Trade and other receivables	CA – Trade and other receivables – New and revised
11	CA – Inventories	CA – Inventories	CA – Inventories	CA – Inventories	CA – Inventories	CA – Inventories	CA – Inventories
12	CA – Other	CA – Other	CA – Other	CA – Other	CA – Other financial assets at FV through profit or loss – New (small change)	CA – Other financial assets at FV through profit or loss – Revised (small change)	CA – Other financial assets at FV through profit or loss – Revised (small change)
				(previously on note 33)	Derivative financial instruments	Derivative financial instruments	Derivative financial instruments – New and revised

	2001	2002	2003	2004	2006	2007	2008
					CA – NCA classified as held for sale (Tables only)	CA – NCA classified as held for sale – New (small change)	CA – NCA classified as held for sale
13	Non-current assets (NCA) – Receivables	NCA – Receivables	NCA – Receivables	NCA – Receivables	NCA – Receivables	NCA – Receivables	NCA – Receivables – New and revised (small change)
14	NCA – Inventories (Tables only)	NCA – Inventories	NCA – Inventories	NCA – Inventories	NCA – Inventories		
15	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method	NCA – Investments accounted for using the equity method
					NCA – Available- for-sale financial assets	NCA – Available- for-sale financial assets	NCA – Available- for-sale financial assets – New and revised
					NCA – Held-to- maturity investments	NCA – Held-to- maturity investments	NCA – Held-to- maturity investments – New
16	NCA – Other financial assets	NCA – Other financial assets	NCA – Other financial assets	NCA – Other financial assets	NCA – Other financial assets – New (small change)	NCA – Other financial assets	NCA – Other financial assets

	2001	2002	2003	2004	2006	2007	2008
17	NCA – PPE	NCA – PPE	NCA – PPE	NCA – PPE	NCA – PPE	NCA – PPE – Revised (small change)	NCA – PPE
		NCA – Investment properties (small change)	NCA – Investment properties	NCA – Investment properties	NCA – Investment properties	NCA – Investment properties	NCA – Investment properties
18	NCA – DTA	NCA – DTA	NCA – DTA	NCA – DTA	NCA – DTA	NCA – DTA	NCA – DTA
19	NCA – Intangible assets (New, but no disclosure)	NCA – Intangible assets	NCA – Intangible assets	NCA – Intangible assets	NCA – Intangible assets	NCA – Intangible assets	NCA – Intangible assets
20	NCA – Other (Tables only)	NCA – Other	NCA – Other	NCA – Other	NCA – Other		
21	Current liabilities – Payables	Current liabilities – Payables	Current liabilities – Payables	Current liabilities – Payables	CL – Trade and other payables	CL – Trade and other payables	CL – Trade and other payables
22	CL – Interest bearing liabilities	CL – Interest bearing liabilities	CL – Interest bearing liabilities	CL – Interest bearing liabilities	CL – Borrowings – New (small change)	CL – Borrowings	CL – Borrowings
23	CL – CTL (Tables only)	CL – CTL	CL – CTL	CL – CTL	CL – CTL	CL – Other financial liabilities	CL – Other financial liabilities
24	CL – Provisions	CL – Provisions	CL – Provisions – New (small change)	CL – Provisions	CL – Provisions	CL – Provisions	CL - Provisions
							CL – Other liabilities (table only)

	2001	2002	2003	2004	2006	2007	2008
25	Non-current liabilities (NCL) – Interest bearing liabilities	NCL – Interest bearing liabilities	NCL – Interest bearing liabilities – Revised (small change)	NCL – Interest bearing liabilities	NCL – Borrowings – Revised (small change)	NCL – Borrowings	NCL – Borrowings
26	NCL – DTL	NCL – DTL	NCL – DTL	NCL – DTL			NCL – DTL
27	NCL – Provisions	NCL – Provisions	NCL – Provisions	NCL – Provisions	NCL – Provisions	NCL – Provisions – New (small change)	NCL - Provisions
					NCL – Retirement benefit obligations	NCL – Retirement benefit obligations	NCL – Retirement benefit obligations
28	Contributed equity	Contributed equity – Revision (small change)	Contributed equity	Contributed equity	Contributed equity	Contributed equity – New (small change)	Contributed equity – New (small change)
29	Reserves and RP	Reserves and RP	Reserves and RP	Reserves and RP	Reserves and RP	Reserves and RP – Revised (small change)	Reserves and RP
30	Outside equity interests (OEI) in controlled entities	OEI in controlled entities	OEI in controlled entities	OEI in controlled entities	OEI is now: Minority interest	Minority interest	Minority interest
31	Equity (Table only)	Equity	Equity	Equity	Equity		
32	Dividends	Div. – New (small change)	Dividends	Dividends	Dividends	Dividends	Dividends

	2001	2002	2003	2004	2006	2007	2008
33	Financial instruments	Financial instruments	Financial instruments	Financial instruments	Financial instruments (refer to Derivative financial instruments above)		
34	Remuneration of directors	Remuneration of directors	Remuneration of directors – Revised (small change)	Director and executive disclosures (New)	Key management personnel disclosures	Key management personnel disclosures	Key management personnel disclosures
35	Remuneration of executives	Remuneration of executives	Remuneration of executives				
36	Retirement benefits of directors	Retirement benefits of directors	Retirement benefits of directors				
37	Remuneration of auditors	Remuneration of auditors – New (small change)	Remuneration of auditors	Remuneration of auditors	Remuneration of auditors	Remuneration of auditors	Remuneration of auditors
38	Contingent liabilities	Contingent liabilities	Contingent liabilities and contingent assets – New and revised	Contingent liabilities and contingent assets	Contingencies ²⁶	Contingencies	Contingencies
39	Commitments for expenditure	Commitments for expenditure	Commitments for expenditure	Commitments for expenditure	Commitments – Revised (small change)	Commitments	Commitments

²⁶ Controlled entities is now ‘subsidiary’.

	2001	2002	2003	2004	2006	2007	2008
40	Employee entitlements	Employee entitlements	Employee benefits – New (small change)	Employee benefits	Employee benefits (refer to share-based payments below)		
41	Related parties	Related parties	Related parties	Related parties	Related party transactions – Revised	Related party transactions	Related party transactions
42	Investments in controlled entities	Investments in controlled entities	Investments in controlled entities	Investments in controlled entities	Business combination – Revised (small change)	Business combination	Business combination
					Subsidiaries – (Small change)	Subsidiaries	Subsidiaries
43	Deed of cross guarantee	Deed of cross guarantee	Deed of cross guarantee	Deed of cross guarantee	Deed of cross guarantee	Deed of cross guarantee	Deed of cross guarantee
44	Investments in associates	Investments in associates	Investments in associates	Investments in associates	Investments in associates	Investments in associates	Investments in associates
45	Interests in joint ventures	Interests in joint ventures	Interests in joint ventures	Interests in joint ventures	Interests in joint ventures	Interests in joint ventures	Interests in joint ventures
46	Economic dependency (Small paragraph)	Economic dependency	Economic dependency	Economic dependency	Economic dependency	Econ. dependency	
47	Event occurring after reporting date	Event occurring after reporting date	Event occurring after reporting date	Event occurring after reporting date	Event occurring after the balance sheet date	Event occurring after the balance sheet date	Event occurring after the balance sheet date

	2001	2002	2003	2004	2006	2007	2008
48	Reconciliation of OPAIT ²⁷ to net cash inflow from operating activities	Reconciliation of profit from ordinary activities after income tax to ...	Reconciliation of profit from ordinary activities after income tax to ...	Reconciliation of profit from ordinary activities after income tax to ...	Reconciliation of profit after income tax to net cash inflow from OA	Reconciliation of profit after income tax to net cash inflow from OA	Reconciliation of profit after income tax to net cash inflow from OA
49	Non-cash financing and investing activities	Non-cash financing and investing activities	Non-cash financing and investing activities	Non-cash financing and investing activities	Non-cash investing and financing activities	Non-cash investing and financing activities	Non-cash investing and financing activities
50	Earnings per share (EPS)	EPS	EPS	EPS	EPS	EPS	EPS
				<i>(previously on note 40)</i>	Share-based payments	Share-based payments – Revised	Share-based payments
					Explanation of transition to Australian equivalents to IFRS	Explanation of transition to AIFRS	

²⁷ Operating profit after income tax.

3.10 References

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Table 3-1**Final financial reports available for use**

	2001	2002	2003	2004	2006	2007	2008	2009	TOTAL
PDF	1 102	1 116	1 529	2 093	1 523	2 041	2 093	1 671	13 168
<i>Could not be converted</i>	<i>19</i>	<i>18</i>	<i>48</i>	<i>438</i>	<i>7</i>	<i>9</i>	<i>20</i>	<i>14</i>	<i>573</i>
TXT	1 083	1 098	1 481	1 655	1 516	2 032	2 073	1 657	12 595
<i>Removed in cleaning</i>	<i>7</i>	<i>28</i>	<i>59</i>	<i>135</i>	<i>107</i>	<i>147</i>	<i>190</i>	<i>256</i>	<i>929</i>
CLEAN TXT	1 076	1 070	1 422	1 520	1 409	1 885	1 883	1 401	11 666
<i>Removed manually</i>	<i>215</i>	<i>169</i>	<i>423</i>	<i>400</i>	<i>312</i>	<i>818</i>	<i>910</i>	<i>576</i>	<i>3 823</i>
Final data	861	901	999	1 120	1 097	1 067	973	825	7 843

The entire process was organised as a pipeline of four modules: (1) text extractor (PDF2Text Converter); (2) text cleaner; (3) relevant section extractor; and (4) readability measures calculator. The PDF files were first converted into text files. Owing to technical issues, these files needed to be 'cleaned' after they had been converted to minimise problems in further text processing. Third, relevant sections of the financial reports were extracted, that is, Notes to the financial reports, excluding any headings, sub-headings, page numbers and paragraphs with less than one line, and tables. Finally, the readability measures of both the Fog and Flesch Indices were computed based on the publicly available Java Fathom library.

Table 3-2**Panel A – Descriptive statistics**

	Mean	Median	Std. dev.	1st percentile	25th percentile	75th percentile	99th percentile	N
<i>Fog</i>	17.67	17.74	1.81	13.98	16.28	19.11	21.98	7 843
<i>No. of words</i>	19 501	19 053	9 758	2 921	11 419	26 607	42 355	7 843
<i>Length</i>	9.73	9.86	0.59	7.98	9.34	10.19	10.65	7 843
<i>ROA</i>	−0.23	−0.02	0.67	−4.39	−0.24	0.07	0.38	7 780
<i>Size</i>	17.45	17.1	2.15	13.67	15.83	18.78	23.35	7 725
<i>MTB</i>	2.63	1.53	4.19	−8.07	0.86	2.98	27.24	7 747
<i>Age</i>	12.55	9.72	9.89	1.00	4.84	17.67	44.00	7 728
<i>SI</i>	−0.03	0.00	0.20	−1.39	0.00	0.00	0.30	7 774
<i>Ret_Vol</i>	0.17	0.14	0.11	0.03	0.08	0.21	0.64	6 320
<i>Earn_Vol</i>	0.33	0.09	0.78	0.00	0.03	0.27	5.72	7 042
<i>MA</i>	0.004	—	—		—	—		7 843
<i>SEO</i>	0.66	—	—		—	—		7 843

This table provides summary statistics for the sample. *Fog* is Fog Index. *No. of words* is the number of words in the Notes to the financial statements. *Length* is the natural logarithm of the number of words in the Notes. *ROA* is return on assets, which is calculated as EBIT divided by total assets. *Size* is measured as the natural logarithm of market capitalisation. *MTB* is the market-to-book ratio, which is calculated as the current share price divided by the book value per share. *Age* is firm age, which is calculated as the difference between the official listing date extracted from the ASX and the financial reporting date from Aspect Fin Analysis. *SI* is special items, which is defined as net abnormals divided by the book value of total assets. *Ret_Vol* is share return volatility, which is calculated as the standard deviation of monthly share returns in the previous year. *Earn_Vol* is earnings volatility, which is calculated as the standard deviation of the EBIT scaled by total assets for the past five fiscal years. *MA* is an indicator variable, which takes the value of 1 if there is any merger and acquisition event in a firm year and 0 otherwise. *SEO* is an indicator variable, which takes the value of 1 if a firm has issued shares in a year and 0 otherwise. All variables except *MA* and *SEO* are winsorised at the 1 per cent level on either tail.

Panel B – Univariate analysis of readability of financial reports

	Pre-IFRS		Post-IFRS		Diff. in means
	Mean	Median	Mean	Median	
<i>Fog</i>	17.87	18.17	17.47	17.47	−0.403***
<i>No. of words</i>	14 961	13 328	23 949	25 058	8988***
<i>Length</i>	9.47	9.50	9.97	10.13	0.495***

The differences in means of readability of financial reports in the pre- and post-adoption of IFRS are reported. *Fog* is Fog Index. *No. of words* is the number of words in the Notes to the financial statements. *Length* is the natural logarithm of the number of words in the Notes. The test of differences in means is based on the two-sample t test. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-3**Regression models on IFRS and readability of financial reports**

Dependent variable	<i>Length</i> (1)	<i>Length</i> (2)	<i>Fog</i> (3)	<i>Fog</i> (4)
Independent variable				
<i>Post</i>	0.727 (24.65)***	0.724 (27.49)***	-1.469 (-15.74)***	-1.530 (-18.35)***
<i>Size</i>	-0.000 (-0.04)	0.004 (0.43)	-0.049 (-1.72)*	-0.040 (-1.65)*
<i>MTB</i>	-0.001 (-0.60)	-0.001 (-0.55)	-0.014 (-2.61)***	-0.007 (-1.66)*
<i>Age</i>	-0.045 (-6.73)***	-0.047 (-7.98)***	0.221 (11.38)***	0.227 (13.25)***
<i>SI</i>	0.064 (1.97)**	0.059 (2.17)**	-0.068 (-0.56)	-0.178 (-1.79)*
<i>Ret_Vol</i>	-0.066 (-0.98)		-0.209 (-0.83)	
<i>Earn_Vol</i>	-0.002 (-0.14)	-0.029 (-1.95)*	-0.057 (-1.35)	-0.047 (-1.32)
<i>MA</i>	-0.019 (-0.22)	0.003 (0.04)	0.091 (0.36)	-0.005 (-0.02)
<i>SEO</i>	-0.004 (-0.26)	-0.001 (-0.06)	-0.004 (-0.07)	-0.021 (-0.43)
<i>No. of obs</i>	5 929	6 974	5 929	6 974
<i>Adj. R-squared</i>	0.219	0.201	0.129	0.121

This table examines the impact of the introduction of IFRS on the readability of financial reports. The dependent variable is the readability of financial reports, which is measured as the *Length* of the financial reports (Models 1 and 2) and *Fog Index* (Models 3 and 4). The key independent variable is *Post*, which is an indicator variable that takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The other independent variables included in the regression models are the control variables, which include firm size, market-to-book ratio, firm age, special items, return and earnings volatility, mergers and acquisitions events, and seasoned equity offerings. In addition, market return index is included in each of the regression models. Fixed-effects regressions are used in all models. For each regression, standard errors are estimated with clustered errors at the firm level; the first row is the coefficient on the independent variable and the second is the t-statistics. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-4

Regression models on firm performance and readability of financial reports in pre-IFRS period

Dependent variable	<i>Length</i> (1)	<i>Length</i> (2)	<i>Fog</i> (3)	<i>Fog</i> (4)
Independent variable				
<i>ROA</i>	-0.004 (-0.19)	0.017 (1.07)	-0.01 (-0.11)	0.058 (0.87)
<i>Size</i>	-0.019 (-1.11)	-0.026 (-1.95)*	-0.001 (-0.01)	-0.049 (-0.83)
<i>MTB</i>	-0.003 (-0.87)	-0.001 (-0.19)	-0.008 (-0.76)	0.003 (0.35)
<i>Age</i>	-0.027 (-3.34)***	-0.029 (-4.32)***	0.216 (7.41)***	0.236 (9.76)***
<i>SI</i>	-0.001 (-0.71)	-0.001 (-1.62)	0.005 (3.29)***	0.001 (0.64)
<i>Ret_Vol</i>	0.082 (0.89)		-0.735 (-1.93)*	
<i>Earn_Vol</i>	-0.033 (-1.26)	-0.033 (-1.95)**	0.079 (0.88)	-0.051 (-0.72)
<i>MA</i>	0.232 (1.81)*	0.238 (2.08)**	0.285 (0.48)	0.029 (0.05)
<i>SEO</i>	0.001 (0.05)	0.013 (0.64)	0.003 (0.02)	0.004 (0.05)
<i>No. of obs</i>	2 507	3 166	2 507	3 166
<i>Adj. R-squared</i>	0.061	0.053	0.045	0.043

This table examines the relationship between firm performance and the readability of financial reports in the pre-IFRS period. The dependent variable is the readability of financial reports, which is measured as the *Length* of the financial reports (Models 1 and 2) and *Fog Index* (Models 3 and 4). The key independent variable is return on assets (*ROA*), which is calculated as EBIT divided by total assets. The other independent variables included in the regression models are the control variables, which include firm size, market-to-book ratio, firm age, special items, return and earnings volatility, mergers and acquisitions events, and seasoned equity offerings. In addition, market return index is included in each of the regression models. Fixed-effects regressions are used in all models. For each regression, standard errors are estimated with clustered errors at the firm level; the first row is the coefficient on the independent variable and the second is the t-statistics. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-5**Regression models on IFRS, firm performance and the readability of financial reports**

Dependent variable	<i>Fog</i> (1)	<i>Fog</i> (2)	<i>Length</i> (3)	<i>Length</i> (4)
Independent variable				
<i>Post</i>	-1.465 (-15.62)***	-1.516 (-18.07)***	0.725 (24.3)***	0.721 (27.08)***
<i>ROA</i>	0.034 (0.51)	0.025 (0.5)	-0.019 (-0.99)	0.002 (0.12)
<i>Post*ROA</i>	-0.004 (-0.05)	0.009 (0.14)	0.015 (0.69)	0.001 (0.05)
<i>Size</i>	-0.056 (-1.9)*	-0.048 (-1.94)*	0.002 (0.23)	0.004 (0.47)
<i>MTB</i>	-0.013 (-2.45)**	-0.007 (-1.51)	-0.001 (-0.77)	-0.001 (-0.55)
<i>Age</i>	0.22 (11.39)***	0.224 (13.12)***	-0.044 (-6.57)***	-0.046 (-7.84)***
<i>SI</i>	0.004 (2.61)***	0.003 (2.07)**	0.004 (1.43)	0.001 (0.94)
<i>Ret_Vol</i>	-0.196 (-0.78)		-0.072 (-1.06)	
<i>Earn_Vol</i>	-0.065 (-1.55)	-0.054 (-1.52)	0.001 (0.07)	-0.028 (-1.81)*
<i>MA</i>	0.097 (0.39)	0.006 (0.02)	-0.024 (-0.26)	0.001 (0.01)
<i>SEO</i>	-0.003 (-0.05)	-0.019 (-0.38)	-0.005 (-0.33)	-0.002 (-0.11)
<i>No. of obs</i>	5 929	6 974	5 929	6 974
<i>Adj. R-squared</i>	0.135	0.13	0.222	0.208

This table examines the relationship between firm performance and the readability of financial reports in the pre- and post-IFRS periods. The dependent variable is the readability of financial reports, which is measured as the *Length* of the financial reports (Models 1 and 2) and *Fog Index* (Models 3 and 4). The key independent variables include: (1) *Post*, an indicator variable which takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004); (2) return on assets (*ROA*) is calculated as EBIT divided by total assets; and (3) *Post*ROA* is an interaction variable between *Post* and *ROA*. The other independent variables included in the regression models are the control variables, which include firm size, market-to-book ratio, firm age, special items, return and earnings volatility, mergers and acquisitions events, and seasoned equity offerings. In addition, market return index is included in each of the regression models. Fixed-effects regressions are used in all models. For each regression, standard errors are estimated with clustered errors at the firm level; the first row is the coefficient on the independent variable and the second is the t-statistics. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-6

**Regression models on IFRS, firm performance and the readability of financial reports
(robustness test)**

Dependent variable	<i>Length</i> (1)	<i>Fog</i> (2)	<i>Length</i> (3)	<i>Fog</i> (4)	<i>Length</i> (5)	<i>Fog</i> (6)
Independent variable						
<i>Post</i>	0.54 (14.59)***	-1.423 (-11.18)***			0.545 (14.63)***	-1.419 (-11.13)***
<i>ROA</i>			0.033 (1.37)	0.071 (0.69)	-0.003 (-0.12)	0.047 (0.59)
<i>Post*ROA</i>					0.023 (0.73)	-0.009 (-0.09)
<i>Size</i>	0.011 (0.79)	-0.078 (-2.19)**	-0.023 (-1.23)	-0.083 (-0.91)	0.009 (0.63)	-0.085 (-2.35)**
<i>MTB</i>	-0.003 (-0.91)	-0.003 (-0.29)	0.001 (0.22)	0.008 (0.45)	-0.002 (-0.75)	-0.001 (-0.12)
<i>Age</i>	-0.008 (-0.94)	0.197 (7.93)***	0.006 (0.72)	0.241 (7.09)***	-0.007 (-0.91)	0.197 (7.94)
<i>SI</i>	0.045 (1.11)	-0.202 (-1.25)	-0.023 (-0.5)	-0.475 (-2.08)**	0.046 (1.09)	-0.219 (-1.32)
<i>Earn_Vol</i>	-0.008 (-0.94)	-0.042 (-1.16)	-0.011 (-0.75)	0.025 (0.36)	-0.006 (-0.43)	-0.046 (-1.28)
<i>MA</i>	-0.104 (-0.87)	0.255 (0.87)	0.093 (0.4)	0.027 (0.09)	-0.104 (-0.87)	0.26 (0.89)
<i>SEO</i>	-0.016 (-0.72)	-0.062 (-0.89)	-0.016 (-0.56)	-0.089 (-0.74)	-0.016 (-0.69)	-0.062 (-0.88)
<i>No. of obs</i>	3 048	3 048	1 524	1 524	3 048	3 048
<i>Adj. R-squared</i>	0.217	0.136	0.065	0.057	0.218	0.138

This table examines the relationship between firm performance and the readability of financial reports in the pre- and post-IFRS periods based on a constant sample. Only firms with all eight years of observations are included. The dependent variable is the readability of financial reports, which is measured as the *Length* of the financial reports (Models 1, 3 and 5) and *Fog Index* (Models 2, 4 and 6). The key independent variables include: (1) *Post*, an indicator variable which takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004); (2) return on assets (*ROA*), is calculated as EBIT divided by total assets; and (3) *Post*ROA*, is an interaction variable between *Post* and *ROA*. The other independent variables included in the regression models are the control variables, which include firm size, market-to-book ratio, firm age, special items, return and earnings volatility, mergers and acquisitions events, and seasoned equity offerings. In addition, market return index is included in each of the regression models. Fixed-effects regressions are used in all models. For each regression, standard errors are estimated with clustered errors at the firm level, the first row is the coefficient on the independent variable and the second is the t-statistics. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-7**Panel A – Descriptive statistics (sub-sample)**

	Mean	Median	Std. dev.	1st percentile	25th percentile	75th percentile	99th percentile	N
<i>Fog</i>	17.48	17.62	1.86	13.98	15.96	18.92	21.98	400
<i>No. of words</i>	20 592	20 336	9 299	4 100	12 822	27 267	42 001	400
<i>Length</i>	9.81	9.92	0.53	8.32	9.46	10.21	10.65	400
<i>ROA</i>	0.03	0.07	0.19	−0.96	0.04	0.10	0.25	400
<i>Size</i>	19.57	19.47	2.11	14.75	18.27	21.18	24.25	400
<i>MTB</i>	3.03	1.86	4.27	−0.29	1.15	3.45	18.76	400
<i>Age</i>	16.19	14.19	10.35	2.06	9.07	20.07	51.53	400
<i>SI</i>	−0.01	0.00	0.20	−0.32	0.00	0.00	0.18	400
<i>Ret_Vol</i>	0.13	0.10	0.08	0.04	0.07	0.16	0.43	371
<i>Earn_Vol</i>	0.08	0.03	0.11	0.00	0.02	0.08	0.51	400
<i>MA</i>	0.02	–	–		–	–		400
<i>SEO</i>	0.75	–	–		–	–		400

This table provides summary statistics for the sub-sample. Fifty firms with all eight years of observations are randomly selected from the sample. The definitions of the variables listed in this table are identical to those listed in Panel A of Table 2.

Panel B – Univariate analysis of the length of accounting policies in the pre- and post-IFRS

	Pre-IFRS		Post-IFRS		Diff. in means
	Mean	Median	Mean	Median	
<i>No. of words_Summary</i>	2 324	2 128	5 201	4 994	3 763***
<i>No. of words_Financial instruments</i>	390	236	1 124	948	757***
<i>No. of words_Share-based payments</i>	420	277	649	425	229***
<i>No. of words_Intangible assets</i>	8	0	259	209	258***

The differences in means of the length of four selected accounting policies in the pre- and post-adoption of IFRS are reported. *No. of words_Summary* is the number of words of disclosure in relation to *Summary of Significant Accounting Policies*; *No. of words_Financial instruments* is the number of words of disclosure in relation to *Financial Instruments*; *No. of words_Share-based payments* is the number of words of disclosure in relation to *Share-based Payments*. *No. of words_Intangible assets* is the number of words of disclosure in relation to *Intangible Assets*. The test of differences in means is based on the two-sample t test. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 3-8**Regression models on IFRS and length of accounting policies**

Dependent variable	<i>Length_1</i> (1)	<i>Length_2</i> (2)	<i>Length_3</i> (3)	<i>Length_4</i> (4)
Independent variable				
<i>Post</i>	0.493 (8.10)***	0.364 (3.20)***	0.084 (0.51)	4.263 (11.16)***
<i>Size</i>	0.084 (3.54)***	0.126 (3.51)***	0.338 (1.63)	-0.215 (-1.27)
<i>MTB</i>	-0.009 (-3.02)***	-0.023 (-4.18)***	-0.004 (-0.56)	-0.003 (-0.23)
<i>Age</i>	0.044 (4.08)***	0.111 (5.05)	0.009 (0.22)	0.100 (2.15)**
<i>SI</i>	-0.123 (-2.23)**	0.085 (0.36)	0.325 (1.64)	0.060 (0.12)
<i>Earn_Vol</i>	0.263 (1.39)	0.853 (1.77)*	1.478 (2.02)**	2.256 (1.02)
<i>MA</i>	0.203 (2.92)***	0.147 (0.74)	0.592 (1.85)*	0.667 (2.46)**
<i>SEO</i>	0.009 (0.33)	-0.037 (-0.53)	-0.070 (-0.50)	0.106 (0.45)
<i>No. of obs</i>	400	400	370	328
<i>Adj. R-squared</i>	0.306	0.189	0.152	0.462

This table examines the impact of the introduction of IFRS on the length of four selected accounting policies. The dependent variable is the length of accounting policies, which is measured as *Length_1* (the natural logarithm of the number of words in *Summary of Significant Accounting Policies*); *Length_2* (the natural logarithm of the number of words in *Financial Instruments*); *Length_3* (the natural logarithm of the number of words in *Share-based Payments*); and *Length_4* (the natural logarithm of the number of words in *Intangible Assets*). The key independent variable is *Post*, which is an indicator variable that takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The other independent variables included in the regression models are the control variables, which include firm size, market-to-book ratio, firm age, special items, return and earnings volatility, mergers and acquisitions events, and seasoned equity offerings. In addition, market return index is included in each of the regression models. Fixed-effects regressions are used in all models. For each regression, standard errors are estimated with clustered errors at the firm level; the first row is the coefficient on the independent variable and the second is the t-statistics. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Chapter 4: Readability of Notes to the Financial Statements, Analysts' Forecasts and IFRS Adoption

4.1 Introduction

This study examines how the adoption of International Financial Reporting Standards (IFRS) affects a major group of financial statement users – financial analysts – by investigating the relationship between IFRS adoption, analysts' forecasts and the readability of Notes to the financial statements (hereafter Notes). Specifically, it investigates whether the readability of Notes mediates the relationship between IFRS adoption and analysts' forecast accuracy, and this chapter focuses on one component of readability – complexity.

In the US, Lehavy et al. (2011) found that readability affects analysts' forecasts, that is, less readable 10-K reports are associated with greater dispersion and are less accurate. In Australia, Cotter et al. (2012) indicate that analysts' forecast accuracy improves in the adoption year, although they do not identify empirically why this is so. In addition, Cheung and Lau (2014) found that the adoption of IFRS in Australia affects the readability of Notes, and conclude that the Notes are significantly lengthier, but are more readable in the post-IFRS period. The present study aims to establish a link between these three findings to determine if there is any relationship between readability, analysts' forecasts and IFRS adoption.

To address why analysts' forecasts improve after the adoption of IFRS, the present study assesses whether the readability of Notes mediates the relationship between IFRS adoption and analysts' forecast accuracy. Based on the methodology proposed by Li (2008), the study also measures the readability of financial reports based on the Gunning Fog Index developed by Robert Gunning (1945) (hereafter, Fog Index). The Fog Index is a well-known and simple formula for measuring readability, which captures text complexity as a function of syllables per words and words per sentence (Gunning 1952). Numerous studies in social science research have investigated the readability of financial reports using the Fog Index (Smith and Smith 1971; Parker 1982; Heath and Phelps 1984; Courtis 1986; Lewis et al. 1986; Jones and Shoemaker 1994; Courtis 1995). Recent accounting studies have used the Fog Index to examine the readability of financial reports with earnings persistence (Li 2008), investment efficiency (Biddle et al. 2009) and financial analysts' behaviour (Lehavy et al. 2011). Another recent study used the Fog Index to analyse the readability of analysts' reports (De Franco et al. 2014). The advantages of using the Fog Index are as follows: it is an objective measure that does not require inferring readability from a non-random sample of participants; it can be calculated for any narrative disclosure; and it allows the study of large and diverse groups of firms.

In order to establish a mediation effect, three steps are necessary. First, to confirm that IFRS adoption is a significant predictor of analysts' forecasts. Second, to verify that IFRS adoption is a significant predictor of the readability of financial disclosures. Finally, to validate that readability of financial disclosures is a significant predictor of analysts' forecasts. Results show that zero-order relationships, that is, significant

relationships, between these variables have been established already. Further, results indicate that the readability of Notes mediates 13.87 per cent of the relationship between IFRS adoption and analysts' forecast accuracy. In other words, the adoption of IFRS leads to greater analyst forecast accuracy and is partially due to the enhanced readability of the Notes. Although readability is important in partially explaining the reason for an increase in forecast accuracy with IFRS compliance, this study acknowledges other potential factors that may affect the improvement in analysts' forecasts.

The contribution of the study is to extend the financial report readability literature and to enhance our understanding of whether there is any relationship between IFRS adoption, analysts' forecasts and the readability of financial reports. The results of the study will shed light on the disclosure impact of IFRS adoption and will identify whether the readability of financial disclosures mediates the relationship between IFRS adoption and analysts' forecasts accuracy.

The remainder of the paper is organised as follows. Section 2 discusses the development of the theory and the formulation of the hypothesis. Section 3 outlines the research design and variable definitions, and the samples are covered in Section 4. Empirical evidence is presented in Section 5, and the conclusions and implications are given in Section 6.

4.2 Theory Development and Hypothesis Formulation

4.2.1 Background

Prior literature has identified zero-order relationships between IFRS adoption and analysts' forecasts, IFRS adoption and the readability of Notes, and readability and analysts' forecasts. Each relationship will be discussed in detail in the following sub-sections, and are summarised in Figure 4-1. In summary, the first path (1) shows that IFRS adoption improves analysts' forecast accuracy (Cotter et al. 2012); the second path (2) finds that IFRS adoption enhances the readability of Notes (Cheung and Lau 2014); and the third path (3) reports that more readable financial disclosures increase analysts' forecast accuracy (Lehavy et al. 2011). This study aims to link these three separate relationships to identify whether the readability of financial reports mediates the relationship between analysts' forecast accuracy and IFRS adoption. Accordingly, the objective of this study is to explain why IFRS adoption improves analysts' forecast accuracy in an Australian setting. That is, does the readability of Notes mediate the relationship between analysts' forecast accuracy and the adoption of IFRS?

<Insert Figure 4-1 about here>

4.2.2 IFRS and analysts' forecasts – path 1 of Figure 4-1

Australia was one of the first countries to agree that from 1 January 2005 IFRS would apply to all reporting entities, including listed firms (FRC 2002). Prior studies present mixed views regarding the benefits of IFRS adoption. For example, Daske

and Gebhardt (2006) report that IFRS significantly improved disclosure quality in three European countries (Germany, Switzerland and Austria), and their results hold true for both voluntary and mandatory adopters. Barth et al. (2008) found that the accounting standards and enforcement of firms that apply International Accounting Standards (IAS) are of higher quality, have less earnings smoothing, less earnings management and more timely recognition of losses. On the contrary, Ball (2006) debates the pros and cons of IFRS adoption and although he lists many advantages, he is concerned about information usefulness, as usefulness in contexts other than 'fair value accounting' has not been clearly demonstrated. Australia began the process of international harmonisation of accounting standards well before the adoption of IFRS, and limited studies have empirically evaluated whether benefits have been realised in Australia. The following findings examine the expected benefits of IFRS adoption in relation to analysts' forecast accuracy.

A number of studies confirm the improvement in forecast accuracy associated with the following benefits of IFRS: reduction of accounting choices with a reliance on professional judgement, and provision of more informative financial information (Ashbaugh and Pincus 2001); and increase in comparability (Parker 2004). If IFRS allow fewer choices in accounting standards, forecast complexity will decrease, and analysts' forecast accuracy should improve (Cotter et al. 2012). Using a sample of firms across 18 countries, including Australia, the US, and countries in Asia and Europe, Hope (2004) agrees that fewer accounting choices enhance forecast accuracy. Using a larger sample covering firms across 49 countries, Bae et al. (2008) confirm that restricted accounting choices lead to greater forecast accuracy. If firms provide

more extensive financial information, analysts can better understand firms' performance, which in turn should improve forecast accuracy. If IFRS increase comparability, which is particularly attractive to foreign analysts and important for enhancing the usefulness of financial information, then forecast accuracy should improve (Tan et al. 2011).

Prior to IFRS adoption, mixed results were identified among the early adopters. On the one hand, Ashbaugh and Pincus (2001) found that analysts' forecast accuracy improved after firms adopted IAS in 13 non-US firms, including Australia. However, Cuijpers and Buijink (2005) argue that the adoption of non-local standards (IAS and US GAAP) in EU firms leads to higher forecast dispersion. After the adoption of IFRS, there is consensus that compliance with IFRS enhances analysts' forecast accuracy, and these findings are reported in Germany (Ernstberger et al. 2008; Glaum et al. 2011), in European countries (Hodgdon et al. 2008; Wang et al. 2008; Byard et al. 2011; Preiato et al. 2013), and in Australia (Cotter et al. 2012). Although Cotter et al. (2012) found that, in Australia, analysts' forecast accuracy improves in the adoption year, suggesting that analysts cope well with the transition to IFRS, there is no change in the forecast dispersion.²⁸ Further, they identified no result in relation to the disclosing impact of IFRS adoption. Tan et al. (2011) and Horton et al. (2013) conducted studies with large samples (25 and over 120 countries respectively), and came to the same conclusion: that the adoption of IFRS increases forecast accuracy. Horton et al. (2013) also suggest that the effects of IFRS compliance are

²⁸ Likewise, the present study finds no significant relation between IFRS adoption and forecast dispersion. Therefore, the focus will be on analysts' forecasts accuracy.

not homogeneous and are partly driven by benefits of comparability. Researchers argue that it is important for accounting standards to be rigorously enforced, as only countries with strong enforcement are associated with better information, which in turn reduces uncertainty, and enables analysts to be more accurate in their forecasts (Hope 2003, 2004; Byard et al. 2011; Preiato et al. 2013).

However, some changes may have a negative impact on the attributes of analysts' forecasts. For example, Matolcsy and Wyatt (2006) found that capitalisation of intangibles is associated with lower forecast error and dispersion, yet, according to IAS 38: *Intangible Assets*, certain intangible assets are not allowed to be capitalised, and it is argued by the authors that such a restriction diminishes the usefulness of financial statements. In addition, some studies suggest that it may require a longer time for the benefits of IFRS adoption to materialise (Acker et al. 2002; Cuijpers and Buijink 2005; Ernstberger et al. 2008).

In summary, despite there being some potential adverse effects on analysts' forecasts accuracy, the prior literature concludes that IFRS adoption improves analysts' forecast accuracy overall. The Australian study by Cotter et al. (2012) also draws the same conclusion as represented in the first path (1) of Figure 4-1, that analysts' forecast accuracy improves in the adoption year. Consistent with the results identified by prior literature in the post-IFRS period, this paper also expects to confirm that analysts' forecasts in Australia will have greater accuracy after the adoption of IFRS.

4.2.3 IFRS and readability – path 2 of Figure 4-1

The benefits of IFRS compliance extend beyond the improvement in analysts' forecast accuracy; they also have an impact on information processing capacity, which is affected by information characteristics such as the readability of financial disclosures (Tuttle and Burton 1999; Morunga and Bradbury 2012). And the notion of quality is captured by relevance, reliability, comparability and understandability – and therefore, readability (ICAA 2008; Cheung et al. 2010; IASB 2010). Accordingly, one of the objectives of IFRS 1 (AASB 1) *First-time Adoption of International Financial Reporting Standards* was to provide high-quality information that is transparent and comparable for users (AASB 2003). If firms are more transparent by increasing the disclosure of financial information, this should reduce users' uncertainty and confusion, and the readability of firms' disclosures should also improve. The ability to interpret the message embedded in the Notes also depends on the level of complexity of the written material (Smith and Taffler 1992).

According to a New Zealand study by Morunga and Bradbury (2012), with a sample of 170 firms in 2007 and 2008, pre-IFRS and IFRS respectively, 92 per cent of the firms had longer financial reports with an average increase of 29 per cent after the adoption of IFRS as compared to pre-IFRS. In addition, in Australia, with a large sample of 7,843 firm-years over an eight-year period, Cheung and Lau (2014) also found that, apart from financial reports being lengthier, the Fog Index of the Notes improved significantly after the adoption of IFRS, suggesting that IFRS compliance enhances the readability of financial disclosures. However, financial reports on

average remain difficult to read despite improvements in readability after IFRS adoption.

To summarise, IFRS adoption enhances the readability of Notes as indicated in the second path (2) of Figure 4-1. Accordingly, this study also anticipates firms' disclosures will remain more readable after IFRS adoption.

4.2.4 Readability and analysts' forecasts – path 3 of Figure 4-1

If simplifying language reduces the difficulty for investors to process and interpret complex information, then conversely less readable financial disclosure should increase such difficulty. According to Li (2008), it is inevitable that managers in poor-performing firms will tend to prepare less readable reports to hide adverse information from investors. However, are there any users who will benefit from complex disclosures? Financial analysts will actually benefit when there are differences among users' ability to process intricate information (Indjejikian 1991; Ball 1992), as they can sell their interpretations and analyses to users who require expert advice (1991). Users incur costs to process and interpret financial disclosures, and such costs are measured by disclosure readability (Lehavy et al. 2011). Lehavy et al. (2011) report that analysts provide a greater amount of information to investors for firms with less readable disclosures, and investors consider these reports to be more informative and useful.

The readability of firms' disclosures can also affect attributes of analysts' forecasts (Lehavy et al. 2011). Glaum et al. (2011) found that only the quality of the Notes to companies' financial statements appears to matter to analysts when compared to management reports. This suggests that the quality of the Notes could affect analysts' forecast accuracy. If financial reports are less readable, this will increase the difficulty for analysts to predict forecast earnings, which in turn could lead to more forecast error. If financial reports are less readable, this will also increase the costs of processing and interpreting, which could increase forecast error and dispersion, as there will be a more diverse set of interpretations about firm disclosure. Lehavy et al. (2011) confirm an association between the readability of firms' disclosures and analysts' forecast accuracy. Firms that provide less readable disclosures allow analysts' forecasts to have greater dispersion, less accuracy, and greater overall uncertainty. In other words, firms with more readable disclosures will facilitate better analyst forecast accuracy as shown in the third path (3) of Figure 4-1. Hence, this study also expects analysts' forecasts in Australia to have greater accuracy for firms with more readable financial reports.

As illustrated in Figure 4-1, the extant literature has identified three separate relationships: the relationship between IFRS and analysts' forecasts, IFRS and readability, and readability and analysts' forecasts. If IFRS adoption improves analysts' forecast accuracy (e.g., Cotter et al. 2012), if IFRS adoption enhances the readability of Notes (e.g., Cheung and Lau 2014), and if more readable financial disclosures increase analysts' forecast accuracy (e.g., Lehavy et al. 2011), then, after

compliance with IFRS, does the improvement in the readability of financial reports lead to greater analyst forecast accuracy?

The present study aims to link these relationships to evaluate whether the readability of the Notes mediates the relationship between IFRS adoption and analysts' forecast accuracy, hence:

H1: IFRS adoption influences the readability of Notes to the financial statements, which in turn influences analysts' forecast accuracy

4.3 Research Design and Variable Definitions

4.3.1 Mediation

The objective of this study is to investigate whether the improvement in the readability of financial reports after the introduction of IFRS leads to greater analyst forecast accuracy. In other words, this study aims to investigate whether the readability of Notes mediates the relationship between IFRS adoption and analysts' forecast accuracy. MacKinnon et al. (2007) discuss a number of approaches to statistical mediation analysis. They state that the most widely used method to assess mediation is the causal steps approach outlined in Baron and Kenny (1986). Based on this approach, there are four steps in the regression analysis to establish mediation.

- Step 1: $Y = \beta_0 + \beta_1 X + e$
- Step 2: $M = \beta_0 + \beta_1 X + e$
- Step 3: $Y = \beta_0 + \beta_1 M + e$
- Step 4: $Y = \beta_0 + \beta_1 X + \beta_2 M + e$

Where Y is the dependent variable, X is the independent variable, M is the mediating variable, and e is the error term. The purpose of Steps 1 to 3 is to establish the zero-order relationships between the variables. Step 1 tests the relationship between the independent variable and the dependent variable. Step 2 tests the relationship between the independent variable and the mediating variable. Step 3 tests the relationship between the mediating variable and the dependent variable. In order to establish mediation, significant relationships in Steps 1 to 3 are required. In Step 4, both the independent variable and the mediating variable are included in the regression model. A mediation effect is established if: (1) the mediating variable remains significant after including the independent variable in the regression model; and (2) the coefficient of the independent variable in the Step 4 model is smaller than the coefficient of the independent variable in the Step 1 model.

Although the causal steps approach is the most widely used method to assess a mediation effect, MacKinnon et al. (2007) argue that the key drawback of this approach is that it does not test the significance of the mediating effect. They argue that the alternative, and preferable, approach is to calculate the mediating effect and test it for statistical significance. The regression coefficient for the mediation effect represents the change in Y (dependent variable) for every unit change in X

(independent variable) that is mediated by M (mediating variable). MacKinnon et al. state that there are two ways to test the significance of the mediating effect: Judd and Kenny's (1981) difference of coefficients approach and Sobel's (1982) product of coefficients approach.

Under the Judd and Kenny (1981) approach, the coefficient of the independent variable in the Step 4 model is subtracted from the coefficient of the independent variable in the Step 1 model. The difference between the two coefficients represents the reduction in the independent variable effect on the dependent variable when adjusted for the mediator. To test the significance of the mediation effect, the difference is divided by the standard error of the difference and the ratio is compared to a standard normal distribution. Under the Sobel (1982) approach, the coefficient of the mediating variable in the Step 4 model is multiplied by the coefficient of the independent variable in the Step 2 model. The product of these two coefficients represents the extent to which the independent variable affects the mediating variable, and the extent to which the mediating variable affects the dependent variable. To test the significance of the mediation effect, the product is divided by the standard error of the product and the ratio is compared to a standard normal distribution.

Both the Judd and Kenny (1981) approach and the Sobel (1982) approach aim to test the significance of the mediation effect. MacKinnon et al. (1995) evaluate the two approaches and find the algebraic equivalence of these approaches for ordinary least squares (OLS) regression models. In other words, under the OLS regression model the two approaches yield identical values for the mediation effect. In the present

study, the mediation effect of the readability of financial reports on IFRS and analysts' forecast accuracy is assessed in the following ways. First, the regression results of the four steps causal approach (Baron and Kenny 1986) are displayed in order to establish the zero-order relationships between the variables and then compared with the coefficients of the independent variables to establish the mediation effect. Second, the Sobel (1982) product of coefficients approach is used to test the significance of the mediation effect. The test statistic of this approach is computed based on the *sgmediation* command of the STATA software package.

4.3.2 Variable definitions

The dependent variable is analysts' forecast error. Following Cotter et al. (2012), analysts' forecast error is computed as the difference between I/B/E/S actual earnings per share (EPS) for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after the earnings announcement date, scaled by share price three months prior to the financial year-end.

The independent variable is the indicator variable of IFRS, which takes the value of 1 if the firm year is after the implementation of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The analysis excludes 2005 because it is a transitional year.

The mediation variable is readability of financial reports. Following Li (2008), this study also uses the Fog Index to measure the readability of Notes, which is computed

based on the publicly available Java Fathom library.²⁹ The Fog Index captures the difficulty of a written document as a function of the number of words per sentence and the number of syllables per word (Gunning 1952). Hence, the readability of Notes is calculated as follows:

$$Fog = (words\ per\ sentence + \%\ of\ complex\ words) \times 0.4$$

where *complex words* is defined as words with three or more syllables. The index estimates the number of years of formal education required for an average person to read the document for the first time and understand it. The Fog Index predicts the readability of a document, but it does not take into account whether the content is interesting or relevant. Despite its limitations, however, it is a reliable and objective measure. It allows a study of the written communication of a large and diverse group of firms because it does not require the actual participation or opinions of readers. It also provides a measure of the overall syntactic complexity of Notes as opposed to the complexity of financial items (Lehavy et al. 2011).³⁰

The Fog Index consists of a five-point scale, ranging from unreadable (5), to difficult (4), to ideal (3), to acceptable (2), and to childish (1). On average, a Fog Index of 12–14 means the document is ‘ideal’ to read; between 14 and 18 the document is

²⁹ See <http://www.representqueens.com/fathom>

³⁰ Prior literature used the Fog Index to measure the readability of whole financial reports (Heath and Phelps 1984; Jones and Shoemaker 1994; Courtis 1995), management discussion and analysis (Schroeder and Gibson 1990) and Notes to the financial statements (Smith and Smith 1971; Healy 1977).

‘difficult’ to read; and an index greater than 18 means that it is ‘unreadable’ (Li 2008).

The control variables included are consistent with Cotter et al. (2012), and include firm size, prior year analysts’ forecast error, change in earnings, analyst followings, loss and industry indicators. *Firm size* is measured as the natural logarithm of the firm’s market capitalisation at the beginning of the year. *Prior year analysts’ forecast error* is defined as the absolute value of last year’s forecast error, measured at the corresponding month in the previous year. *Change in earnings* is measured as the absolute value of the difference between the current year’s actual EPS and last year’s actual EPS, deflated by the price at $t-3$ months. *Analyst followings* is defined as the number of unique analysts covering a particular firm in each year, which is measured as the number of analysts in the first consensus annual earnings forecast following the financial reports. The *Loss indicator* variable takes the value of 1 if the current year’s EPS (from I/B/E/S) is negative and 0 otherwise. Finally, industry indicator variables are included to control for industry effect, and the industry sectors are classified in accordance with the Global Industry Classification Standard (GICS).

4.3.3 Empirical model

To test whether the readability of financial reports mediates the relationship between IFRS adoption and analysts’ forecast accuracy, the following four steps of regression models are undertaken:

$$\begin{aligned} \text{Forecast Error}_{i,t} = & \alpha_0 + \beta_1 \text{Post}_{i,t} + \beta_2 \text{PreError}_{i,t} + \beta_3 \# \text{Analysts}_{i,t} + \beta_4 \text{Size}_{i,t} \\ & + \beta_5 \text{ActEarn}_{i,t} + \beta_6 \text{Loss}_{i,t} + \text{Industry indicators} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Fog}_{i,t} = & \alpha_0 + \beta_1 \text{Post}_{i,t} + \beta_2 \text{PreError}_{i,t} + \beta_3 \# \text{Analysts}_{i,t} + \beta_4 \text{Size}_{i,t} + \beta_5 \text{ActEarn}_{i,t} \\ & + \beta_6 \text{Loss}_{i,t} + \text{Industry indicators} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Forecast Error}_{i,t} = & \alpha_0 + \beta_1 \text{Fog}_{i,t} + \beta_2 \text{PreError}_{i,t} + \beta_3 \# \text{Analysts}_{i,t} + \beta_4 \text{Size}_{i,t} \\ & + \beta_5 \text{ActEarn}_{i,t} + \beta_6 \text{Loss}_{i,t} + \text{Industry indicators} + \varepsilon_{i,t} \end{aligned} \quad (3)$$

$$\begin{aligned} \text{Forecast Error}_{i,t} = & \alpha_0 + \beta_1 \text{Post}_{i,t} + \beta_2 \text{Fog}_{i,t} + \beta_3 \text{PreError}_{i,t} + \beta_4 \# \text{Analysts}_{i,t} \\ & + \beta_5 \text{Size}_{i,t} + \beta_6 \text{ActEarn}_{i,t} + \beta_7 \text{Loss}_{i,t} + \text{Industry indicators} \\ & + \varepsilon_{i,t} \end{aligned} \quad (4)$$

where:

Forecast Error = analysts' forecasts error

Post = an indicator variable of IFRS

Fog = Fog Index

PreError = prior year analysts' forecast error

#Analysts = analyst followings

Size = firm size

ActEarn = change in earnings

Loss = loss indicator variable

Industry indicators = industry indicator variables

Model 1 tests the direct effect of IFRS adoption on analysts' forecast accuracy (path 1 of Figure 4-1): it is expected that IFRS adoption will improve analysts' forecast accuracy; therefore β_1 from Model 1 is expected to be significantly negative. Model 2 tests the impact of IFRS adoption on the readability of financial reports (path 2 of Figure 4-1): it is expected that IFRS adoption will improve the readability of financial reports; therefore β_1 from Model 2 is expected to be significantly negative. Model 3 tests the relationship between the readability of financial reports and analysts' forecast accuracy: it is expected that more readable financial reports lead to more accurate analysts' forecasts; therefore β_1 from Model 3 is expected to be significantly positive. Finally, Model 4 tests the mediation effect of the readability of financial reports on the relation between IFRS adoption and analysts' forecast accuracy. It is expected that the improvement in the readability of financial reports after the adoption of IFRS will help to explain the improvement in analysts' forecast accuracy; as a result, β_2 from Model 4 is expected to remain significant and β_1 from Model 4 is expected to be significantly smaller than β_1 from Model 1.

4.4 Sample

4.4.1 Sample selection

This study selected firms listed on the Australian Securities Exchange (ASX), and the initial sample was based on the interaction of firm/years available on I/B/E/S and the SIRCA database for financial years 2001–2009. These databases were joined based on I/B/E/S ticker, ASX and SIRCA (#RIC) codes: firms without matches were dropped from the sample. For each firm-year observation, the corresponding annual

reports were downloaded from *Aspect Annual Reports Online* and the firms' websites. For each annual report, all headings, sub-headings, page numbers, tables and paragraphs of less than one line were deleted. The calculation of the annual report readability was based on the remaining text. This study obtained sales and growth from *MorningStar DataAnalysis Premium*, analyst data from I/B/E/S that were followed by at least four analysts, market capitalisation from CRIF and earnings announcement date from SIRCA.

The study was based on an unbalanced sample between 2001 and 2009 for each firm, which includes four years prior to (pre-IFRS) and four years after (post-IFRS) the adoption of IFRS. The 2005 transitional period was omitted to avoid any confounding effects, such as unfamiliarity with the adoption of IFRS for both users and preparers.³¹ Firms that have a financial year-end other than 30 June were omitted to avoid confusing dates in the adoption year; for example, the adoption year is different for firms with a financial year-end in December rather than June. This provided a sample of 235 firms with 921 observations, excluding the 2005 transitional year.

4.4.2 Descriptive statistics

Table 4-1 provides summary statistics for the sample. The mean of the analysts' forecasts error is 0.0226, which is higher than the mean of 0.0054–0.0108 reported in Cotter et al. (2012). In the present study, all firms listed on the ASX were selected,

³¹ According to Deloitte (2004), the date of transition is defined as the 'beginning of the earliest period for which an entity presents full comparative information under IFRSs in its first IFRS financial statements'.

whereas Cotter et al.'s (2012) study only included the largest 200 Australian firms. The higher average forecast error reported in the present paper could be a result of the difference in sample selection. In addition, the average firm size is considerably smaller and the proportion of loss-making firms is significantly higher than that of Cotter et al. (2012). As shown in the correlation analysis from Table 4-3, firm size is negatively related to forecast error and loss making is positively related to forecast error. In other words, smaller and loss-making firms on average are associated with higher analysts' forecasts errors. The mean of the Fog Index is 17.25, which is comparable to the mean reported in Cheung and Lau (2014). Based on the standard interpretation of the index, financial reports in the current sample are classified as 'difficult' to read.

<Insert Table 4-1 about here>

Table 4-2 provides univariate analysis to test the mean differences of analysts' forecast error and the readability of financial reports in the pre- and post-IFRS adoption period. The results show that both analysts' forecast error and the Fog Index are significantly lower after the adoption of IFRS, which means that forecast accuracy is better and financial reports are easier to read after the introduction of IFRS compared to those in the pre-IFRS period. The results are consistent with those reported in Cotter et al. (2012) and Cheung and Lau (2014), which show an improvement in forecast accuracy and readability of financial reports after the adoption of IFRS respectively.

<Insert Table 4-2 about here>

Table 4-3 provides correlation analysis between the dependent and independent variables. As expected, there is a significant positive correlation between the Fog Index and analysts' forecast errors, which means that less readable financial reports are associated with greater forecast errors. In addition, there is a significant negative correlation between the indicator variable of IFRS adoption and analysts' forecast errors, which means that forecast accuracy improves after the adoption of IFRS. In addition, increased analyst followings and firm size are associated with lower forecast errors while firms with larger changes in earnings and reported losses are associated with higher forecast errors. In relation to the readability of financial reports, there is a significant negative correlation between the Fog Index and the indicator variable of IFRS adoption, which means that the readability of financial reports improves after the adoption of IFRS. In addition, larger firms are associated with more readable financial reports while firms with a larger change in earnings and reported losses are associated with less readable financial reports.

<Insert Table 4-3 about here>

4.5 Results

4.5.1 Mediation effect

Table 4-4 provides empirical results in relation to the mediation effect of the readability of financial reports on IFRS adoption and analysts' forecast accuracy.

The results from Models 1 to 3 aim to establish a zero-order relationship between readability of financial reports, IFRS adoption and analysts' forecast accuracy. In Model 1, forecast error is regressed against the indicator variable of IFRS adoption (*Post*), along with other control variables. The results show that the coefficient *Post* is significantly negative at the 5 per cent significance level, after controlling for firm size, change in earnings and loss-making firms (all significant at the 1 per cent level). Previous forecast errors and the number of analysts are not significant control variables. The results indicate that, on average, analysts' forecast accuracy improves after the adoption of IFRS and the results are consistent with those reported in Cotter et al. (2012). In Model 2, *Fog Index* is regressed against *Post* and other control variables. The results show that the coefficient of *Post* is significantly negative at the 1 per cent significance level. A lower *Fog Index* means that there is an improvement in readability; therefore, a significant negative coefficient of *Post* implies that the readability of financial reports improves after the adoption of IFRS, which is consistent with the results documented in Cheung and Lau (2014). In Model 3, forecast error is regressed against *Fog Index* and other control variables. The results show that the coefficient of *Fog Index* is significantly positive at the 1 per cent significance level, which means that the readability of financial reports is positively associated with analysts' forecast accuracy. In other words, the results show that, on average, more readable financial reports lead to more accurate analysts' forecasts; the results are consistent with those reported in Lehavy et al. (2011). Overall the results from Models 1 to 3 show significant zero-order relationships between readability of financial reports, IFRS adoption and analysts' forecast accuracy.

Model 4 presents results in relation to the mediation effect of the readability of financial reports between IFRS adoption and analysts' forecast accuracy. The mediation effect is established if: (1) the mediating variable (*Fog Index*) remains significant after including the independent variable (*Post*) in the regression model; (2) the coefficient of the independent variable (*Post*) in Model 4 is smaller than the coefficient of the independent variable in Model 1; and (3) the test statistics of the mediation effect based on the Sobel (1982) product of coefficients approach is statistically significant. The results show that the coefficient of *Fog Index* remains significant at the 5 per cent significance level after including *Post* in the regression model. Moreover, the coefficient (−0.004) of *Post* in Model 4 is smaller than the coefficient (−0.005) of the same variable in Model 1. In addition, the Sobel test shows that the test statistics of the mediation effect is −2.041, which is significant at the 5 per cent significance level. In relation to the magnitude of the mediation effect, the results show that the coefficient of the mediation effect is −0.0007 and the coefficient of the direct effect between IFRS adoption and analysts' forecast accuracy is −0.0046 (total effect: $-0.0007 + -0.0046 = -0.0053$); therefore the proportion of the total effect that is mediated is 0.1387 ($-0.0007/-0.0053$). In other words, the results show that 13.87 per cent of the effect of IFRS adoption on improvement in analysts' forecast accuracy is mediated by the improvement in the readability of financial reports. Overall, the results indicate that the relationship between IFRS adoption and analysts' forecast accuracy is partially mediated by the improvement in the readability of financial reports.

<Insert Table 4-4 about here>

4.5.2 Robustness test

The results reported in the regression models from Table 4-5 are based on firms with at least four analysts. For a robustness test, the models were fitted based on a minimum of five analysts. Sample size decreases from 921 to 796 but the results reported in Table 4-4 are broadly consistent with those reported in Table 4-5. In Model 1, the coefficient of *Post* is significantly negative, which indicates that analysts' forecast accuracy improves after IFRS adoption. In Model 2, the coefficient of *Post* is also significantly negative, which shows that the readability of financial reports improves after IFRS adoption. In Model 3, the Fog Index is significantly positive, which means that more readable financial reports lead to more accurate analysts' forecasts. Finally, in Model 4, the coefficient of the *Fog Index* remains significant after including the independent variable *Post*; in contrast, the coefficient of *Post* becomes statistically insignificant and it is smaller than the coefficient of the same variable in Model 1. Moreover, the test statistics of the mediation effect based on Sobel's (1982) test is -2.04 , which is significant at the 5 per cent level. In terms of magnitude, 17.89 per cent of the total effect of IFRS adoption on analysts' forecast accuracy is mediated by the readability of financial reports. Overall, the results again show that the impact of IFRS adoption on analysts' forecast accuracy is partially mediated by the improvement in the readability of financial reports.

<Insert Table 4-5 about here>

4.6 Conclusions and Implications

The aim of this study was to investigate the relationship between the readability of financial disclosures, analysts' forecasts and IFRS adoption in Australia by assessing whether the readability of Notes to the financial statements mediates the relationship between IFRS adoption and analysts' forecasts.

In order to establish a mediation effect, it is important to first separately examine the following three relationships, namely, IFRS adoption and analysts' forecasts, IFRS adoption and readability of financial disclosures, and readability of financial disclosures and analysts' forecasts, to ensure that each relationship has a significant result. First, the results of this study indicate that analysts' forecast accuracy significantly improves after the adoption of IFRS, which is consistent with the study by Cotter et al. (2012). Second, consistent with Cheung and Lau (2014), Notes to the financial statements are more readable with IFRS compliance. And finally, as illustrated in the Lehigh et al.'s (2011) study, this paper also confirms that analysts' forecast accuracy improves for firms with more readable Notes to the financial statements.

As zero-order relationships between the above variables have been established, the Sobel (1982) product of coefficients approach was then used to examine the mediation effect, and the findings suggest that the readability of Notes to the financial statements mediates 13.87 per cent of the relationship between IFRS adoption and analysts' forecast accuracy. In other words, this study has identified the readability of financial disclosures as a third variable, which partially explains why

the adoption of IFRS leads to greater analysts' forecast accuracy. According to the Cotter et al. (2012) study, when making forecasts, analysts do not rely solely on financial statements; they may also use other relevant information provided from different communication channels, such as ASX disclosures and press releases. The results from this study are consistent, and the author supports their view that Notes to the financial statements alone do not provide all the information needs of analysts, because readability only partially mediates the relationship between IFRS adoption and analysts' forecast accuracy. This study also acknowledges that there are other potential factors that may be used to explain improved forecast accuracy after the adoption of IFRS.

There are four limitations of this study. First, the sample size is relatively small. However, this study has included all available data and the sample reflects the composition of the Australian market. Second, although the study provides a unique setting to identify whether the readability of Notes to the financial statements mediates the relationship between IFRS adoption and analysts' forecast accuracy, the results may not be generalisable insofar as an IFRS-adopting country's accounting standards may contain different verbiage to Australian generally accepted accounting principles. However, since IFRS are applicable to all reporting entities in Australia, the findings could be used as a guide for those who have adopted, or will adopt, IFRS. Third, the readability index is useful in predicting the readability of written communication, but the index is based on simple assumptions. It mainly measures word length and average sentence length, ignoring other attributes that may contribute to an attractive and interesting financial report, such as coloured printout,

design, layout and style of the report and readers' interests (Pound 1980). Finally, this study only measures Notes to the financial statements, and although it is an important source for analysts, there are other sections of financial reports, and also other channels, such as ASX disclosures and press releases, that are not captured in this study. Future studies could investigate other channels of disclosure, and may consider examining the relationship between IFRS adoption and analysts' forecasts with other mediator variables, such as the readability of press releases.

4.7 References

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Table 4-1**Descriptive statistics**

	Mean	Median	Std. dev.	1st percentile	25th percentile	75th percentile	99th percentile	N
<i>Forecast error</i>	0.0226	0.0049	0.0571	0.0000	0.0016	0.0154	0.3971	921
<i>Fog</i>	17.25	17.26	1.99	13.31	15.75	18.72	21.46	921
<i>Preerror</i>	0.0679	0.0616	0.0462	0.0041	0.0451	0.0789	0.2909	921
<i>#Analysts</i>	8.24	8	3.32	4	5	10	16	921
<i>Size</i>	20.85	20.77	1.65	16.96	19.79	21.85	24.71	921
<i>ActEarn</i>	0.047	0.013	0.114	0	0.006	0.033	0.786	921
<i>Loss</i>	0.075							921

This table provides summary statistics for the sample. *Forecast error* is analysts' forecast error, which is computed as the difference between I/B/E/S actual EPS for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after earnings announcement date, scaled by the share price three months prior to the financial year-end. *Fog* is Fog Index. *Preerror* is prior year analysts' forecast error, which is defined as the absolute value of last year's forecast error, measured at the corresponding month in the previous year. *#Analysts* is analyst followings, which is measured as the number of analysts in the first consensus annual earnings forecast following the financial reports. *Size* is firm size, which is a measure of the natural logarithm of the firm's market capitalisation at the beginning of the year. *ActEarn* is change in earnings, which is measured as the absolute value of the difference between the current year's actual EPS and last year's actual EPS, deflated by the price at $t-3$ months. *Loss* is an indicator variable, which takes the value of 1 if the current year's EPS is negative and 0 otherwise.

Table 4-2**Univariate analysis**

	Pre	Post	Difference
<i>Fog</i>	17.59	16.98	−0.612***
<i>Forecast error</i>	0.032	0.015	−0.017***

This table provides univariate analysis of analysts' forecast accuracy and readability of financial reports in the pre- and post-IFRS adoption periods. *Forecast error* is analysts' forecast error, which is computed as the difference between I/B/E/S actual EPS for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after earnings announcement date, scaled by the share price three months prior to the financial year-end. *Fog* is Fog Index. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 4-3**Correlation matrix**

	<i>Forecast error</i>	<i>Fog</i>	<i>Post</i>	<i>Preerror</i>	<i>#Analysts</i>	<i>Size</i>	<i>ActEarn</i>
Fog	0.244***						
Post	−0.146***	−0.152***					
Preerror	−0.067**	0.049	−0.163***				
#Analysts	−0.137***	−0.018	−0.024	0.781***			
Size	−0.298***	−0.19***	0.101***	0.557***	0.617***		
ActEarn	0.687***	0.223***	−0.087***	−0.065**	−0.115***	−0.274***	
Loss	0.605***	0.16***	−0.14***	−0.128***	−0.124***	−0.21***	0.442***

This table provides correlation analysis between the dependent, independent and control variables. *Forecast error* is analysts' forecast error, which is computed as the difference between I/B/E/S actual EPS for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after earnings announcement date, scaled by the share price three months prior to the financial year-end. *Fog* is Fog Index. *Post* is an indicator variable, which takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). *Preerror* is prior year analysts' forecast error, which is defined as the absolute value of last year's forecast error, measured at the corresponding month in the previous year. *#Analysts* is analyst followings, which is measured as the number of analysts in the first consensus annual earnings forecast following the financial reports. *Size* is firm size, which is measured as the natural logarithm of the firm's market capitalisation at the beginning of the year. *ActEarn* is change in earnings, which is measured as the absolute value of the difference between the current year's actual EPS and last year's actual EPS, deflated by the price at *t*-3 months. *Loss* is an indicator variable, which takes the value of 1 if the current year's EPS is negative and 0 otherwise. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Table 4-4**Regression models on analysts' forecast accuracy, IFRS and readability of financial reports**

Dependent variable	<i>Forecast error</i> (1)	<i>Fog</i> (2)	<i>Forecast error</i> (3)	<i>Forecast error</i> (4)
Independent variable				
<i>Post</i>	-0.005 (-2.14)**	-0.470 (-3.64)***		-0.004 (-1.84)*
<i>Fog</i>			0.002 (2.70)***	0.002 (2.46)**
<i>Preerror</i>	-0.043 (-1.40)	-1.946 (-1.23)	-0.036 (-1.19)	-0.039 (-1.30)
<i>#Analysts</i>	0.0004 (0.95)	0.073 (2.99)***	0.0004 (0.90)	0.0003 (0.70)
<i>Size</i>	-0.004 (-3.51)***	-0.220 (-4.16)***	-0.003 (-3.33)***	-0.003 (-3.15)***
<i>ActEarn</i>	0.257 (18.65)***	3.353 (4.70)***	0.250 (18.02)***	0.251 (18.10)***
<i>Loss</i>	0.077 (14.62)***	0.366 (1.34)	0.078 (14.82)***	0.077 (14.54)***
Industry indicators	Yes	Yes	Yes	Yes
No. of obs	921	921	921	921
Indirect effect (Sobel test)				-0.0007 (-2.041)**
% mediation effect				13.87%
Adj. R-squared	0.578	0.106	0.579	0.580

This table examines the mediation effect of the readability of financial reports on the relationship between IFRS adoption and analysts' forecast accuracy. Only firms with at least four analysts are included in the sample. The dependent variable is analysts' forecast error, which is computed as the difference between I/B/E/S actual EPS for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after earnings announcement date, scaled by the share price three months prior to the financial year-end. The independent variable is *Post*, which is an indicator variable that takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The mediation variable is readability of financial reports, which is measured as *Fog Index*. Other control variables include prior year analysts' forecasts error, analyst followings, firm size, change in earnings, loss indicator variable and industry indicator variables. For each regression, the first row is the coefficient of the variables and the second is the t-statistics. The Sobel (1982) test is conducted in Model 4 to test the significance of the mediation effect. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

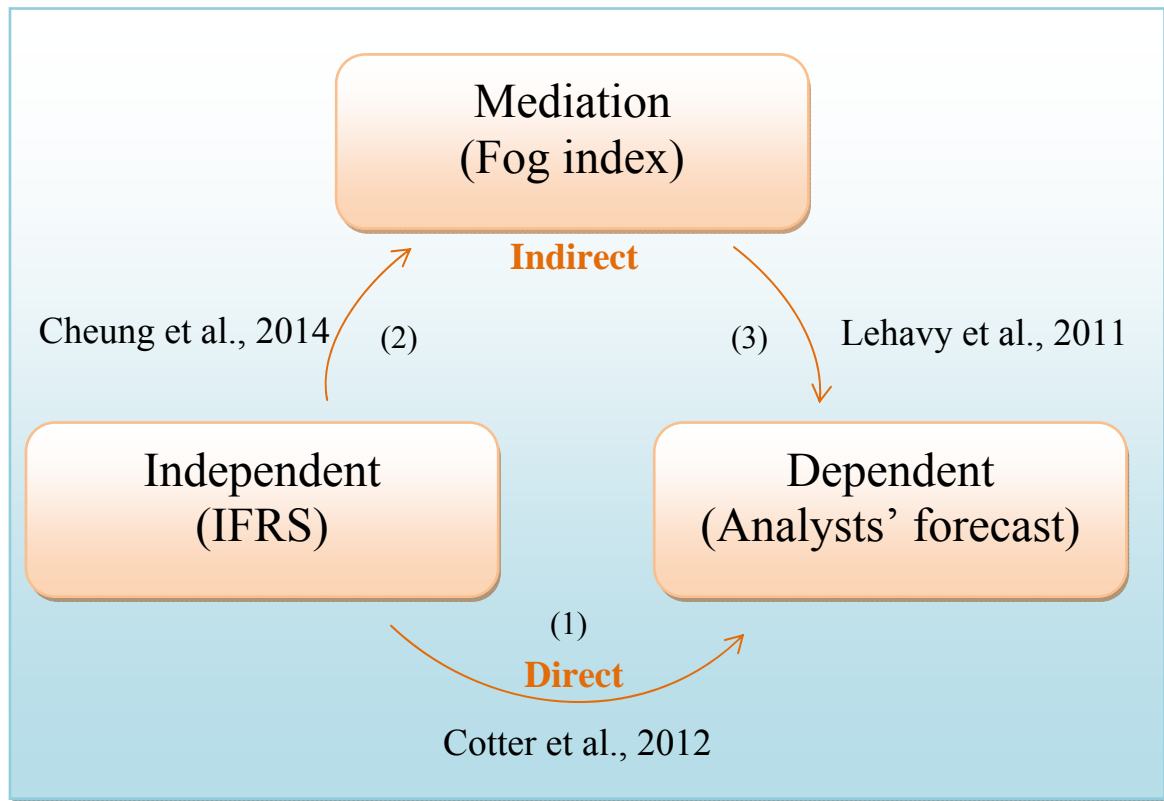
Table 4-5**Regression models on analysts' forecast accuracy, IFRS and readability of financial reports (robustness test)**

Dependent variable	Forecast error (1)	Fog (2)	Forecast error (3)	Forecast error (4)
Independent variable				
<i>Post</i>	-0.004 (-1.79)*	-0.499 (-3.63)***		-0.003 (-1.46)
<i>Fog</i>			0.002 (2.67)***	-0.002 (2.47)**
<i>Preerror</i>	-0.114 (-3.61)***	-0.083 (-0.05)	-0.112 (-3.56)***	-0.114 (-3.62)***
<i>#Analysts</i>	-0.000 (-0.07)	0.103 (3.72)***	-0.0002 (-0.32)	-0.0002 (-0.40)
<i>Size</i>	-0.003 (-2.93)***	-0.264 (-4.57)***	-0.003 (-2.59)***	-0.003 (-2.50)**
<i>ActEarn</i>	0.263 (18.80)***	3.767 (4.74)***	0.256 (18.12)***	0.257 (18.19)***
<i>Loss</i>	0.081 (14.38)***	0.241 (0.75)	0.082 (14.62)***	0.081 (14.35)***
Industry indicators	Yes	Yes	Yes	Yes
No. of obs	796	796	796	796
Indirect effect (Sobel test)				-0.0008 -2.04)**
% mediation effect				17.89%
Adj. R-squared	0.618	0.122	0.620	0.621

This table examines the mediation effect of the readability of financial reports on the relationship between IFRS adoption and analysts' forecast accuracy. Only firms with at least five analysts are included in the sample. The dependent variable is analysts' forecast error, which is computed as the difference between I/B/E/S actual EPS for the fiscal year-end and the median consensus forecast for the first I/B/E/S statistical period date after earnings announcement date, scaled by the share price three months prior to the financial year-end. The independent variable is *Post*, which is an indicator variable that takes the value of 1 if the firm year is after the introduction of IFRS (2006–2009) or 0 if the firm year is before the introduction of IFRS (2001–2004). The mediation variable is readability of financial reports, which is measured as Fog Index. Other control variables include prior year analysts' forecasts error, analyst followings, firm size, change in earnings, loss indicator variable and industry indicator variables. For each regression, the first row is the coefficient of the variables and the second is the t-statistics. Sobel's (1982) test is conducted in Model 4 to test the significance of the mediation effect. ***, ** and * denote significance at the 1, 5 and 10 per cent levels, respectively.

Figure 4-1

Relationship between IFRS adoption, analysts' forecasts and readability



This figure summarises three separate relationships, two from the extant literature and one from Chapter 3 of this thesis, namely, the relationship between IFRS and analysts' forecasts, IFRS and readability, and readability and analysts' forecasts. The first path (1) from Cotter et al. (2012) shows that IFRS adoption improves analysts' forecast accuracy; the second path (2) from Cheung and Lau (2014) (Chapter 3 of this thesis) (also referred to as Cheung and Lau 2014) finds that IFRS adoption enhances the readability of Notes to the financial statements; and the third and final path (3) from Lehavy et al. (2011) reports that more readable financial disclosures increase analysts' forecast accuracy. Accordingly, this chapter aims to link these three paths to identify whether the readability of Notes to the financial statements mediates the relationship between analysts' forecast accuracy and IFRS adoption.

Chapter 5: Conclusion

In this final chapter, the summary findings, limitations, implications of the thesis and suggestions for future research are provided.

5.1 Summary

This thesis has examined the impact of IFRS adoption on the readability of financial disclosures from preparers' and users' perspectives. Results from the thesis provide empirical evidence that IFRS adoption in Australia has had a positive impact on the readability of Notes to the financial statements, and that there has been no alteration in the relationship between readability and firm performance. Further, the results suggest that readability does mediate the relationship between IFRS adoption and analysts' forecasts. The following provides a summary of the findings.

The objective of Chapter 2 was to trace the evolution of the concept of 'quality' of financial reporting and investigate how the four qualitative characteristics were developed. The results from Chapter 2 indicate that in Australia, the notion of quality has been captured by *relevance*, *reliability*, *comparability* and *understandability*, the four qualitative characteristics of accounting information as adopted by the Australian Accounting Standards Board (AASB) and International Accounting Standards Board (IASB) *Framework* (AASB 2004b). The chapter further contends that, although the names and descriptions of these elements have been debated over a 40-year period (between 1961 and 2004), the exact meanings of each of those elements in relation to financial reporting remain unresolved, based on the views of

the interviewees and survey respondents. However, regardless of whether or not there is an agreement as to the exact meanings of these elements, this thesis supports the notion of ‘quality of financial reporting’ as being captured by *relevance*, *reliability*, *comparability* and *understandability*, as aspects of quality.

After historically exploring the concept of quality, this thesis then empirically examines the impact of IFRS adoption on the readability of financial reports in Chapters 3 and 4 based on a sample of 7,843 and 921 observations respectively in the period 2001 to 2009. Chapter 3 examines the impact of IFRS adoption from the preparers’ perspective. We argue that the objective of IFRS 1 *First-time Adoption of International Financial Reporting Standards*, to enhance transparency, can lead to an increased level of disclosure, which in turn can lead to longer financial reports. In addition, we suggest that increased transparency can lead to less confusion and uncertainty, which can result in more readable financial disclosures. However, there were concerns that IFRS might be too complex even for specialists. Results show that financial reports are lengthier, yet are more readable in the post-IFRS period. Further, additional analyses find that after the adoption of IFRS, the length of disclosures is significantly greater in *Summary of Significant Accounting Policies*, *Financial Instruments* and *Intangible Assets*. In relation to how compliance with IFRS affects the association between readability and firm performance, this study did not observe any association in either pre- or post-IFRS periods, suggesting that the management obfuscation hypothesis, documented in prior US studies (Li 2008), is not supported in Australia.

Chapter 4 reports the impact of IFRS from the users' perspective, and investigates whether there is any association between readability and analysts' forecasts. The question this chapter poses is: does the readability of Notes to the financial statements mediate the relationship between IFRS adoption and analysts' forecasts? The results indicate zero-order relationships between forecast accuracy and IFRS adoption, readability of Notes and IFRS adoption, and forecast accuracy and readability. In other words, the study finds that forecast accuracy improves after the adoption of IFRS, financial reports are more readable after the implementation of IFRS, and forecast accuracy improves when reports are more readable, suggesting that the adoption of IFRS also has a positive impact on users of financial reports. Finally, the mediation test confirms that the readability of Notes to the financial statements mediates 13.87 per cent of the relationship between forecast accuracy and IFRS adoption. That is, readability can partially explain why the adoption of IFRS leads to greater analyst forecast accuracy, thus expanding on the contribution of the Cotter et al. (2012) study. However, the present study acknowledges other potential factors, such as the readability of other channels of disclosure, which may influence the improvement in analysts' forecasts.

Collectively, the results indicate that readability improves through more readable financial disclosures in the post-IFRS period, and this is one of the potential benefits of adopting IFRS. However, these financial disclosures remain 'difficult' to read, suggesting that although there is a positive outcome to the IASB's initiative to re-write some of the accounting standards in plain English, they should now consider rephrasing more of the standards in simple English. Results also show that financial

reports are a useful communication tool between preparers and users, as analysts' forecast accuracy improves after the adoption of IFRS, and this is partially due to increased readability in the financial disclosures.

5.2 Limitations

The empirical results presented in this thesis are subject to some limitations. First, the sample is restricted to firms listed in Australia and results may not be generalisable to other IFRS-adopting countries, whose accounting standards may contain different verbiage to Australian generally accepted accounting principles. However, the findings of this thesis may be used as a reference point for countries that are considering IFRS adoption. Second, the selected readability indices are based on simple assumptions, measuring average sentence length and multi-syllabic words. These measures are restricted to printed material in the form of sentences, ignoring other attributes such as readers' interests, and the design and layout of the reports (Pound 1980). However, the readability index is an objective and reliable measure that does not rely on readers' actual participation; it also allows a study of large samples and is acceptable for estimating the readability of financial disclosures (Heath and Phelps 1984; Schroeder and Gibson 1990; Li 2008). Third, this thesis only examines the readability of Notes to the financial statements, while other channels of communication, such as other sections of the financial report, Australian Securities Exchange (ASX) disclosures and press releases are not included.

5.3 Implications

The findings of this thesis include both theoretical and practical implications.

5.3.1 Theoretical implications

This thesis contributes to the literature on IFRS adoption and financial report readability in a number of ways. The main contributions are summarised as follows.

5.3.1.1 Literature on IFRS adoption

The reason for adopting IFRS is to improve the quality of financial reporting by applying a single set of high-quality accounting standards (AASB 2004a). The historical review in Chapter 2 traced the evolution of elements in relation to financial reporting quality in Australia between 1961 and 2004, and summarised the information contained within 26 academic literature and 68 professional articles. In addition, through interviews and surveys, the chapter also provided a history of contemporary accounting dilemmas by incorporating the views of academics and others who contributed to the quality debate during the 40-year period. The chapter addressed the vexed question of what is meant by ‘quality of financial reporting’ and whether the meaning of quality has changed over the past 40 years. Although the names and descriptions of the financial reporting elements have been debated over a 40-year period, the exact meaning of these elements remains malleable. However, despite this fluidity, there is a general consensus that quality of financial reporting is captured by the four qualitative characteristics: *relevance*, *reliability*, *comparability* and *understandability*.

Chapter 3 offers an empirical perspective on the impact of IFRS adoption. The main contribution of this chapter to the literature on IFRS adoption is the number of observations presented. With 7,843 observations, it is the first large empirical study that compares the effect of mandatory IFRS adoption over a long period of time, four years pre- and four years post-IFRS. Prior studies only provide analyses in shorter time frames and with less than 600 observations (e.g., Iatridis 2010; Cotter et al. 2012; Agyei-Mensah 2013). Second, Chapter 3 contributes important information in relation to the consequences of IFRS adoption: financial disclosures are significantly longer. However, this chapter also provides evidence about one of the benefits of IFRS adoption, that is, although financial reports are lengthier, the increased disclosure may lead to enhanced transparency, resulting in reports that are more readable. An additional contribution from Chapter 4 provides further evidence on the benefits of IFRS adoption, confirming that not only are financial reports more readable, but the enhanced readability may also partially explain why analysts' forecast accuracy increases after IFRS adoption.

5.3.1.2 Financial report readability literature

Chapters 3 and 4 present an empirical perspective on the effect of the readability of financial disclosures from the viewpoints of both preparers and users. The main contribution of the findings to the financial report readability literature is an understanding of the issues related to effective communication. Communication results in the sender's message being properly conveyed to the receiver so that the desired message is useful for decision making (Smith and Smith 1971; Holley and Early 1980; Jones 1988). These two chapters provide evidence to support the

contention that communication between preparers and users is effective after IFRS adoption. First, Chapter 3 finds that financial disclosures, provided by preparers, are longer, yet more readable after the adoption of IFRS. In turn, longer disclosures increase transparency, which should reduce users' uncertainty and confusion, thus enhancing the usefulness of financial reports. Second, Chapter 4 confirms that financial analysts, as representatives of users, find that these increased disclosures are useful, as analysts are able to provide greater forecast accuracy. This suggests that the message conveyed by the preparers was successful in communicating readable information.

Second, Li (2008) discusses the management obfuscation hypothesis and reports that in the United States (US), managers in poorly performing firms tend to obscure messages by increasing the reading difficulty in financial reports when compared to better-performing firms. In this thesis, Chapter 3 provides an alternative perspective to the management obfuscation discussion by including results from one IFRS-adopting country, Australia. This chapter finds that in Australia, no management obfuscation has been identified either pre- or post-IFRS, suggesting that regardless of firm performance, managers prepare financial reports that have similar reading difficulty, showing that the adoption of IFRS is not implicated in management obfuscation by poorly performing firms.

5.3.2 Practical implications

This thesis offers practical implications for standard setters, preparers and users of financial reports.

5.3.2.1 *Standard setters*

The AASB adopted IFRS to improve the quality of accounting standards to best international practice (CPA Australia 2006). This thesis provides evidence to support the achievement of that objective because, in Australia, following the adoption of IFRS, the quality of financial reports has improved. Chapter 3 indicates that the readability of financial disclosures significantly improves after compliance with IFRS, suggesting that ‘quality’ as captured by readability has improved due to the adoption of IFRS. A possible implication is that if firms’ financial reports are standardised and more readable, they may be able to attract more local or international investors with lower cost of capital. In addition, Chapter 4 finds that analysts’ forecast accuracy improves after the adoption of IFRS, suggesting that analysts have better predictions perhaps due to the provision of enhanced financial information. Results from this thesis support IFRS adoption in Australia. In particular, the empirical evidence provides support for the IASB and AASB that adopting IFRS can be beneficial to both preparers and users.

This thesis examines the readability of financial disclosures as a result of the IASB’s initiative to rewrite some of the accounting standards in plain English (CPA Australia 2005). If there had been no concern regarding the use of the English language in financial reports, it is assumed that the IASB would not have initiated a

plan for change. Therefore, to determine if the IASB's objective has been achieved, Chapter 3 provides evidence that the implementation of IFRS leads to more readable financial disclosures, suggesting that firms are preparing more readable financial reports. However, results from Chapter 3 also suggest that financial reports are still 'difficult' to read, which is perhaps an indication to the IASB that they should continue to simplify more accounting standards by using less technical jargon.

5.3.2.2 *Preparers (management)*

The US study by Li (2008) argues that firms that perform poorly try to hide adverse information from investors, and managers obfuscate information by preparing less readable financial reports. With no previous empirical evidence to indicate otherwise, Australian investors may be concerned that if management prepares longer notes, this may mean management obfuscation. However, results from Chapter 3 demonstrate that, regardless of firm performance, managers in Australian firms do not obfuscate financial information before the adoption of IFRS, and there is no managerial obfuscation after adoption. In other words, there is no evidence to support the view that managers obfuscate financial reports so that users are unable or less likely to uncover any problems. This finding implies that preparers of financial reports provide longer financial reports to enhance transparency rather than obfuscate financial information; thus, their integrity may be less questionable.

5.3.2.3 *Users (financial analysts)*

Financial reports are useful if users can rely on them when making decisions. The findings of this thesis may be useful for users of financial reports who were doubtful

about the benefits of IFRS adoption. A major group of users, financial analysts, were examined to determine the impact of IFRS adoption on their forecast accuracy. Results from Chapter 4 illustrate that forecast accuracy improves significantly in the post-IFRS period. This finding is good news for financial analysts; financial disclosures are more readable and transparent. As a result, they can provide better predictions with less forecast uncertainty, suggesting that information is more useful in decision making.

5.4 Directions for future research

This thesis highlights the importance of the readability of financial disclosures and its relationship with IFRS adoption. The results of this thesis are based on the Australian perspective. Future studies may investigate the association between IFRS adoption, readability of financial disclosures and firm performance in other IFRS adopting countries, as suggested in Chapter 3. This could better prepare countries that are considering IFRS adoption, as well as provide them with evidence from a developed country that has already adopted IFRS. In addition, future research could explore other impacts of IFRS adoption, such as the readability of other disclosures in other sections of the financial reports, for example, management discussion and analysis, or other communication channels. In relation to analysts' forecasts, future studies could examine how analysts respond to other channels of disclosure, such as ASX disclosures and press releases, as discussed in Chapter 4. In other words, future research can examine the relationship between readability and the meditation effect of these other channels of disclosure and attributes of analysts' forecasts. Finally,

other research methods, such as experiments and surveys, can be used to measure the readability of Notes by other users, for example, current and potential investors.

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